



F2 Labs
16740 Peters Road
Middlefield, Ohio 44062
United States of America
www.f2labs.com

CERTIFICATION TEST REPORT

Manufacturer: PCTEL, Inc
471 Brighton Drive
Bloomington, Illinois 60108-3102 USA

Applicant: Same as Above

Product Name: Remote Access Point

Product Description: Rugged 802.11ac Access Point

**Operating Voltage/Freq.
of EUT During Testing:** 120V/60 Hz; PoE Supply 48VDC

Model: AP-WIFI-1200-US

FCC ID: NYPWIFIAP1200

Testing Commenced: 2020-10-09 **Testing Ended:** 2020-11-05

Testing Commenced: 2021-07-21 **Testing Ended:** 2021-07-21

Summary of Test Results: In Compliance

The EUT complies with the EMC requirements when manufactured identically as the unit tested in this report, including any required modifications and/or manufacturer's statement. Any changes to the design or build of this unit subsequent to this testing may deem it non-compliant.

Standards:

- **FCC Part 15 Subpart C, Section 15.247**
- **FCC15.207 - Conducted Limits**
- **FCC Part 15.31(e)**
- **ANSI C63.10:2013**



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Evaluation Conducted by:

Julius Chiller, EMC/Wireless Engineer

Report Reviewed by:

Ken Littell, Vice President of EMC

F2 Labs
26501 Ridge Road
Damascus, MD 20872
Ph 301.253.4500

F2 Labs
16740 Peters Road
Middlefield, OH 44062
Ph 440.632.5541

F2 Labs
8583 Zionsville Road
Indianapolis, IN 46268
Ph 317.610.0611

This test report may be reproduced in full; partial reproduction only may be made with the written consent of F2 Labs. The results in this report apply only to the equipment tested.



TABLE OF CONTENTS

Section	Title	Page
1	ADMINISTRATIVE INFORMATION	4
2	SUMMARY OF TEST RESULTS/MODIFICATIONS	5
3	TABLE OF MEASURED RESULTS	6
4	ENGINEERING STATEMENT	12
5	EUT INFORMATION AND DATA	13
6	LIST OF MEASUREMENT INSTRUMENTATION	14
7	OCCUPIED BANDWIDTH	15
8	VOLTAGE VARIATIONS	31
9	CONDUCTED OUTPUT POWER	34
10	CONDUCTED SPURIOUS EMISSIONS	65
11	RADIATED SPURIOUS EMISSIONS	82
12	PEAK POWER SPECTRAL DENSITY (PSD)	99
13	CONDUCTED EMISSIONS	130
14	PHOTOGRAPHS	135



1 ADMINISTRATIVE INFORMATION

1.1 Measurement Location:

F2 Labs in Middlefield, Ohio. Site description and attenuation data are on file with the FCC's Sampling and Measurement Branch at the FCC Laboratory in Columbia, MD.

1.2 Measurement Procedure:

All measurements were performed according to the 2013 version of ANSI C63.10 and recommended FCC procedure of measurement of DTS operating under Section 15.247 and in KDB558074. A list of the measurement equipment can be found in Section 6.

1.3 Uncertainty Budget:

The uncertainty in EMC measurements arises from several factors which affect the results, some associated with environmental conditions in the measurement room, the test equipment being used, and the measurement techniques adopted.

The measurement uncertainty budgets detailed below are calculated from the test and calibration data and are expressed with a 95% confidence factor. Note: Only measurements listed below which relate to tests included in this Test Report are applicable to it.

Measurement Range	Expanded Uncertainty	Combined Uncertainty
Radiated Emissions <1 GHz @ 3m	±5.07dB	±2.54
Radiated Emissions <1 GHz @ 10m	±5.09dB	±2.55
Radiated Emissions 1 GHz to 2.7 GHz	±3.62dB	±1.81
Radiated Emissions 2.7 GHz to 18 GHz	±3.10dB	±1.55
AC Power Line Conducted Emissions, 150kHz to 30 MHz	±2.76dB	±1.38

This Uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.4 Document History

Document Number	Description	Issue Date	Approved By
F2P19923A-03E	First Issue	2020-12-11	K. Littell
F2P19923A-03E Rev. 1	Corrections to Section 9.2 - Conducted Output Power test data, Port 2.	2021-07-26	K. Littell

**2 SUMMARY OF TEST RESULTS**

Test Name	Standard(s)	Results
Occupied Bandwidth	CFR 47 Part 15.247(a)(2) / KDB558074	Complies
Conducted Output Power	CFR 47 Part 15.247(b)(3) / KDB558074	Complies
Voltage Variations	CFR 47 Part 15.31(e)	Complies*
Conducted Spurious Emissions	CFR 47 Part 15.247(d) / Part 15.207 / KDB558074	Complies
Radiated Spurious Emission with 6dBi Omni Directional Antenna	CFR 47 Part 15.247(d) / Part 15.209 / KDB558074	Complies
Peak Power Spectral Density	CFR 47 Part 15.247(e) / KDB558074	Complies
Conducted Emissions	CFR 47 Part 15.207(a)	Complies

Modifications Made to the Equipment
None

**3 TABLE OF MEASURED RESULTS**

RF OUTPUT POWER Port 1 (Non-Beamforming Mode)									
Modulation: OFDM									
Channel	Frequency (MHz)	Measured Power		Limit		E.I.R.P.		Limit	
		mW	dBm	mW	dBm	mW	dBm	E.I.R.P. (mW)	E.I.R.P. (dBm)
Low	2412	225.42	23.53	1000	30	897.42	29.53	4000	36
Mid	2437	221.31	23.45	1000	30	881.05	29.45	4000	36
High	2462	201.83	23.05	1000	30	803.52	29.05	4000	36
Modulation: HT20									
Channel	Frequency (MHz)	Measured Power		Limit		E.I.R.P.		Limit	
		mW	dBm	mW	dBm	mW	dBm	E.I.R.P. (mW)	E.I.R.P. (dBm)
Low	2412	223.35	23.49	1000	30	889.20	29.49	4000	36
Mid	2437	214.78	23.32	1000	30	855.06	29.32	4000	36
High	2462	199.52	23.0	1000	30	794.33	29.00	4000	36
Modulation: CCK11									
Channel	Frequency (MHz)	Measured Power		Limit		E.I.R.P.		Limit	
		mW	dBm	mW	dBm	mW	dBm	E.I.R.P. (mW)	E.I.R.P. (dBm)
Low	2412	222.33	23.47	1000	30	885.11	29.47	4000	36
Mid	2437	216.77	23.36	1000	30	862.98	29.36	4000	36
High	2462	192.30	22.84	1000	30	765.59	28.84	4000	36
Modulation: HT40									
Channel	Frequency (MHz)	Measured Power		Limit		E.I.R.P.		Limit	
		mW	dBm	mW	dBm	mW	dBm	E.I.R.P. (mW)	E.I.R.P. (dBm)
Low	2422	224.90	23.52	1000	30	895.36	29.52	4000	36
Mid	2442	206.06	23.14	1000	30	820.35	29.14	4000	36
High	2462	203.70	23.09	1000	30	810.96	29.09	4000	36
Modulation: NON HT40									
Channel	Frequency (MHz)	Measured Power		Limit		E.I.R.P.		Limit	
		mW	dBm	mW	dBm	mW	dBm	E.I.R.P. (mW)	E.I.R.P. (dBm)
Low	2422	203.70	23.09	1000	30	810.96	29.09	4000	36
Mid	2442	191.86	22.83	1000	30	763.83	28.83	4000	36
High	2462	186.63	22/71	1000	30	743.01	28.71	4000	36

**RF OUTPUT POWER Port 2 (Non-Beamforming Mode)****Modulation: OFDM**

Channel	Frequency (MHz)	Measured Power		Limit		E.I.R.P.		E.I.R.P. Limit	
		mW	dBm	mW	dBm	mW	dBm	(mW)	(dBm)
Low	2412	171.8	22.35	1000	30	638.91	28.35	4000	36
Mid	2437	176.2	22.46	1000	30	701.46	28.46	4000	36
High	2462	168.3	22.26	1000	30	669.88	28.26	4000	36

