

FCC 47 CFR PART 15 SUBPART C
CERTIFICATION TEST REPORT

For

AirPresence Key

MODEL No.: AirPresence Key

FCC ID: QIS-TE10KEY

Trademark: HUAWEI

REPORT NO: ES170930941W01

ISSUE DATE: October 18, 2017

Prepared for

Huawei Technologies Co., Ltd.

Administration Building, Headquarters of Huawei Technologies Co., Ltd.,
Bantian, Longgang District, Shenzhen, 518129, P.R.C

Prepared by

EMTEK(SHENZHEN) CO., LTD.

Bldg 69, Majialong Industry Zone, Nanshan District,
Shenzhen, Guangdong, China

TEL: 86-755-26954280

FAX: 86-755-26954282

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1 TEST RESULT CERTIFICATION

Applicant : Huawei Technologies Co., Ltd.
Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian,
Longgang District, Shenzhen, 518129, P.R.C

Manufacture : Huawei Technologies Co., Ltd.
Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian,
Longgang District, Shenzhen, 518129, P.R.C

EUT : AirPresence Key

Model : AirPresence Key

Trademark : HUAWEI

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR Part 2 , Subpart J FCC 47 CFR Part 15 , Subpart C	PASS

The above equipment was tested by EMTEK(SHENZHEN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 2 and Part 15.247

The test results of this report relate only to the tested sample identified in this report.

Date of Test : October 09, 2017 to October 16, 2017

Prepared by : *Joanna Jiao*
Joanna Jiao/Editor

Reviewer : *Sevin Li*
Sevin Li /Supervisor

Approve & Authorized Signer : *[Signature]*
Lisa Wang/Manager



2 EUT TECHNICAL DESCRIPTION

Characteristics	Description
IEEE 802.11 WLAN Mode Supported	<input checked="" type="checkbox"/> 802.11b <input checked="" type="checkbox"/> 802.11g <input checked="" type="checkbox"/> 802.11n(20MHz channel bandwidth) <input checked="" type="checkbox"/> 802.11n(40MHz channel bandwidth)
Data Rate	WIFI: 802.11 b:1,2,5.5,11Mbps; 802.11 g:6,9,12,18,24,36,48,54Mbps; 802.11n(HT20): 6.5M,13M,19.5M,26M,39M,52M,58.5M,65M; 802.11n(HT40): 13.5M,27M,40.5M,54M,81M,108M,121.5M,135M;
Modulation	WIFI: DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Operating Frequency Range	WIFI: 2412-2462MHz for 802.11b/g/n(HT20); 2422-2452MHz for 802.11n(HT40);
Number of Channels	WIFI: 11 channels for 802.11b/g n(HT20); 7 Channels for 802.11n(HT40);
Transmit Power Max	WIFI: 18.55 dBm for 802.11b; 23.06 dBm for 802.11g; 19.60dBm for 802.11/n(HT20); 18.64dBm for 802.11/n(HT40);
Antenna Type /Gain	Ceramic antenna /2 dBi
Power supply	<input checked="" type="checkbox"/> DC 5V
	<input type="checkbox"/> Adapter: N/A
Temperature Range	-20°C ~ +55°C

3 SUMMARY OF TEST RESULT

FCC Part Clause	Test Parameter	Verdict	Remark
15.247(a)(2)	DTS (6dB) Bandwidth	PASS	
15.247(b)(3)	Maximum Peak Conducted Output Power	PASS	
15.247(e)	Maximum Power Spectral Density Level	PASS	
15.247(d)	Unwanted Emission Into Non-Restricted Frequency Bands	PASS	
15.247(d) 15.209	Unwanted Emission Into Restricted Frequency Bands (conducted)	PASS	
15.247(d) 15.209	Radiated Spurious Emission	PASS	
15.207	Conducted Emission Test	PASS	
15.247(b)	Antenna Application	PASS	
	NOTE1: N/A (Not Applicable) NOTE2: According to FCC OET KDB 558074, the report use radiated measurements in the restricted frequency bands. In addition, the radiated test is also performed to ensure the emissions emanating from the device cabinet also comply with the applicable limits.		

RELATED SUBMITTAL(S) / GRANT(S):

This submittal(s) (test report) is intended for FCC ID: QIS-TE10KEY filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

4 TEST METHODOLOGY

4.1 GENERAL DESCRIPTION OF APPLIED STANDARDS

According to its specifications, the EUT must comply with the requirements of the following standards:
 FCC 47 CFR Part 2, Subpart J
 FCC 47 CFR Part 15, Subpart C
 FCC KDB 558074 D01 DTS Meas Guidance v04

4.2 MEASUREMENT EQUIPMENT USED

4.2.1 Conducted Emission Test Equipment

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.
Test Receiver	Rohde & Schwarz	ESCS30	828985/018	May 29, 2017
L.I.S.N.	Schwarzbeck	NNLK8129	8129203	May 28, 2017
50Ω Coaxial Switch	Anritsu	MP59B	M20531	May 29, 2017
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	May 28, 2017
Voltage Probe	Rohde & Schwarz	TK9416	N/A	May 28, 2017
I.S.N	Rohde & Schwarz	ENY22	1109.9508.02	May 29, 2017

4.2.2 Radiated Emission Test Equipment

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.
EMI Test Receiver	Rohde & Schwarz	ESU	1302.6005.26	May 29, 2017
Pre-Amplifier	HP	8447D	2944A07999	May 28, 2017
Bilog Antenna	Schwarzbeck	VULB9163	142	May 28, 2017
Loop Antenna	ARA	PLA-1030/B	1029	May 28, 2017
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170399	May 28, 2017
Horn Antenna	Schwarzbeck	BBHA 9120	D143	May 28, 2017
Cable	Schwarzbeck	AK9513	ACRX1	May 29, 2017
Cable	Rosenberger	N/A	FP2RX2	May 29, 2017
Cable	Schwarzbeck	AK9513	CRPX1	May 29, 2017
Cable	Schwarzbeck	AK9513	CRRX2	May 29, 2017

4.2.3 Radio Frequency Test Equipment

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.
Spectrum Analyzer	Agilent	E4407B	88156318	May 28, 2017
Signal Analyzer	Agilent	N9010A	My53470879	May 28, 2017
Power meter	Anritsu	ML2495A	0824006	May 28, 2017
Power sensor	Anritsu	MA2411B	0738172	May 28, 2017

Remark: Each piece of equipment is scheduled for calibration once a year.

4.3 DESCRIPTION OF TEST MODES

The EUT has been tested under its typical operating condition.

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (802.11b: 1 Mbps; 802.11g: 6 Mbps; 802.11n (HT20): MCS0; 802.11n (HT40): MCS0) were used for all test.

Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Frequency and Channel list for 802.11 b/g/n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	5	2432	9	2452
2	2417	6	2437	10	2457
3	2422	7	2442	11	2462
4	2427	8	2447		

Frequency and Channel list for 802.11n(HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
3	2422	6	2437	9	2452
4	2427	7	2442		
5	2432	8	2447		

Test Frequency and Channel for 802.11 b/g/n (HT20):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	6	2437	11	2462

Test Frequency and channel for 802.11n(HT40):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
3	2422	6	2437	9	2452

5 FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

Bldg 69, Majialong Industry Zone District, Nanshan District, Shenzhen, China

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 and CISPR Publication 22.

5.2 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description

EMC Lab.

: Accredited by CNAS,2016.10.24

The certificate is valid until 2022.10.28

The Laboratory has been assessed and proved to be in compliance with CNAS-CL01:2006 (identical to ISO/IEC 17025:2005)

The Certificate Registration Number is L2291.

Accredited by TUV Rheinland Shenzhen 2016.5.19

The Laboratory has been assessed according to the requirements ISO/IEC 17025.

Accredited by FCC, August 03, 2017

Designation Number: CN1204

Test Firm Registration Number: 882943

Accredited by A2LA, July 31, 2017

The Certificate Registration Number is 4321.01.

Accredited by Industry Canada, November 24, 2015

The Certificate Registration Number is 4480A

Name of Firm

: EMTEK(SHENZHEN) CO., LTD.