Modulation: HT20

Channel	Frequency (MHz)	Measured Power		Limit		E.I.R.P.		E.I.R.P. Limit	
		mW	dBm	mW	dBm	mW	dBm	(mW)	(dBm)
Low	2412	176.6	22.47	1000	30	703.07	28.47	4000	36
Mid	2437	177.8	22.50	1000	30	707.95	28.50	4000	36
High	2462	167.5	22.24	1000	30	667.00	28.24	4000	36

Modulation: CCK11

Channel	Frequency (MHz)	Measured Power		Limit		E.I.R.P.		E.I.R.P. Limit	
		mW	dBm	mW	dBm	mW	dBm	(mW)	(dBm)
Low	2412	181.6	22.59	1000	30	722.77	28.59	4000	36
Mid	2437	186.6	22.71	1000	30	743.02	28.71	4000	36
High	2462	174.2	22.41	1000	30	693.43	28.41	4000	36

Modulation: HT40

Channel	Frequency (MHz)	Measured Power		Limit		E.I.R.P.		E.I.R.P. Limit	
		mW	dBm	mW	dBm	mW	dBm	(mW)	(dBm)
Low	2422	179.9	22.55	1000	30	716.14	28.55	4000	36
Mid	2442	174.6	22.42	1000	30	695.02	28.42	4000	36
High	2462	171.4	22.34	1000	30	682.34	28.34	4000	36

Modulation: NON HT40

Channel	Frequency (MHz)	Measured Power		Limit		E.I.R.P.		E.I.R.P. Limit	
		mW	dBm	mW	dBm	mW	dBm	(mW)	(dBm)
Low	2422	165.2	22.18	1000	30	657.66	28.18	4000	36
Mid	2442	160.3	22.05	1000	30	638.26	28.05	4000	36
High	2462	161.1	22.07	1000	30	641.21	28.07	4000	36

**RF OUTPUT POWER SUMMING PORT 1 AND PORT 2****Modulation: OFDM**

Frequency (MHz)	Measure and Sum (Summing port 1 and port 2)				Limit		E.I.R.P.		Limit	
	Port 1 mW	Port 2 mW	Summed mW	Summed dBm	mW	dBm	mW	dBm	mW	dBm
2412	225.42	171.8	397.22	25.99	1000	30	3155.00	34.99	4000	36
2437	221.31	176.2	397.51	25.99	1000	30	3155.00	34.99	4000	36
2462	201.83	168.3	370.13	25.68	1000	30	2937.65	34.68	4000	36

Modulation: HT20

Frequency (MHz)	Measure and Sum (Summing port 1 and port 2)				Limit		E.I.R.P.		Limit	
	Port 1 mW	Port 2 mW	Summed mW	Summed dBm	mW	dBm	mW	dBm	mW	dBm
2412	223.35	176.6	399.95	26.02	1000	30	3176.87	35.02	4000	36
2437	214.78	177.8	392.58	25.94	1000	30	3118.89	34.94	4000	36
2462	199.52	167.5	367.02	25.65	1000	30	2917.43	34.65	4000	36

Modulation: CCK11

Frequency (MHz)	Measure and Sum (Summing port 1 and port 2)				Limit		E.I.R.P.		Limit	
	Port 1 mW	Port 2 mW	Summed mW	Summed dBm	mW	dBm	mW	dBm	mW	dBm
2412	222.33	181.6	403.93	26.06	1000	30	3206.27	35.06	4000	36
2437	216.77	186.6	403.37	26.06	1000	30	3206.27	35.06	4000	36
2462	192.30	174.2	366.50	25.64	1000	30	2910.72	34.64	4000	36

Modulation: HT40

Frequency (MHz)	Measure and Sum (Summing port 1 and port 2)				Limit		E.I.R.P.		Limit	
	Port 1 mW	Port 2 mW	Summed mW	Summed dBm	mW	dBm	mW	dBm	mW	dBm
2422	224.90	179.9	404.80	26.07	1000	30	3213.66	35.07	4000	36
2442	206.06	174.6	380.66	25.81	1000	30	3026.91	34.81	4000	36
2462	203.70	171.4	375.1	25.74	1000	30	2978.52	34.74	4000	36

Modulation: Non HT40

Frequency (MHz)	Measure and Sum (Summing port 1 and port 2)				Limit		E.I.R.P.		Limit	
	Port 1 mW	Port 2 mW	Summed mW	Summed dBm	mW	dBm	mW	dBm	mW	dBm
2422	203.70	165.2	368.9	25.67	1000	30	2930.89	34.67	4000	36
2442	191.86	160.3	352.16	25.48	1000	30	2805.43	34.48	4000	36
2462	186.63	161.1	347.73	25.41	1000	30	2760.58	34.41	4000	36

**Non-beamforming**

Test		Low Channel 2.412 GHz (2.422, HT40 & Non-HT40)	Mid Channel 2.437 GHz (2.442, HT40 & Non-HT40)	High Channel 2.462 GHz
Power Spectral Density	Port 1:	dBm	dBm	dBm
	CCK 11	-7.78	-8.17	-8.60
	OFDM 54	-12.85	-13.18	-13.25
	HT 20	-12.87	-12.65	-13.44
	HT 40	-17.32	-17.34	-17.39
	Non-HT 40	-17.29	-17.42	-17.15
	Port 2:	dBm	dBm	dBm
	CCK 11	-9.08	-9.01	-9.56
	OFDM 54	-13.28	-13.86	-13.87
	HT 20	-13.13	-13.25	-13.29
	HT 40	-17.48	-17.80	-17.83
	Non-HT 40	-17.35	-17.85	-18.10
PSD Limit		8dBm	8dBm	8dBm
-6dB Occupied Bandwidth		MHz	MHz	MHz
	CCK 11	7.712	7.592	7.797
	OFDM 54	16.472	16.502	16.509
	HT 20	17.690	17.602	17.659
	HT 40	36.479	36.477	36.461
	Non-HT 40	36.432	36.249	36.320
-6dB Occupied Bandwidth Limit		≥ 500kHz	≥ 500kHz	≥ 500kHz



PSD SUMMING PORT 1 AND PORT 2							
Modulation: OFDM							
Frequency (MHz)	Measure and Sum (Summing port 1 and port 2)						Limit (dBm)
	Port 2 dBm	Port 1 dBm	Port 2 mW	Port 1 mW	Summed mW	Summed dBm	8
2412	-13.28	-12.85	0.05	0.05	0.10	-10.0	
2437	-13.86	-13.18	0.04	0.05	0.09	-10.5	
2462	-13.87	-13.25	0.04	0.05	0.09	-10.5	
Modulation: HT20							
Frequency (MHz)	Measure and Sum (Summing port 1 and port 2)						8
	Port 2 dBm	Port 1 dBm	Port 2 mW	Port 1 mW	Summed mW	Summed dBm	
2412	-13.13	-12.87	0.05	0.05	0.10	-10.0	
2437	-13.25	-12.65	0.05	0.05	0.10	-10.0	
2462	-13.29	-13.44	0.05	0.05	0.10	-10.0	
Modulation: CCK11							
Frequency (MHz)	Measure and Sum (Summing port 1 and port 2)						8
	Port 2 dBm	Port 1 dBm	Port 2 mW	Port 1 mW	Summed mW	Summed dBm	
2412	-9.08	-7.78	0.12	0.17	0.29	-5.38	
2437	-9.01	-8.17	0.13	0.15	0.28	-5.53	
2462	-9.56	-8.60	0.11	0.14	0.25	-6.02	
Modulation: HT40							
Frequency (MHz)	Measure and Sum (Summing port 1 and port 2)						8
	Port 2 dBm	Port 1 dBm	Port 2 mW	Port 1 mW	Summed mW	Summed dBm	
2422	-17.48	-17.32	0.02	0.02	0.04	-13.98	
2442	-17.80	-17.34	0.02	0.02	0.04	-13.98	
2462	-17.83	-17.39	0.02	0.02	0.04	-13.98	
Modulation: non HT40							
Frequency (MHz)	Measure and Sum (Summing port 1 and port 2)						8
	Port 2 dBm	Port 1 dBm	Port 2 mW	Port 1 mW	Summed mW	Summed dBm	
2422	-17.35	-17.29	0.02	0.02	0.04	-13.98	
2442	-17.85	-17.42	0.02	0.02	0.04	-13.98	
2462	-18.10	-17.15	0.02	0.02	0.04	-13.98	



Test		Low Channel 2.412 GHz (2.422, HT40 & Non-HT40)		Mid Channel 2.442 GHz		High Channel 2.462 GHz	
Voltage Variations (Nominal Voltage: 110VAC)		mW	dBm	mW	dBm	mW	dBm
	-15%	--	2.57	--	3.23	--	2,87
	+15%	--	2.77	--	3.19	--	3.18
Limit		1W	30dBm	1W	30dBm	1W	30dBm

Note: To meet the requirements of 15.31, voltage was varied by $\pm 15\%$ of the nominal voltage. All tests were then performed at the highest output power voltage setting.



4 ENGINEERING STATEMENT

This report has been prepared on behalf of PCTEL, Inc to provide documentation for the testing described herein. This equipment has been tested and found to comply with Part 15.247 of the FCC Rules using ANSI C63.10:2013 and KDB558074 standards. The test results found in this test report relate only to the items tested.

**5 EUT INFORMATION AND DATA****5.1 Equipment Under Test:**Product: **Rugged 802.11ac Access Point**

Model: AP-WIFI-1200-US

Serial No.: Proto 2

Software Version: Procomm Plus v4.8, Qualcomm v4.0.00036, TI Smart Studio 7 v2.12.0

FCC ID: **NYPWIFIAP1200****5.2 Trade Name:**

PCTEL, Inc

5.3 Power Supply:

PoE Supply: PhiHong POE29U-1AT(PL)

5.4 Applicable Rules:

CFR 47, Part 15.247, subpart C

5.5 Equipment Category:

Radio Transmitter-DTS

5.6 Antenna:

6dBi External Omni-Directional

5.7 Accessories:

Device	Manufacturer	Model Number	Serial Number
PoE Supply	PhiHong	POE29U-1AT(PL)	None Specified
TI Uart Interface	PCTEL, Inc	n/a	n/a
Antenna	PCTEL, Inc	BOA24006NM	n/a
Laptop	Dell	Latitude E6430s	3ZQ24X1

5.8 Test Item Condition:

The equipment to be tested was received in good condition.

5.9 Testing Algorithm:

The 2.4 GHz radio was set up to provide a continuous modulated signal on 2412, 2442 and 2462 MHz for 20 MHz BW modes. 2422 MHz was used for the low channel at 40 MHz BW mode center frequency. The EUT was powered by a client supplied POE adaptor. Measurements were made according to FCC Part 15.247 and KDB 55074 DO1 v05r02.

**6 LIST OF MEASUREMENT INSTRUMENTATION**

Equipment Type	Asset Number	Manufacturer	Model	Serial Number	Calibration Due Date
Shielded Chamber 2014	CL166-E	AlbatrossProjects	B83117-DF435-T261	US140023	2021-01-03
Temp/Hum. Recorder	CL261	Extech	445814	04	2021-02-12
Spectrum Analyzer	CL138	Agilent Technologies	E4407B	US41192779	2021-09-16
Receiver	CL151	Rohde & Schwarz	ESU40	100319	2021-10-06
Antenna, JB3 Combination	CL175	Sunol Sciences	JB3	A030315	2021-11-05
Antenna, Bilog	CL211	Sunol Sciences, Inc.	JB1	A021017	2021-10-03
Horn Antenna	CL098	Emco	3115	9809-5580	2021-01-31
Horn Antenna	CL114	AH Systems, Inc.	SAS-572	237	2021-02-04
Pre-Amplifier	CL189	Com-Power	PAM-840A	461303	2021-07-31
Pre-Amplifier	CL153	Agilent	83006-69007	MY39500791	2020-12-31
Pre-Amplifier	CL250	Com-Power	PAM-118A	18040011	2021-06-21
Amplifier w/Monopole & 18" Loop	CL163-Loop	A.H. Systems, Inc.	EHA-52B	100	2021-10-15
Software:	Tile Version 3.4.B.3.		Software Verified: 2020-10-09 to 2020-11-05		
Software:	EMC 32, Version 8.53.0		Software Verified: 2020-10-12 to 2020-11-05		
Low Loss Cable Set	--	Pasternack	PE3C0666-252 / PE3C066-50CM	None Spec.	2023-10-12
Temp/Hum. Recorder	CL263	Extech	445814	06	2021-02-12
Transient Limiter	CL102	Hewlett Packard	11947A	3107A03325	2021-02-17
Spectrum Analyzer	CL147	Agilent	E7402A	MY45101241	2021-01-06
LISN	CL181	Com-Power	LI-125A	191226	2020-10-31
LISN	CL182	Com-Power	LI-125A	191225	2020-10-31



7 FCC PART 15.247(a)(2) – OCCUPIED BANDWIDTH

7.1 Requirements:

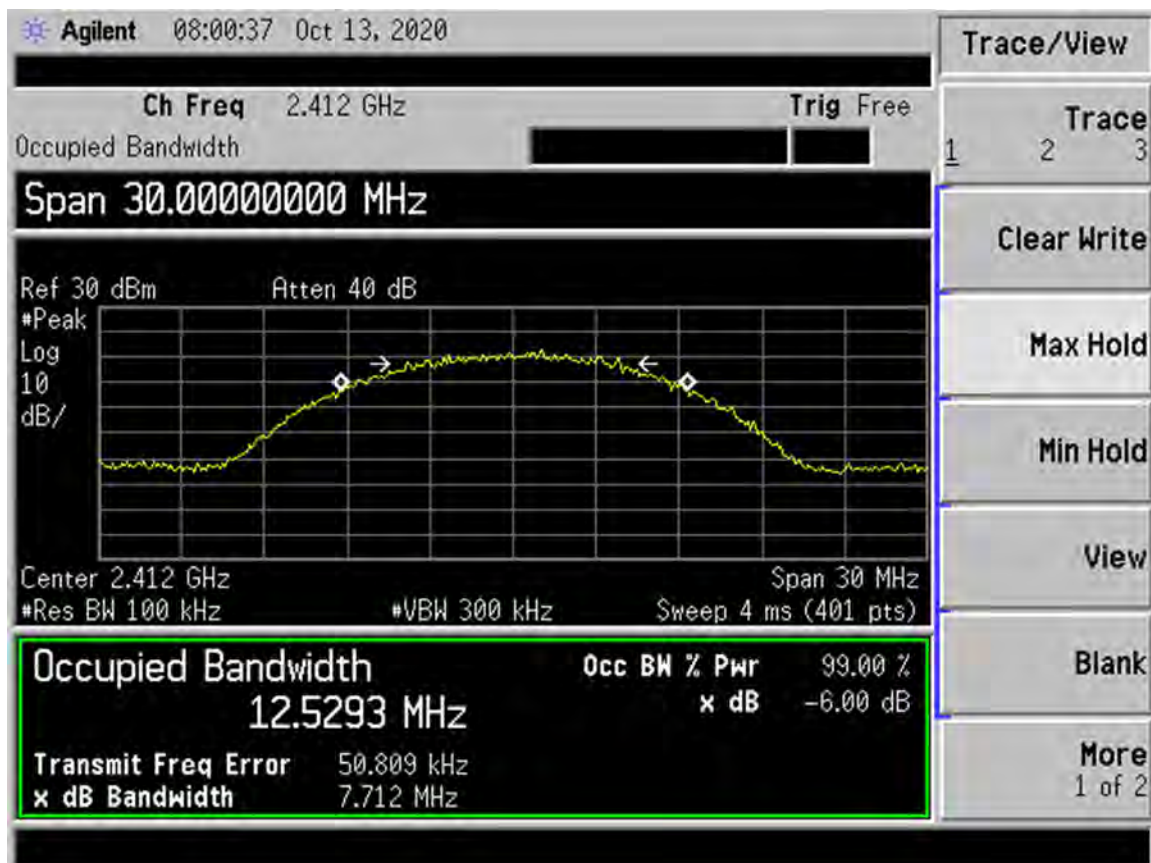
The 6dB bandwidth shall be greater than 500 kHz.