Site Location

: Bldg 69, Majialong Industry Zone,
Nanshan District, Shenzhen, Guangdong, China

6 TEST SYSTEM UNCERTAINTY

The following measurement uncertainty levels have been estimated for tests performed on the apparatus:

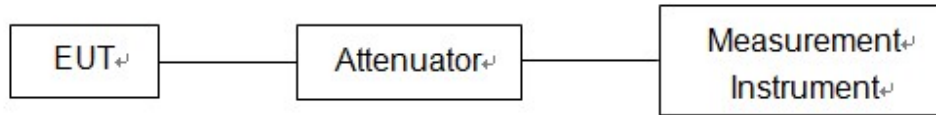
Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-5}$
Maximum Peak Output Power Test	$\pm 1.0\text{dB}$
Conducted Emissions Test	$\pm 2.0\text{dB}$
Radiated Emission Test	$\pm 2.0\text{dB}$
Power Density	$\pm 2.0\text{dB}$
Occupied Bandwidth Test	$\pm 1.0\text{dB}$
Band Edge Test	$\pm 3\text{dB}$
All emission, radiated	$\pm 3\text{dB}$
Antenna Port Emission	$\pm 3\text{dB}$
Temperature	$\pm 0.5^\circ\text{C}$
Humidity	$\pm 3\%$

Measurement Uncertainty for a level of Confidence of 95%

7 SETUP OF EQUIPMENT UNDER TEST

7.1 RADIO FREQUENCY TEST SETUP 1

The WLAN component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The EUT is controlled by PC/software to emit the specified signals for the purpose of measurements.



7.2 RADIO FREQUENCY TEST SETUP 2

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10. The test distance is 3m. The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.

Below 30MHz:

The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna (loop antenna). The Antenna should be positioned with its plane vertical at the specified distance from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. The center of the loop shall be 1 m above the ground. For certain applications, the loop antenna plane may also need to be positioned horizontally at the specified distance from the EUT.

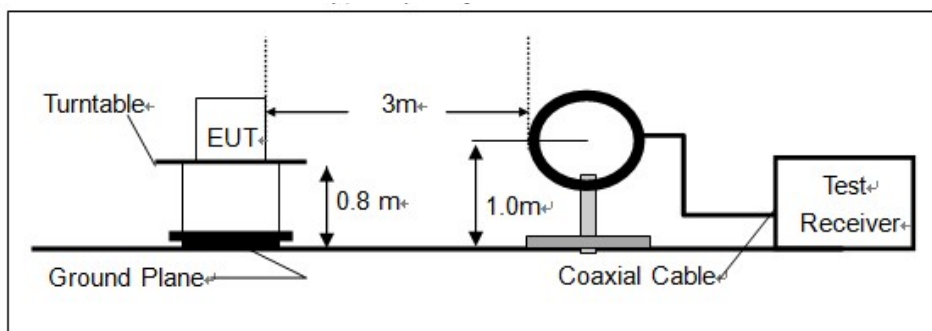
30MHz-1GHz:

The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

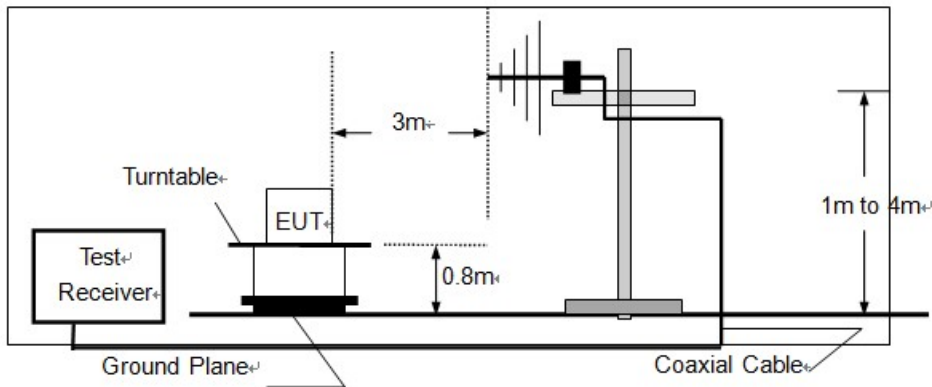
Above 1GHz:

The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

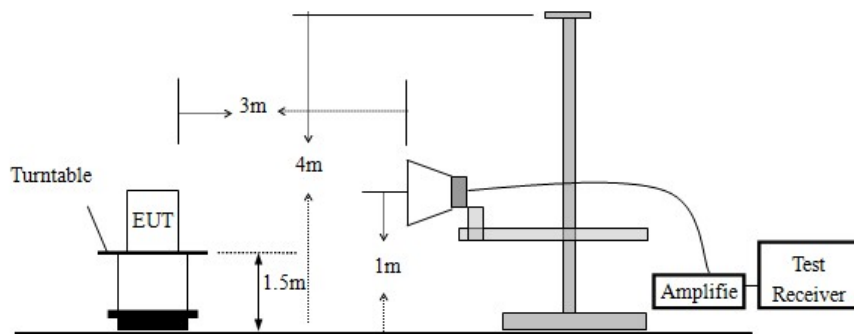
(a) Radiated Emission Test Set-Up, Frequency Below 30MHz



(b) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(c) Radiated Emission Test Set-Up, Frequency above 1000MHz

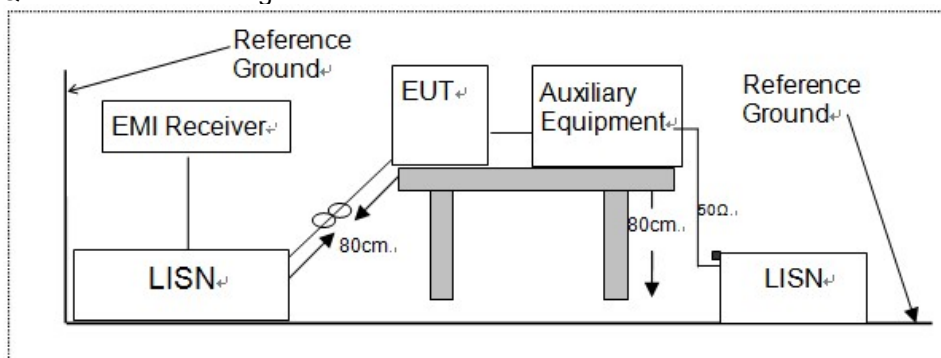


7.3 CONDUCTED EMISSION TEST SETUP

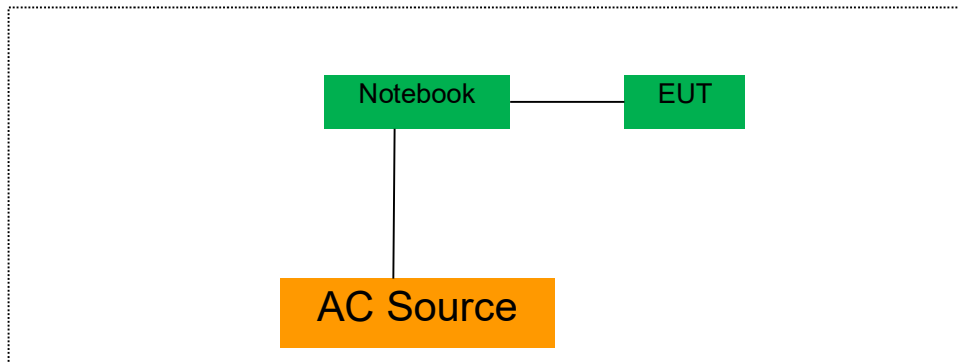
The mains cable of the EUT (maybe per AC/DC Adapter) must be connected to LISN. The LISN shall be placed 0.8 m from the boundary of EUT and bonded to a ground reference plane for LISN mounted on top of the ground reference plane. This distance is between the closest points of the LISN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8m from the LISN.

Ground connections, where required for safety purposes, shall be connected to the reference ground point of the LISN and, where not otherwise provided or specified by the manufacturer, shall be of same length as the mains cable and run parallel to the mains connection at a separation distance of not more than 0.1 m.

According to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.



7.4 BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM



7.5 SUPPORT EQUIPMENT

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

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

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Notebook	acer	ZR1	LXTECOCO76643158 372500

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

8 TEST REQUIREMENTS

8.1 DTS (6DB) BANDWIDTH

8.1.1 Applicable Standard

According to FCC Part 15.247(a)(2) and KDB 558074 DTS 01 Meas. Guidance v04

8.1.2 Conformance Limit

The minimum -6 dB bandwidth shall be at least 500 kHz.

8.1.3 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

8.1.4 Test Procedure

The EUT was operating in IEEE 802.11b/g/n mode and controlled its channel. Printed out the test result from the spectrum by hard copy function.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously

Set RBW = 100 kHz.

Set the video bandwidth (VBW) =300 kHz.

Set Span=2 times OBW

Set Detector = Peak.

Set Trace mode = max hold.

Set 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.