Bandwidth measurements were made at the low, mid and high frequencies with the resolution Bandwidth set at 100 kHz (video bandwidth set at 300 kHz) while the span was set at 30MHz and 50MHz to encompass the entire modulated waveforms. The bandwidth was measured using the analyzer measurement function.



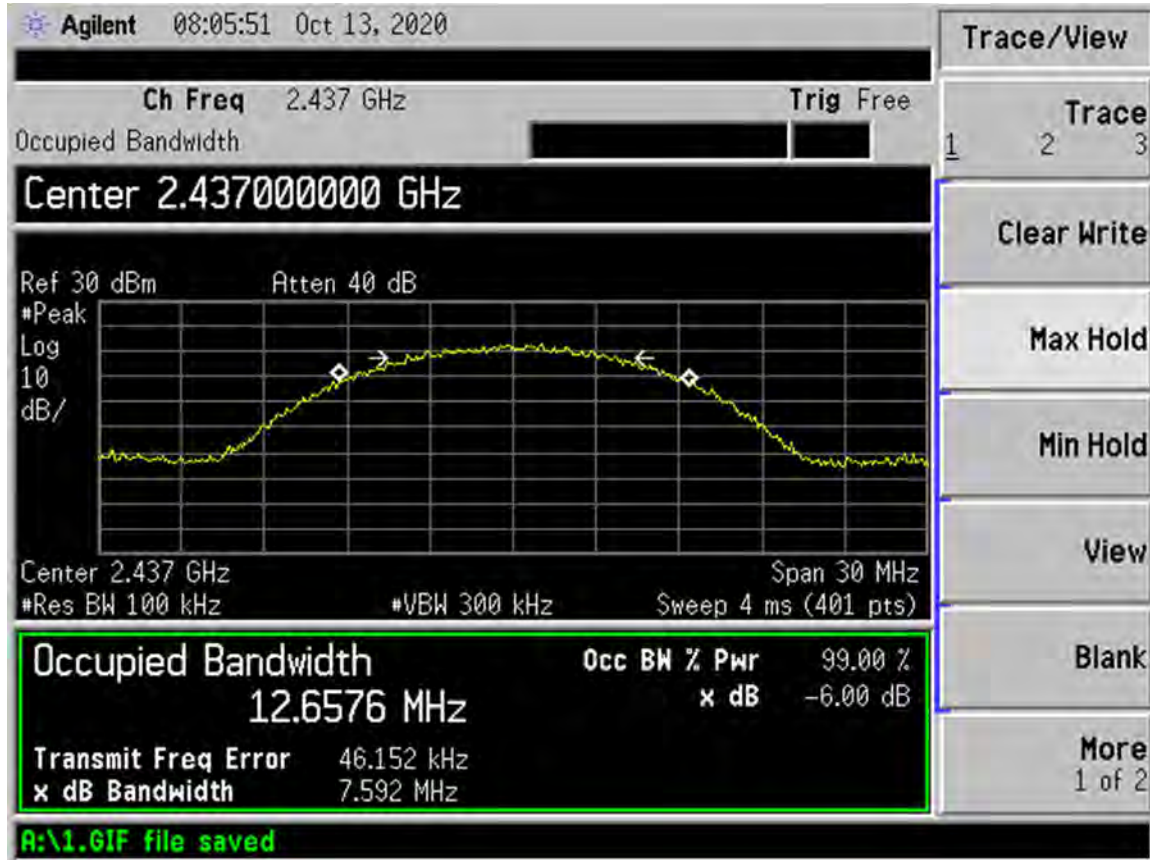
7.2 Occupied Bandwidth Test Data

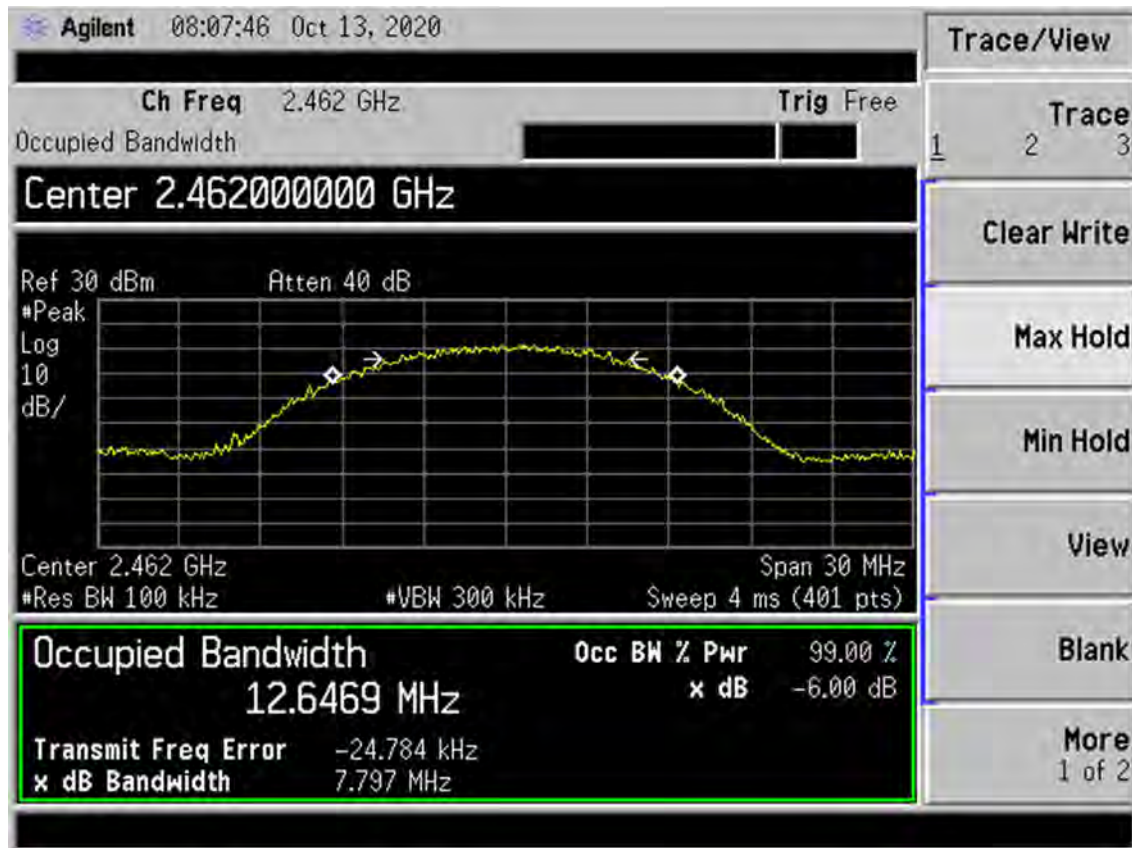
Test Date:	2020-10-13	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.247(a)(2); KDB558074	Air Temperature:	23.1°C
		Relative Humidity:	45%