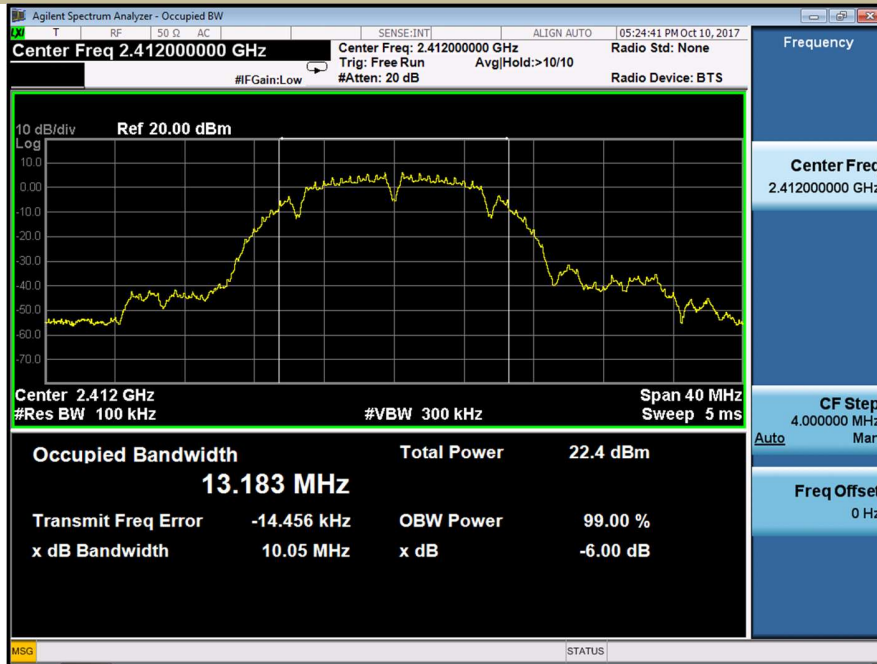
Measure and record the results in the test report.

8.1.5 Test Results

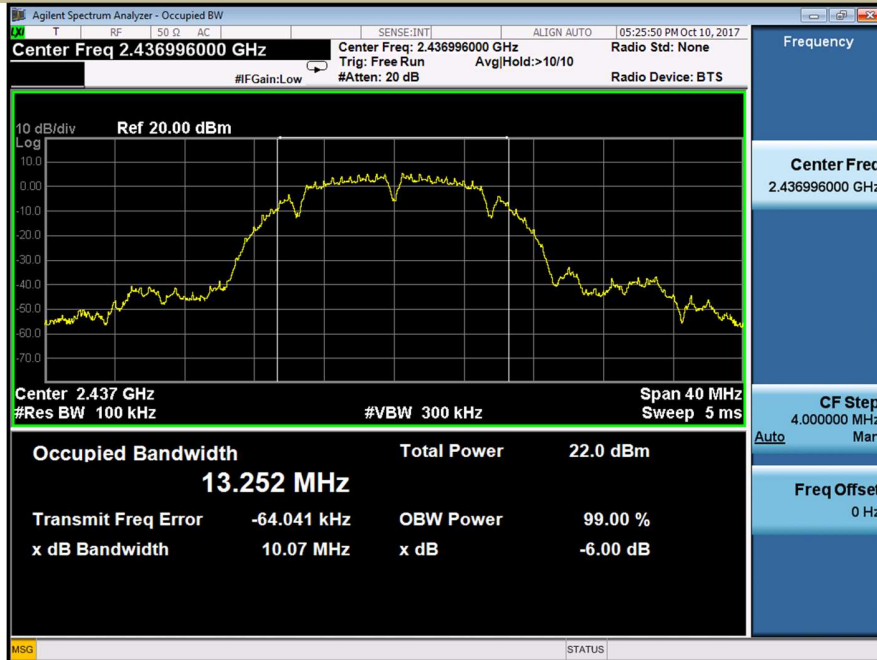
Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

Operation Mode	Channel Number	Channel Frequency (MHz)	6 dB Bandwidth MHz	99% Bandwidth MHz	Limit (kHz)	Verdict
802.11b	1	2412	10.05	13.183	>500	PASS
	6	2437	10.07	13.252	>500	PASS
	11	2462	10.05	13.186	>500	PASS
802.11g	1	2412	16.38	16.437	>500	PASS
	6	2437	16.40	16.430	>500	PASS
	11	2462	16.39	16.438	>500	PASS
802.11n (HT20)	1	2412	17.54	17.571	>500	PASS
	6	2437	17.56	17.564	>500	PASS
	11	2462	17.58	17.571	>500	PASS
802.11n (HT40)	3	2422	36.28	35.964	>500	PASS
	6	2437	36.29	36.036	>500	PASS
	9	2452	36.31	36.049	>500	PASS

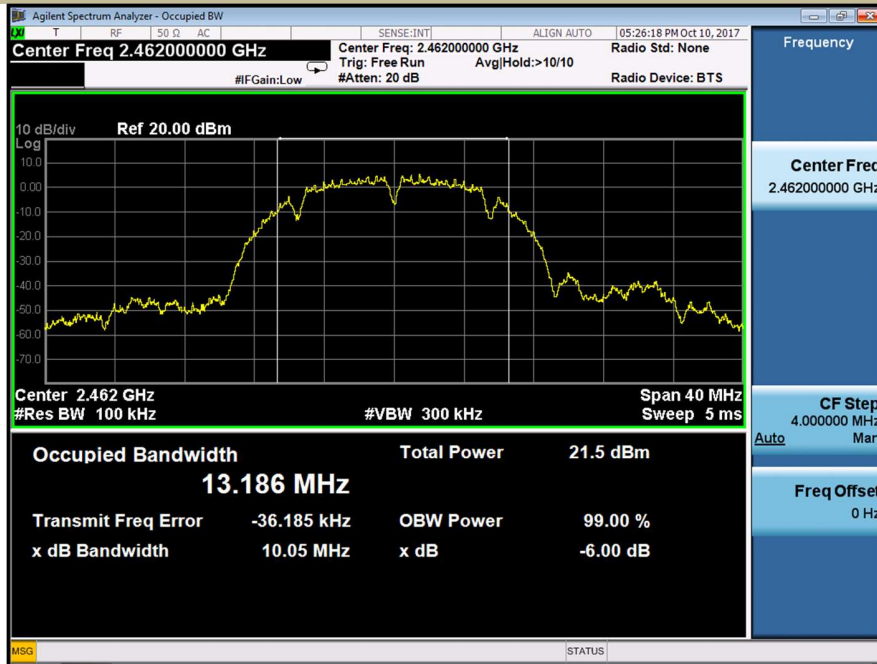
Test Model DTS (6dB) Bandwidth
802.11b
Channel 1: 2412MHz



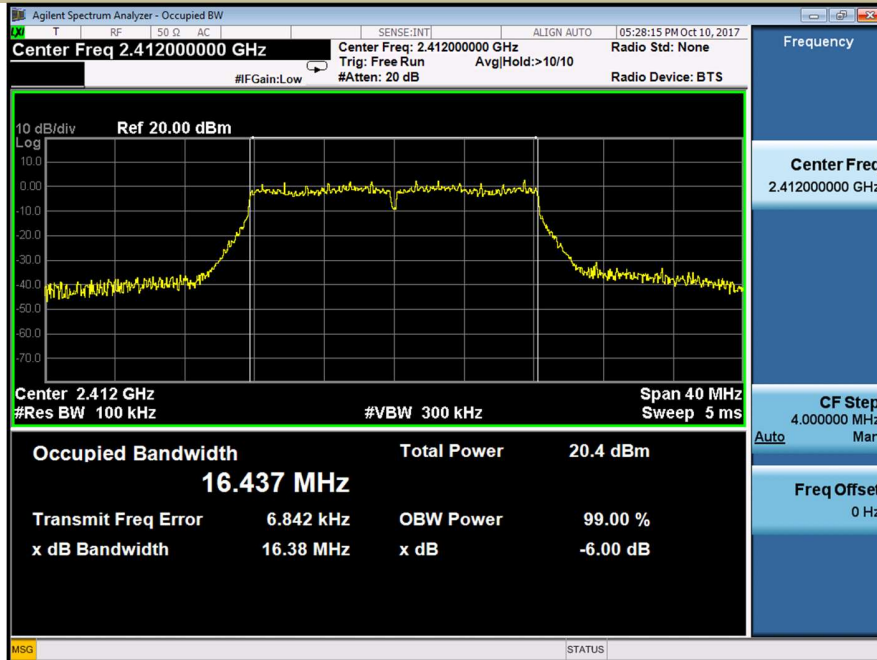
Test Model DTS (6dB) Bandwidth
802.11b
Channel 6: 2437MHz