-6dB OBW, CCK 11: Low Channel



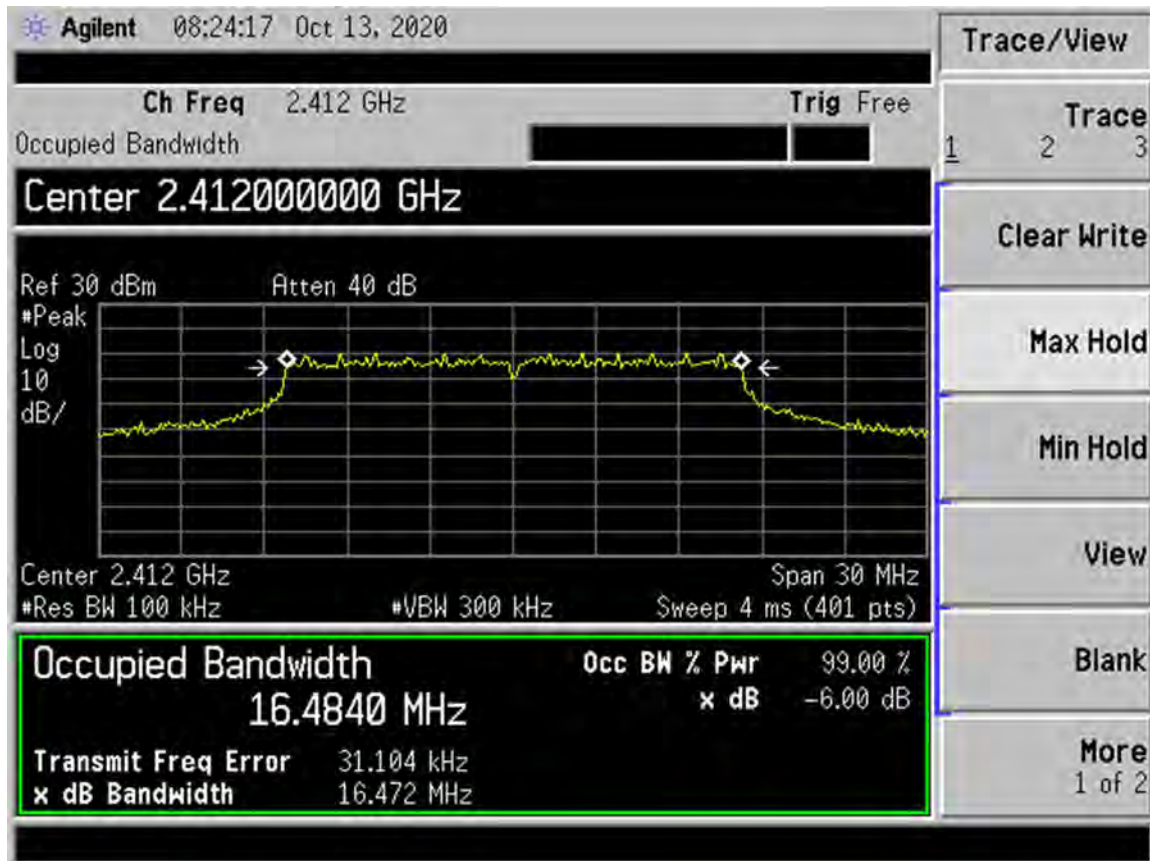
-6dB OBW, CCK 11: Mid Channel

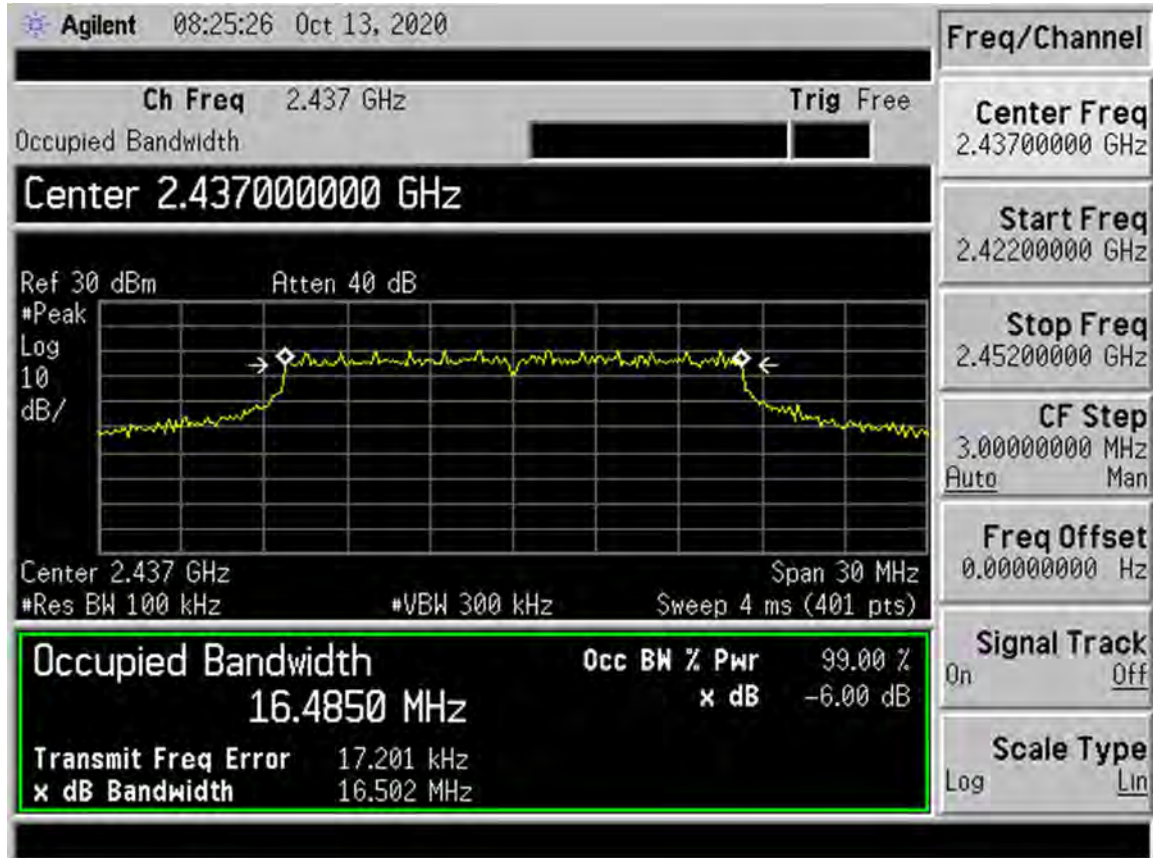


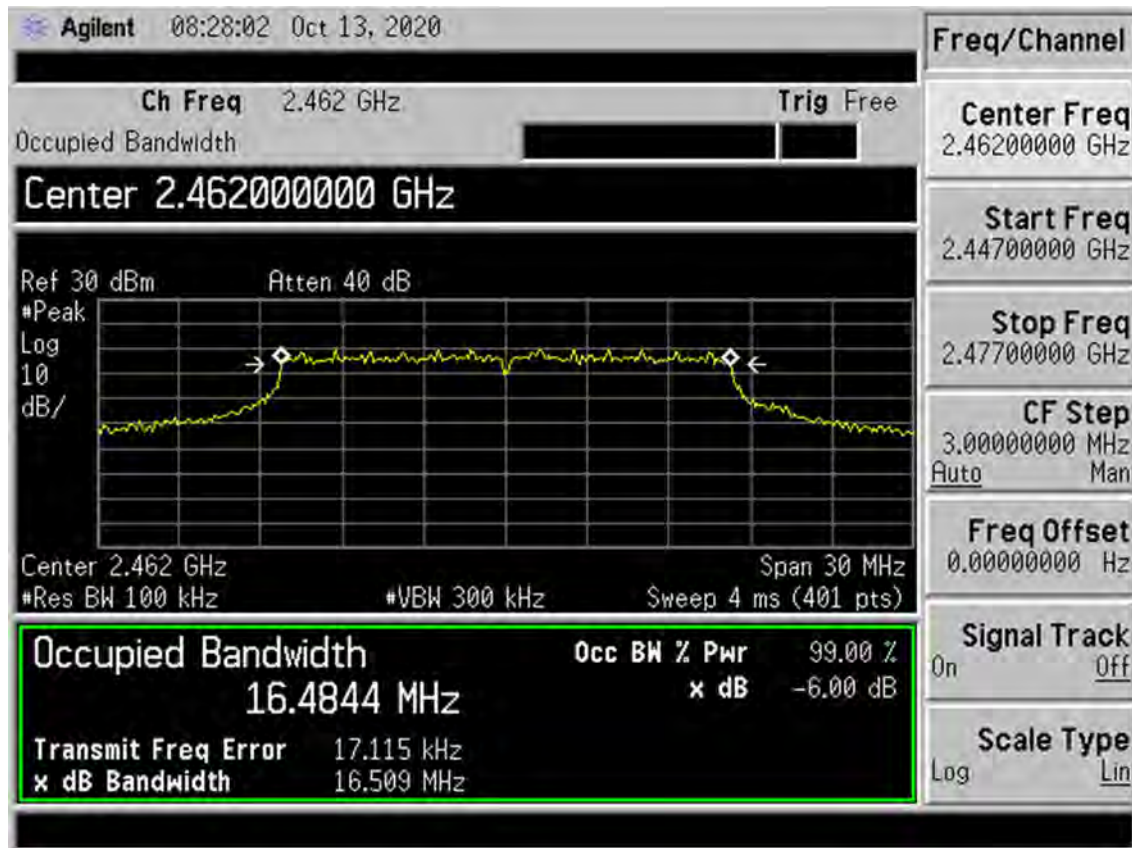
**-6dB OBW, CCK 11: High Channel**

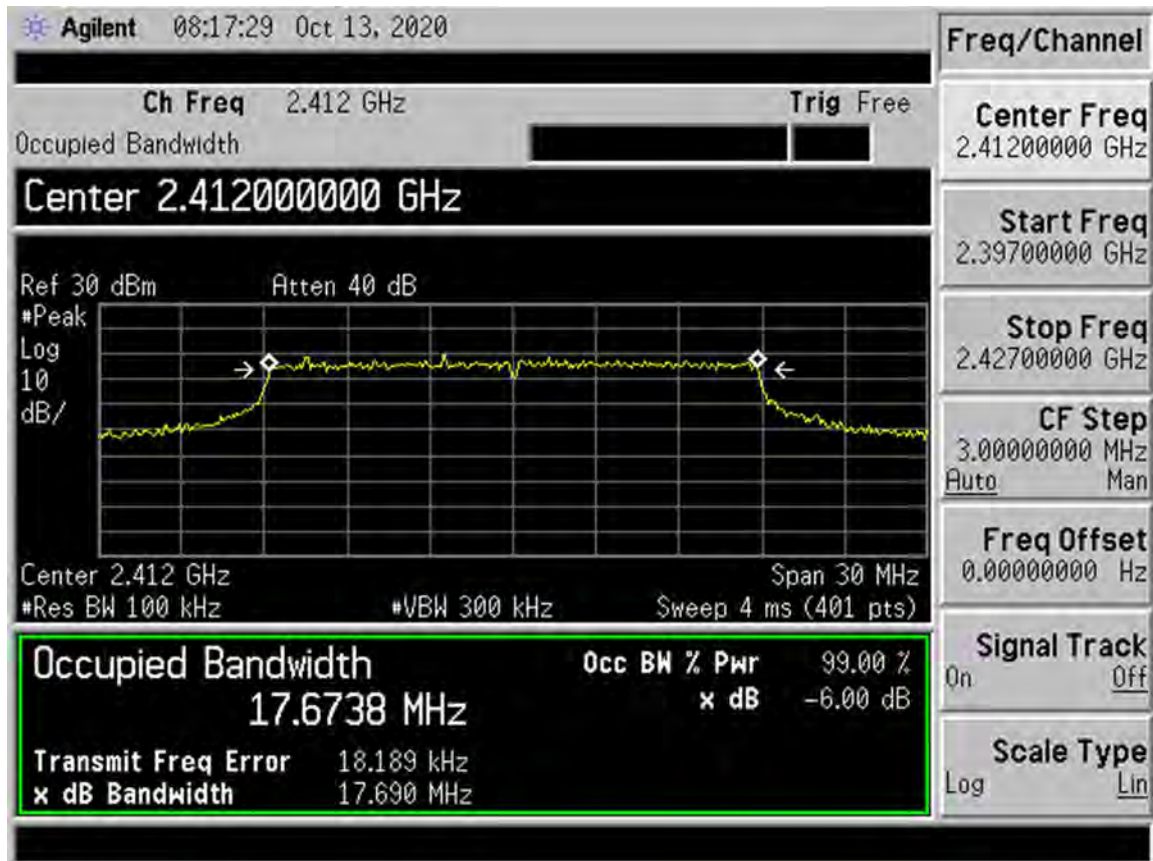


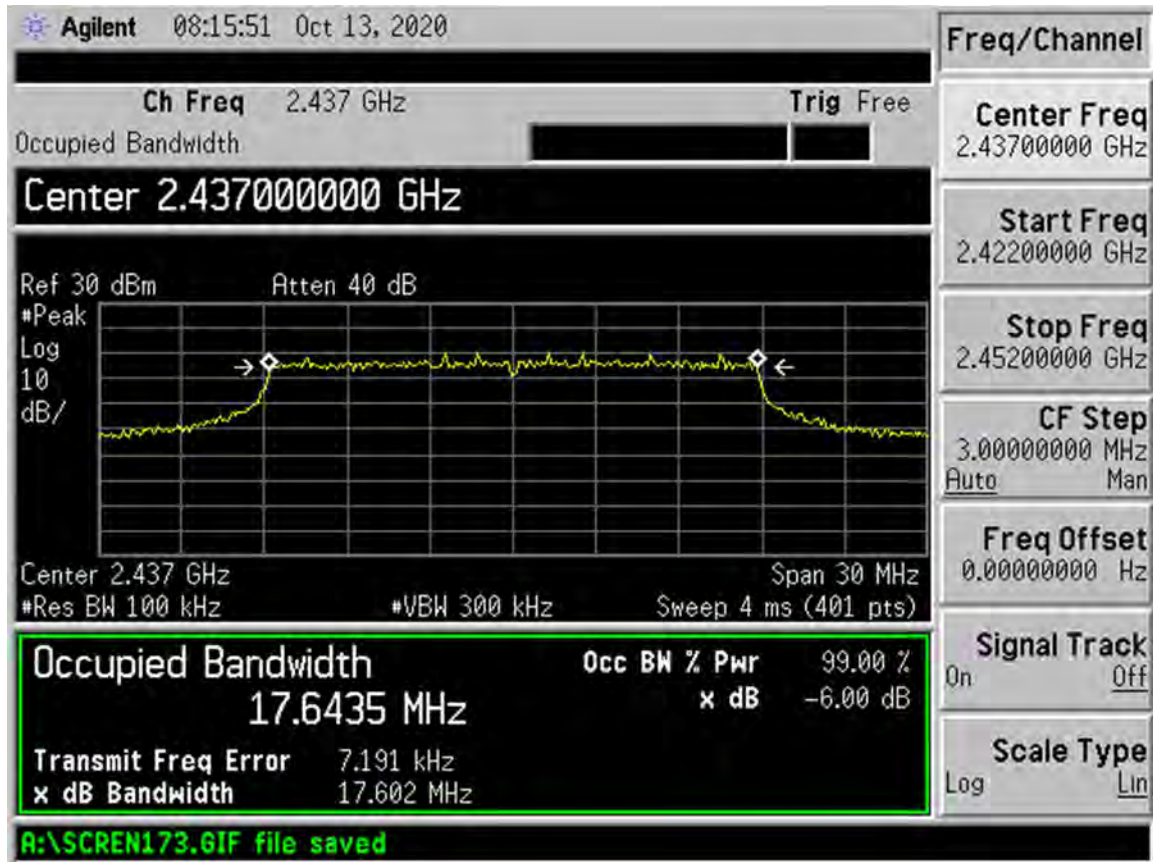
-6dB OBW, OFDM 54: Low Channel

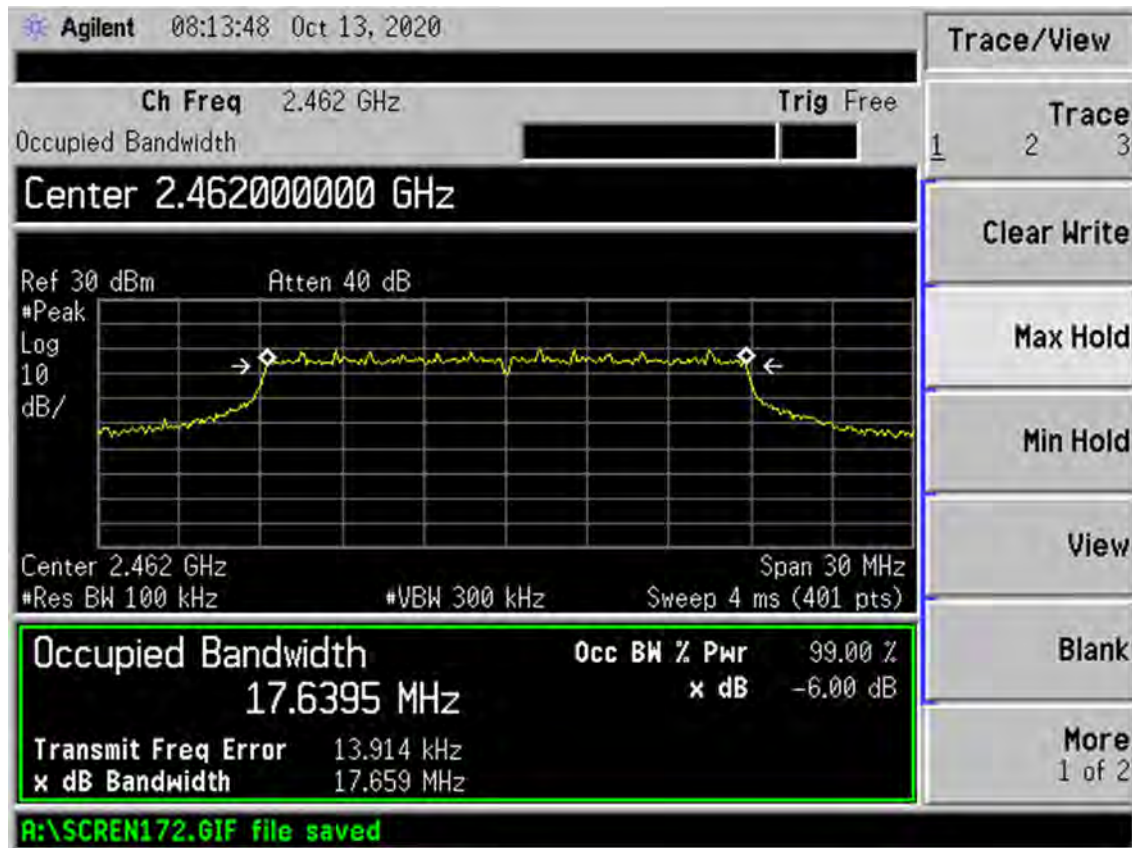