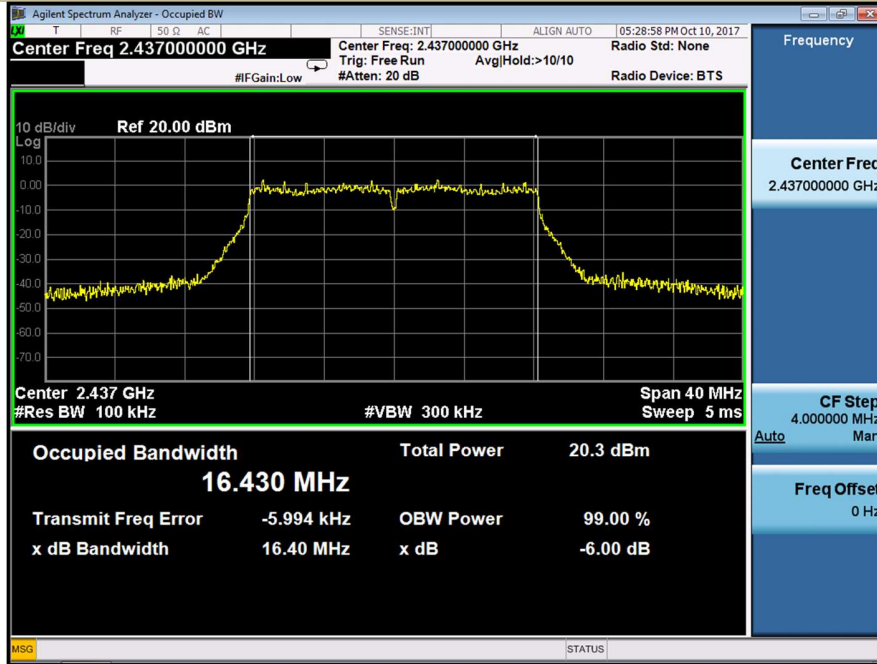
Test Model DTS (6dB) Bandwidth
802.11b
Channel 11: 2462MHz



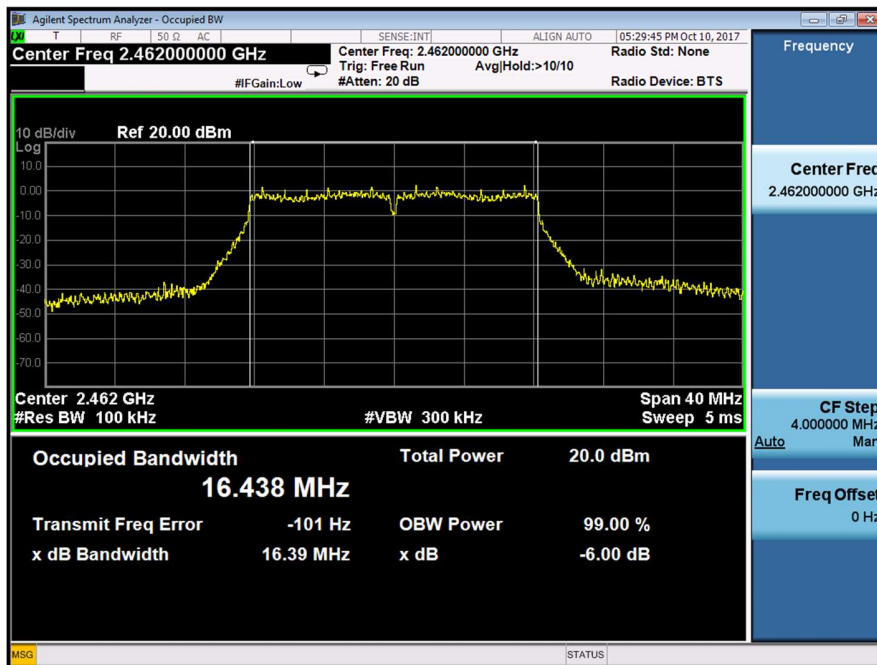
Test Model DTS (6dB) Bandwidth
802.11g
Channel 1: 2412MHz



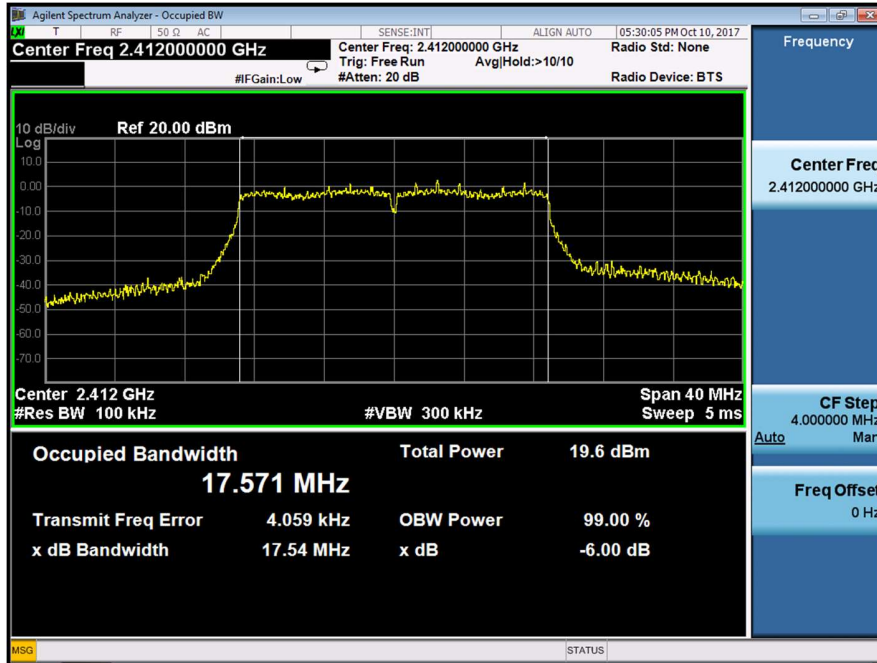
Test Model DTS (6dB) Bandwidth
802.11g
Channel 6: 2437MHz



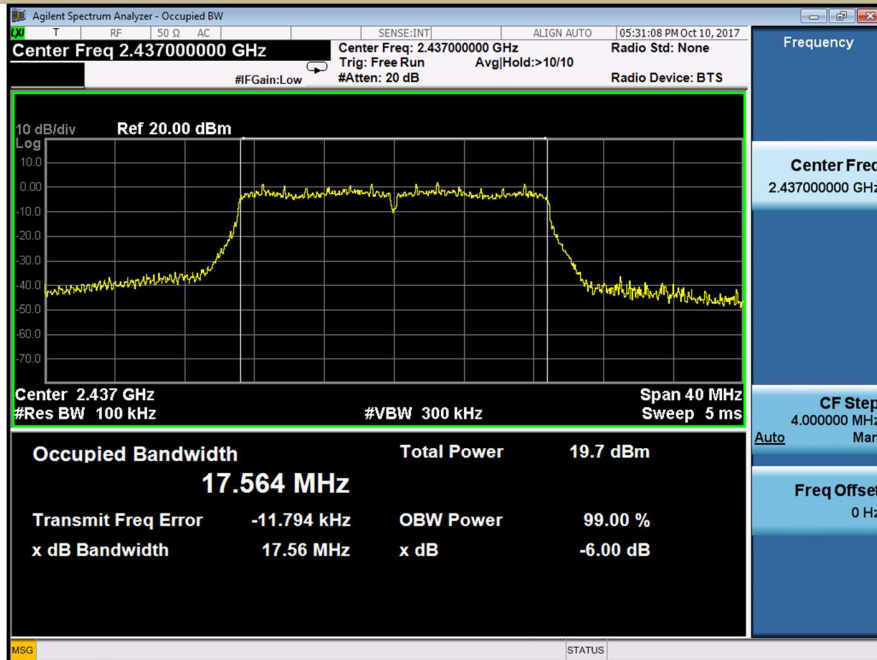
Test Model DTS (6dB) Bandwidth
802.11g
Channel 11: 2462MHz