**-6dB OBW, OFDM 54: Mid Channel**

**-6dB OBW, OFDM 54: High Channel**

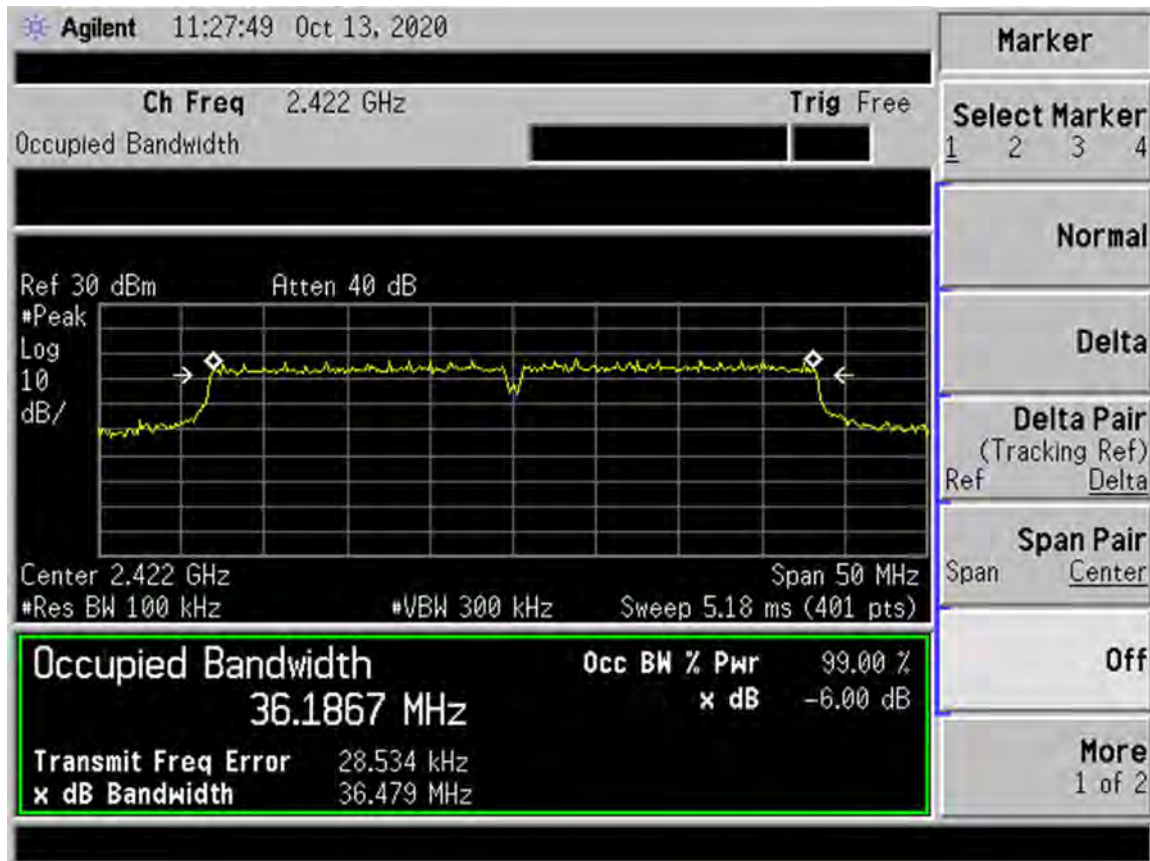
**-6dB OBW, HT 20: Low Channel**

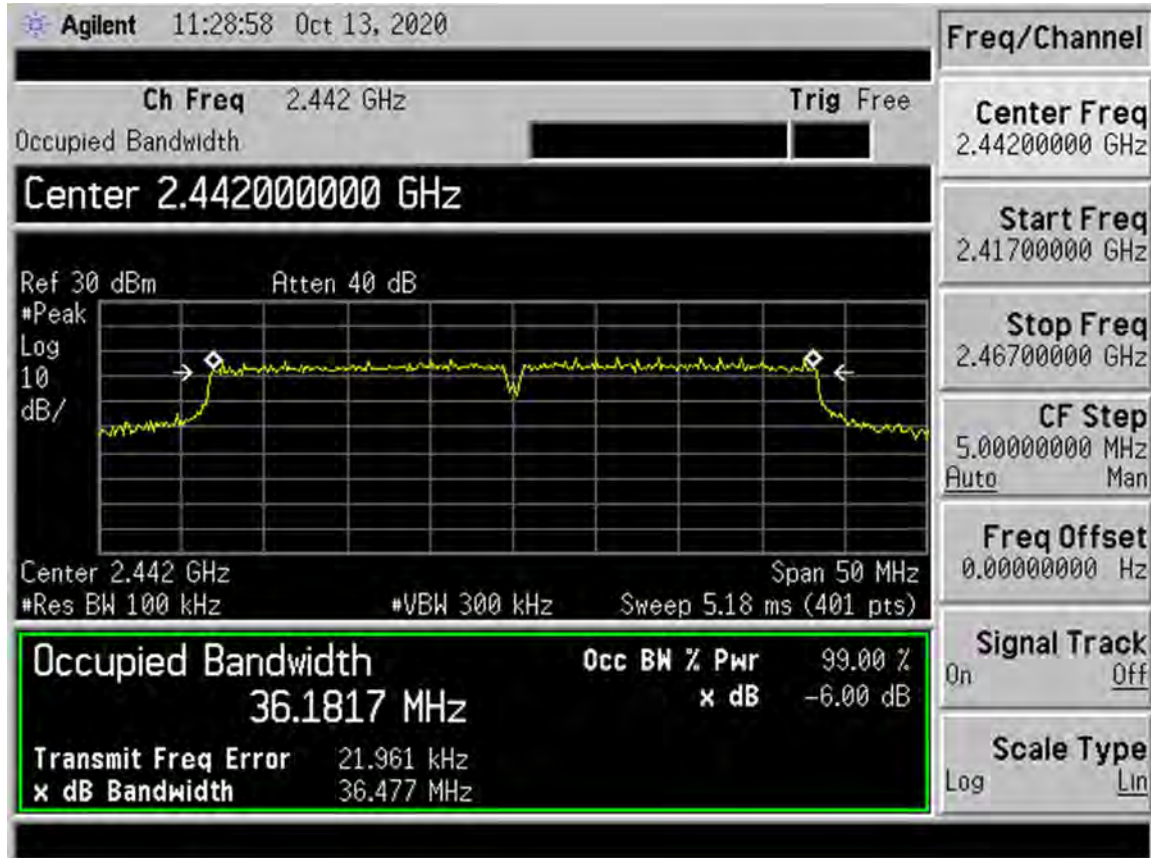