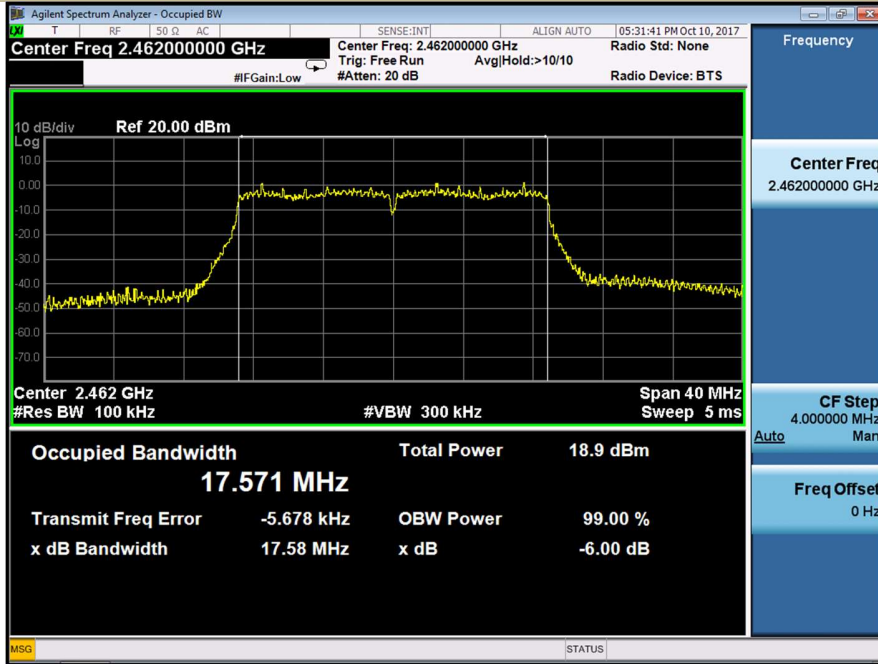
Test Model DTS (6dB) Bandwidth
802.11n (HT20)
Channel 1: 2412MHz



Test Model DTS (6dB) Bandwidth
802.11n (HT20)
Channel 6: 2437MHz



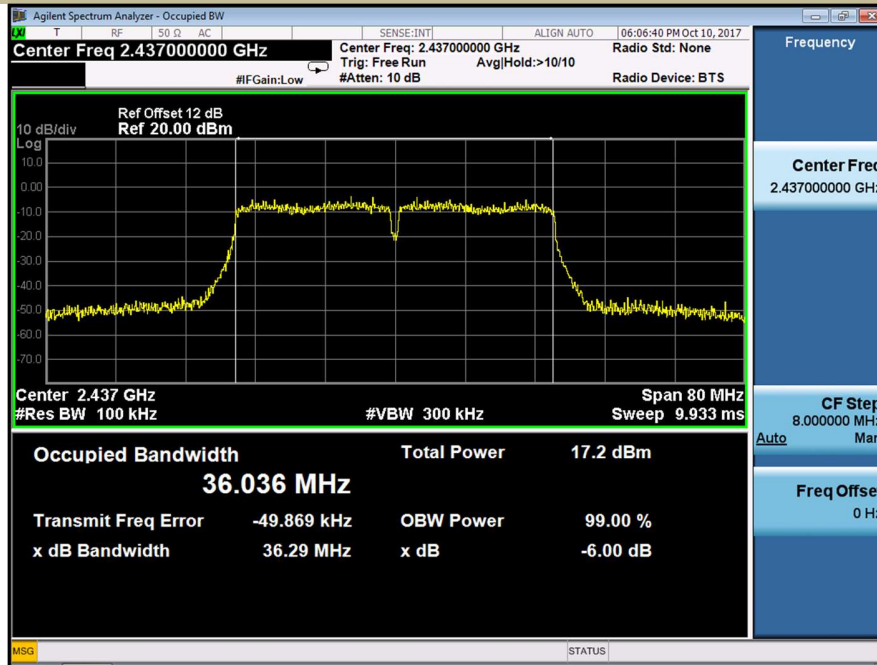
Test Model DTS (6dB) Bandwidth
802.11n (HT20)
Channel 11: 2462MHz



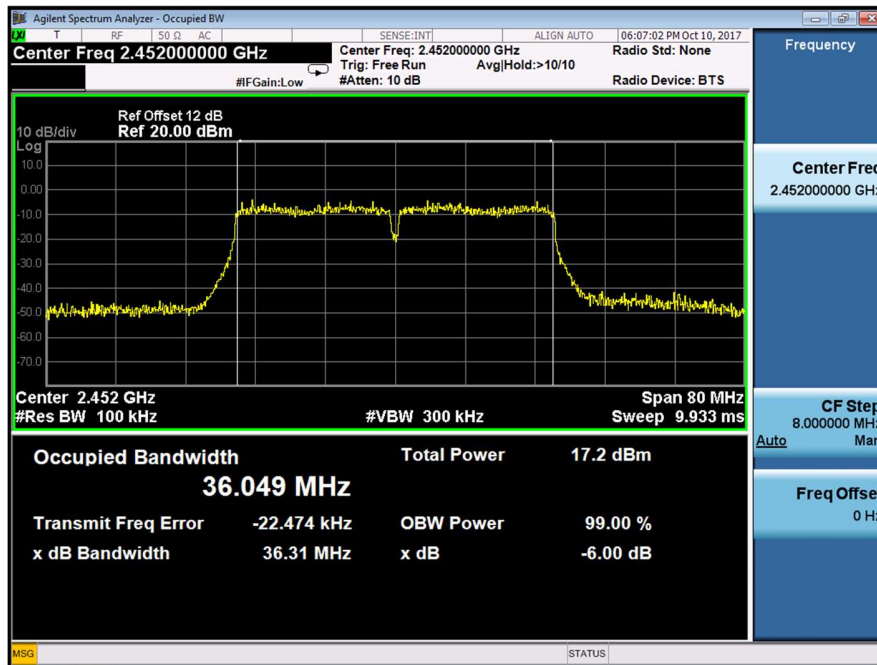
Test Model DTS (6dB) Bandwidth
802.11n (HT40)
Channel 3: 2422MHz



Test Model DTS (6dB) Bandwidth
802.11n (HT40)
Channel 6: 2437MHz



Test Model DTS (6dB) Bandwidth
802.11n (HT40)
Channel 9: 2452MHz



8.2 MAXIMUM PEAK CONDUCTED OUTPUT POWER

8.2.1 Applicable Standard

According to FCC Part 15.247(b)(3) and KDB 558074 DTS 01 Meas. Guidance v04

8.2.2 Conformance Limit

The maximum peak conducted output power of the intentional radiator for systems using digital modulation in the 2400 - 2483.5 MHz bands shall not exceed: 1 Watt (30dBm).

8.2.3 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

8.2.4 Test Procedure

■ According to FCC Part 15.247(b)(3)

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.

Set to the maximum output power setting and enable the EUT transmit continuously.

Measure the conducted output power with cable loss and record the results in the test report.

Measure and record the results in the report.

■ According to FCC Part 15.247(b)(4):

Conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note: If antenna Gain exceeds 6 dBi, then Output power Limit=30-(Gain - 6)

8.2.5 Test Results

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

Operation Mode	Channel Number	Channel Frequency (MHz)	Measurement Level (dBm)	Limit (dBm)	Verdict
802.11b	1	2412	18.54	30	PASS
	6	2437	18.55	30	PASS
	11	2462	18.50	30	PASS
802.11g	1	2412	23.06	30	PASS
	6	2437	20.30	30	PASS
	11	2462	19.94	30	PASS
802.11n (HT20)	1	2412	19.60	30	PASS
	6	2437	19.06	30	PASS
	11	2462	19.34	30	PASS
802.11n (HT40)	3	2422	18.30	30	PASS
	6	2437	18.12	30	PASS
	9	2452	18.64	30	PASS

8.3 MAXIMUM POWER SPECTRAL DENSITY

8.3.1 Applicable Standard

According to FCC Part 15.247(e) and KDB 558074 DTS 01 Meas. Guidance v04

8.3.2 Conformance Limit

The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

8.3.3 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

8.3.4 Test Procedure

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance

The transmitter output (antenna port) was connected to the spectrum analyzer

Set analyzer center frequency to DTS channel center frequency.

Set the span to 1.5 times the DTS bandwidth.

Set the RBW to: 3 kHz

Set the VBW to: 10 kHz.

Set Detector = peak.

Set Sweep time = auto couple.

Set Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level within the RBW.

Note: If antenna Gain exceeds 6 dBi, then PSD Limit=8-(Gain - 6)

8.3.5 Test Results

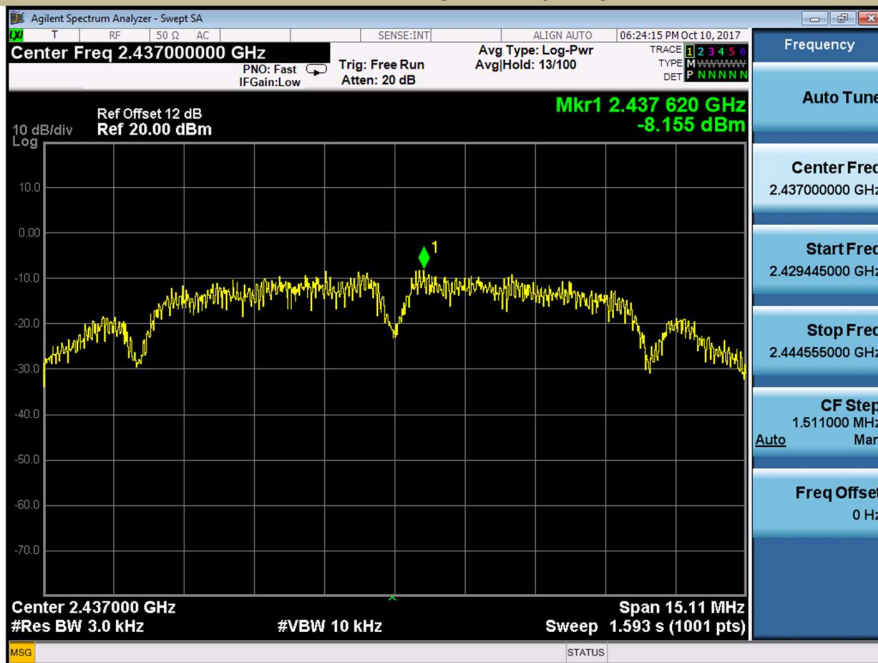
Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

Operation Mode	Channel Number	Channel Frequency (MHz)	Measurement Level (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
802.11b	1	2412	-7.698	8	PASS
	6	2437	-8.155	8	PASS
	11	2462	-7.804	8	PASS
802.11g	1	2412	-10.330	8	PASS
	6	2437	-10.566	8	PASS
	11	2462	-11.195	8	PASS
802.11n (HT20)	1	2412	-11.561	8	PASS
	6	2437	-12.098	8	PASS
	11	2462	-12.284	8	PASS
802.11n (HT40)	3	2422	-15.489	8	PASS
	6	2437	-16.638	8	PASS
	9	2452	-16.687	8	PASS

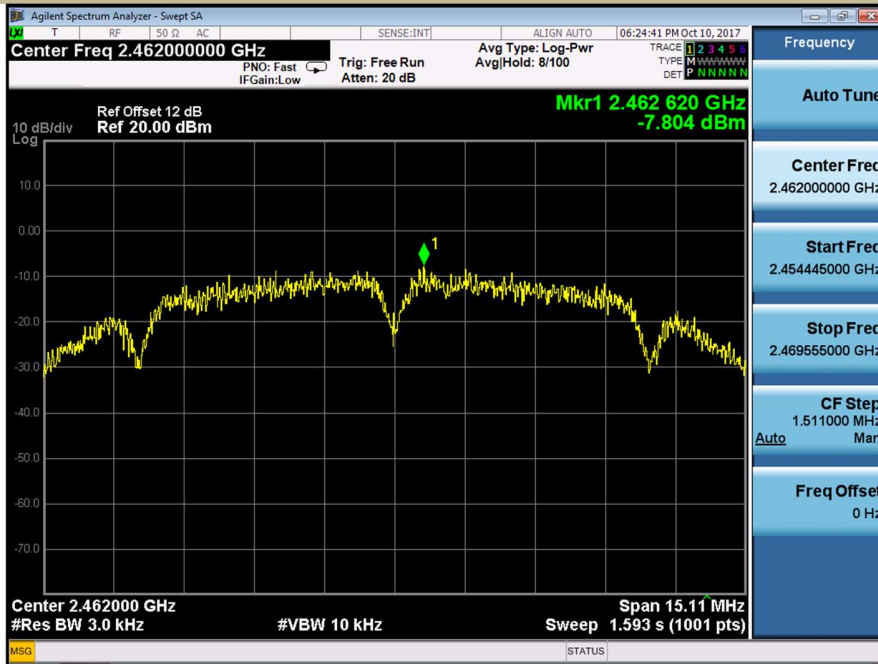
Test Model Power Spectral Density
802.11b
Channel 1: 2412MHz



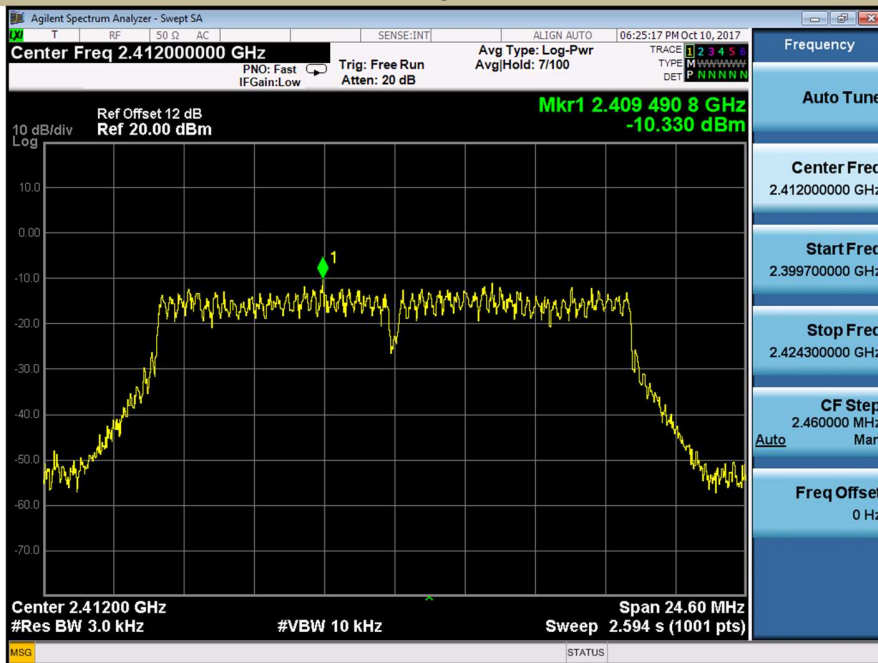
Test Model Power Spectral Density
802.11b
Channel 6: 2437MHz



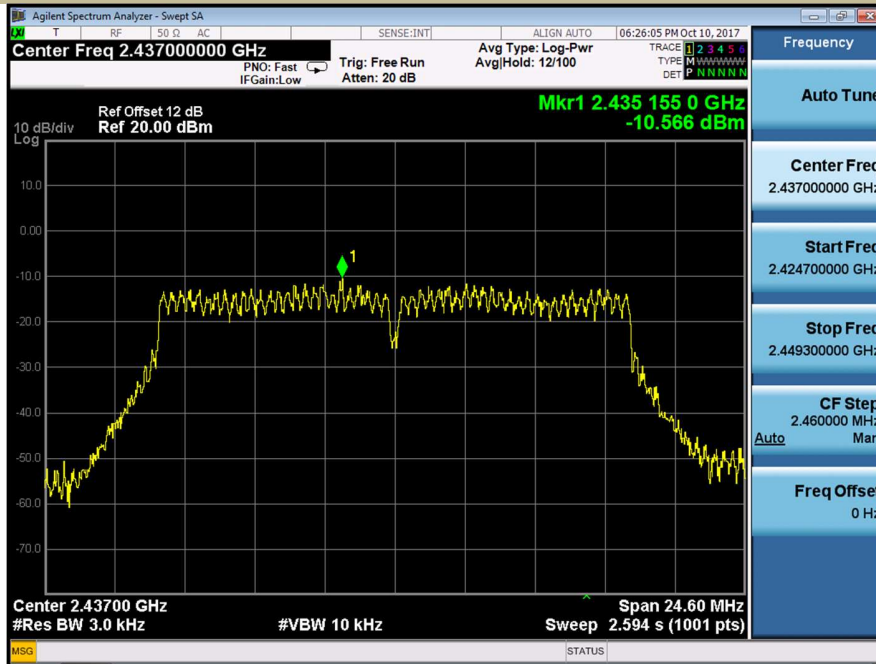
Test Model Power Spectral Density
802.11b
Channel 11: 2462MHz



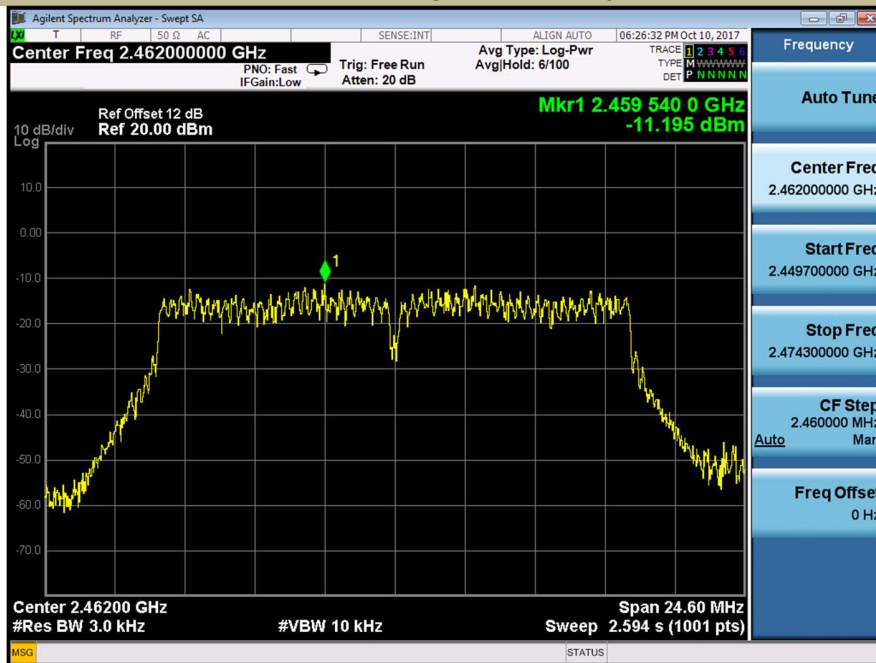
Test Model Power Spectral Density
802.11g
Channel 1: 2412MHz



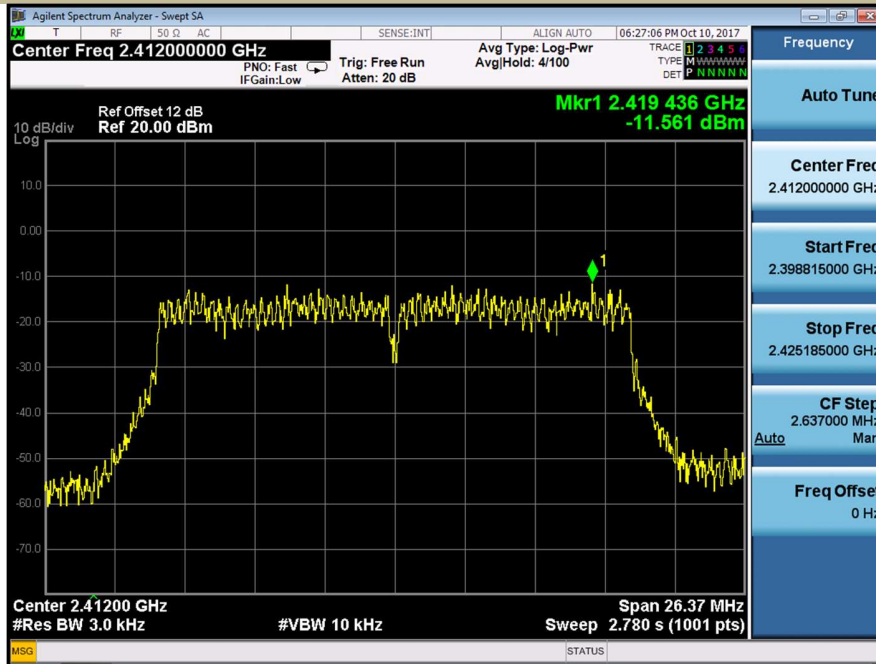
Test Model Power Spectral Density
802.11g
Channel 6: 2437MHz



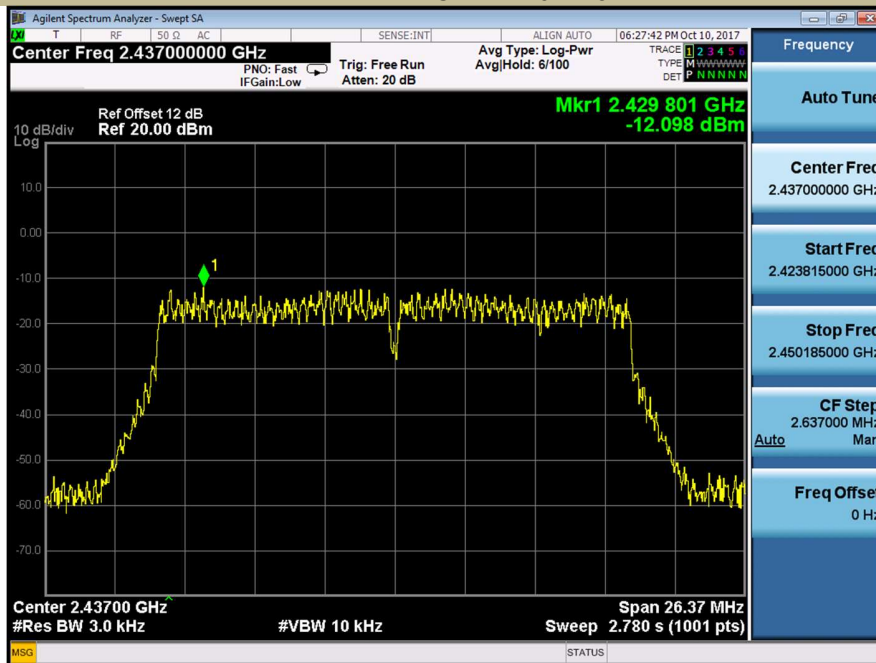
Test Model Power Spectral Density
802.11g
Channel 11: 2462MHz



Test Model Power Spectral Density
802.11n (HT20)
Channel 1: 2412MHz

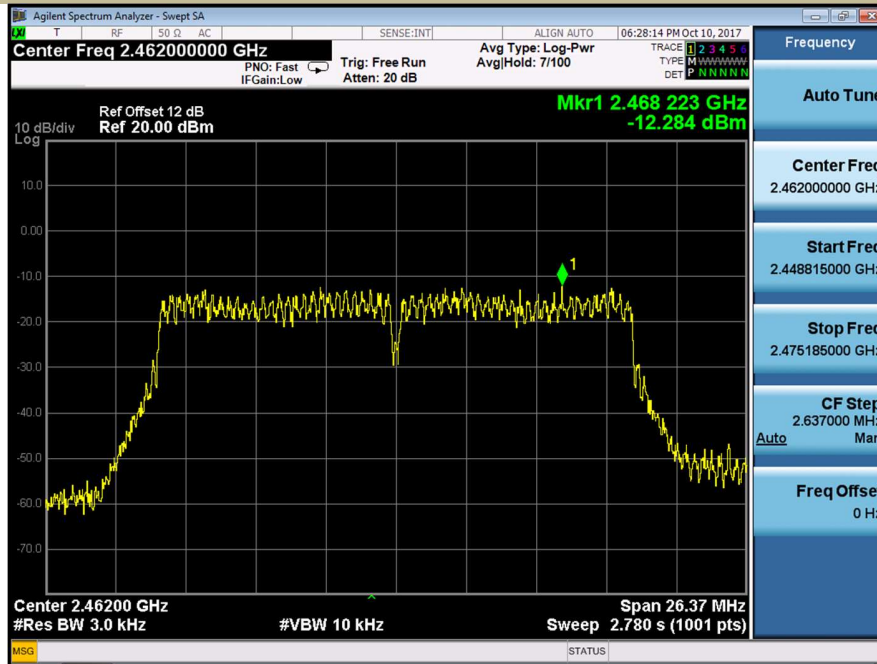


Test Model Power Spectral Density
802.11n (HT20)
Channel 6: 2437MHz



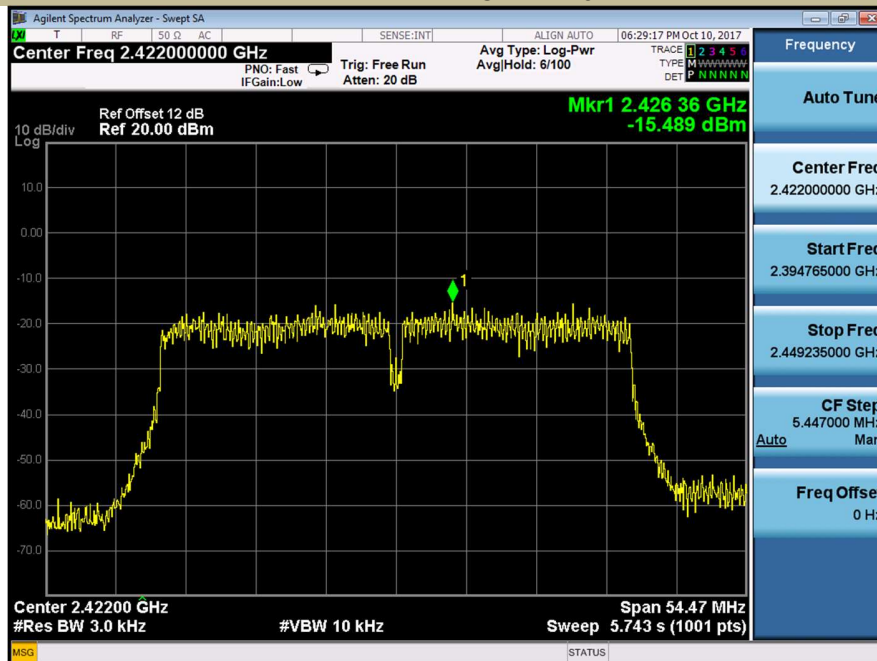
Test Model

Power Spectral Density
802.11n (HT20)
Channel 11: 2462MHz

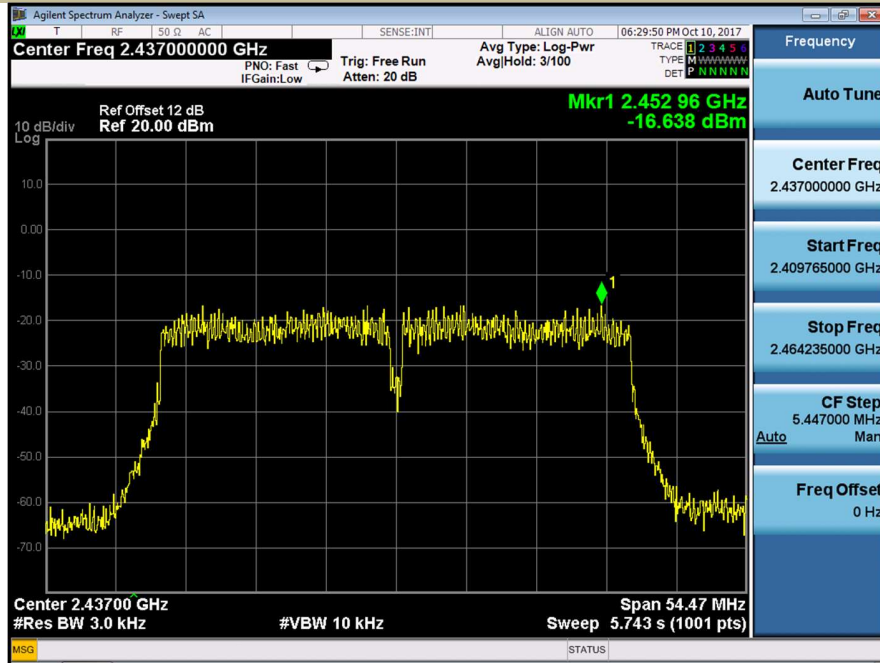


Test Model

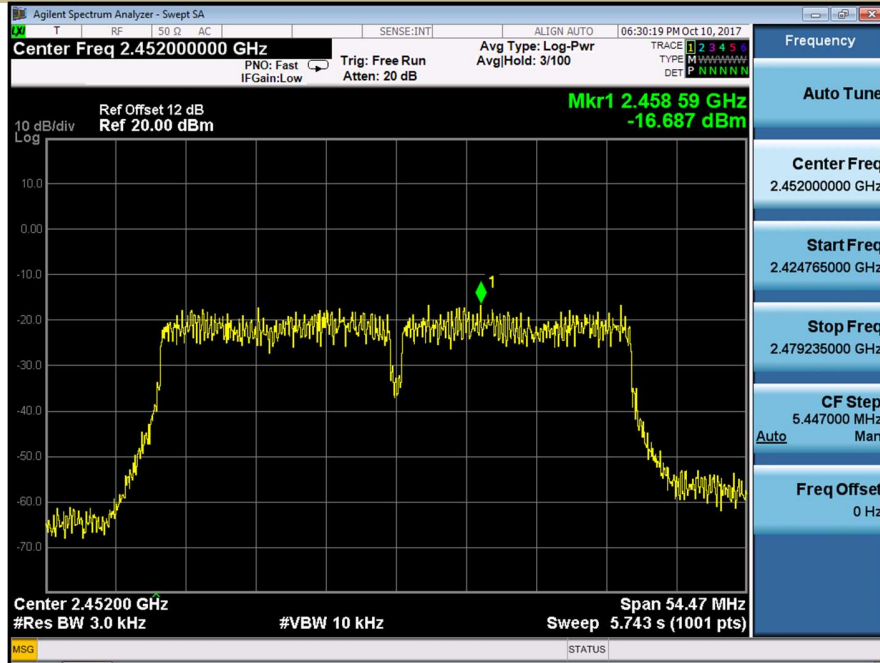
Power Spectral Density
802.11n (HT40)
Channel 3: 2422MHz



Test Model Power Spectral Density
802.11n (HT40)
Channel 6: 2437MHz



Test Model Power Spectral Density
802.11n (HT40)
Channel 9: 2452MHz



8.4 UNWANTED EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS

8.4.1 Applicable Standard

According to FCC Part 15.247(d) and KDB 558074 DTS 01 Meas. Guidance v04

8.4.2 Conformance Limit

According to FCC Part 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.

8.4.3 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

8.4.4 Test Procedure

The transmitter output (antenna port) was connected to the spectrum analyzer

■ Reference level measurement

Establish a reference level by using the following procedure:

Set instrument center frequency to DTS channel center frequency.

Set the span to ≥ 1.5 times the DTS bandwidth.

Set the RBW = 100 kHz.

Set the VBW $\geq 3 \times$ RBW.

Set Detector = peak.

Set Sweep time = auto couple.

Set Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

■ Emission level measurement

Set the center frequency and span to encompass frequency range to be measured.

Set the RBW = 100 kHz.

Set the VBW = 300 kHz.

Set Detector = peak

Sweep time = auto couple.

Trace mode = max hold.

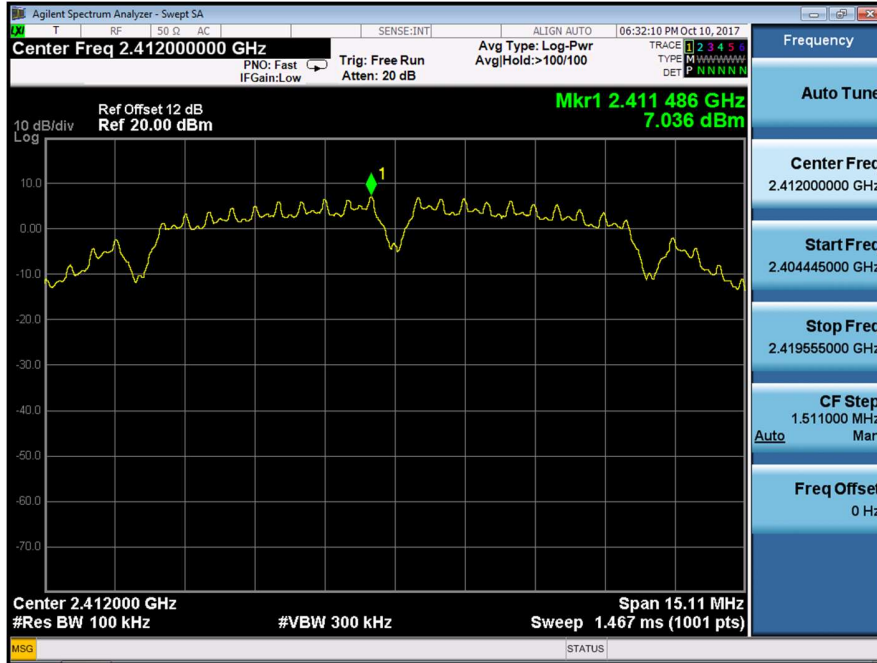
Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level.

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. Report the three highest emissions relative to the limit.

8.4.5 Test Results

Test Model 802.11b 802.11g 802.11n(HT20) 802.11n(HT40)
 Channel 1: 2412MHz Channel 3: 2422MHz



Test Model 802.11b 802.11g 802.11n(HT20) 802.11n(HT40)
 Channel 1: 2412MHz Channel 3: 2422MHz