**-6dB OBW, HT 20: Mid Channel**

**-6dB OBW, HT 20: High Channel**



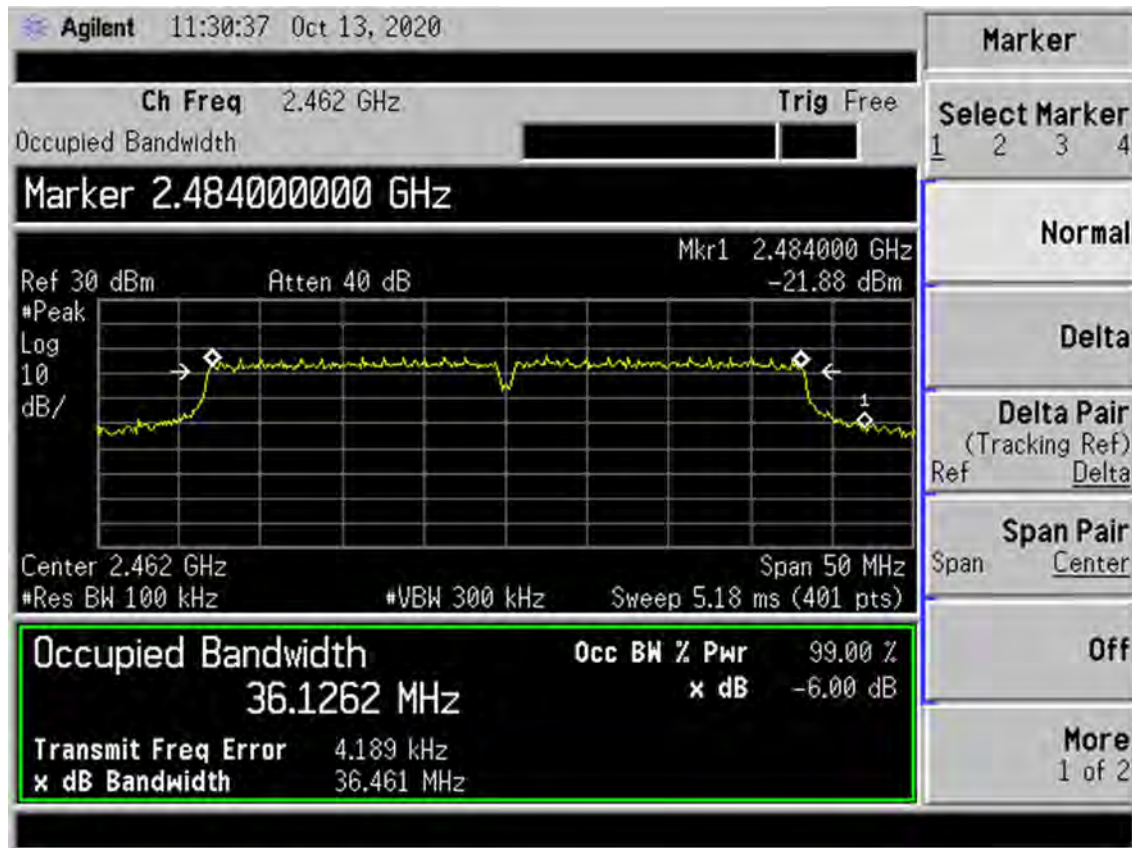
-6dB OBW, HT 40: Low Channel



**-6dB OBW, HT 40: Mid Channel**

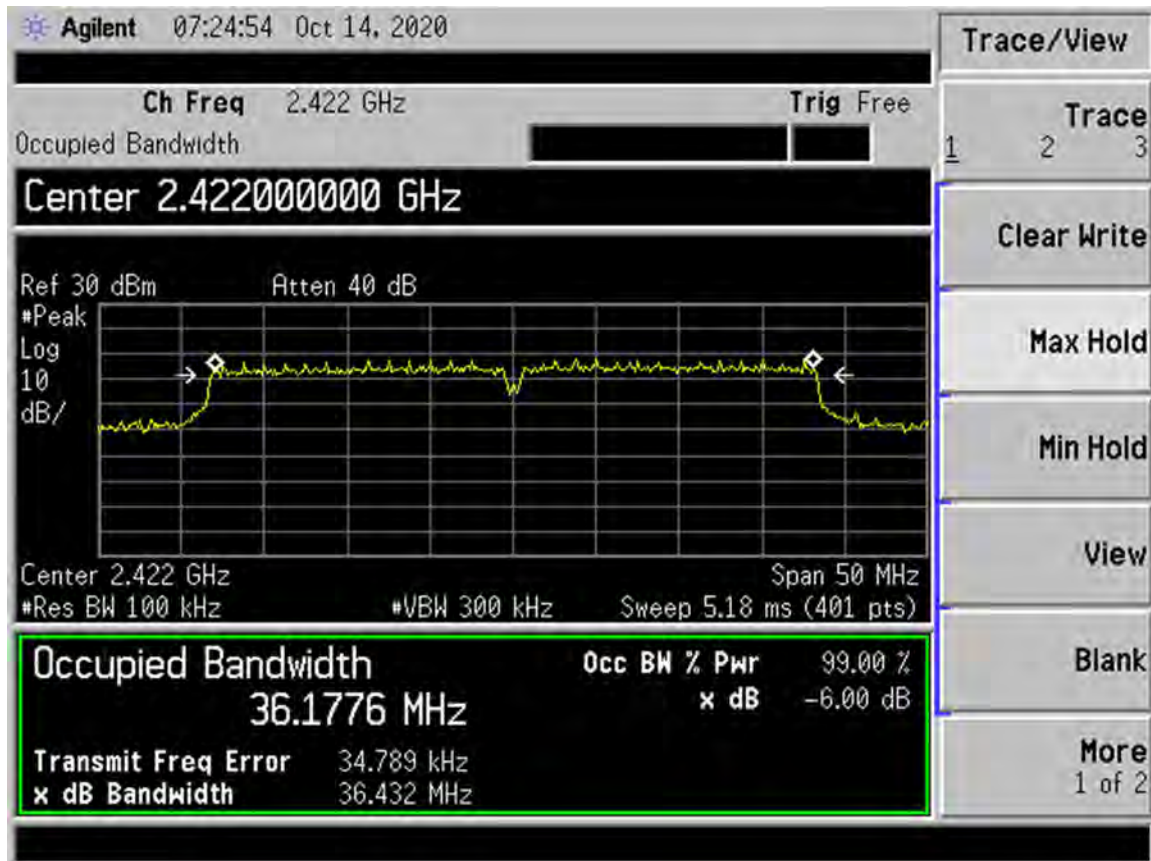


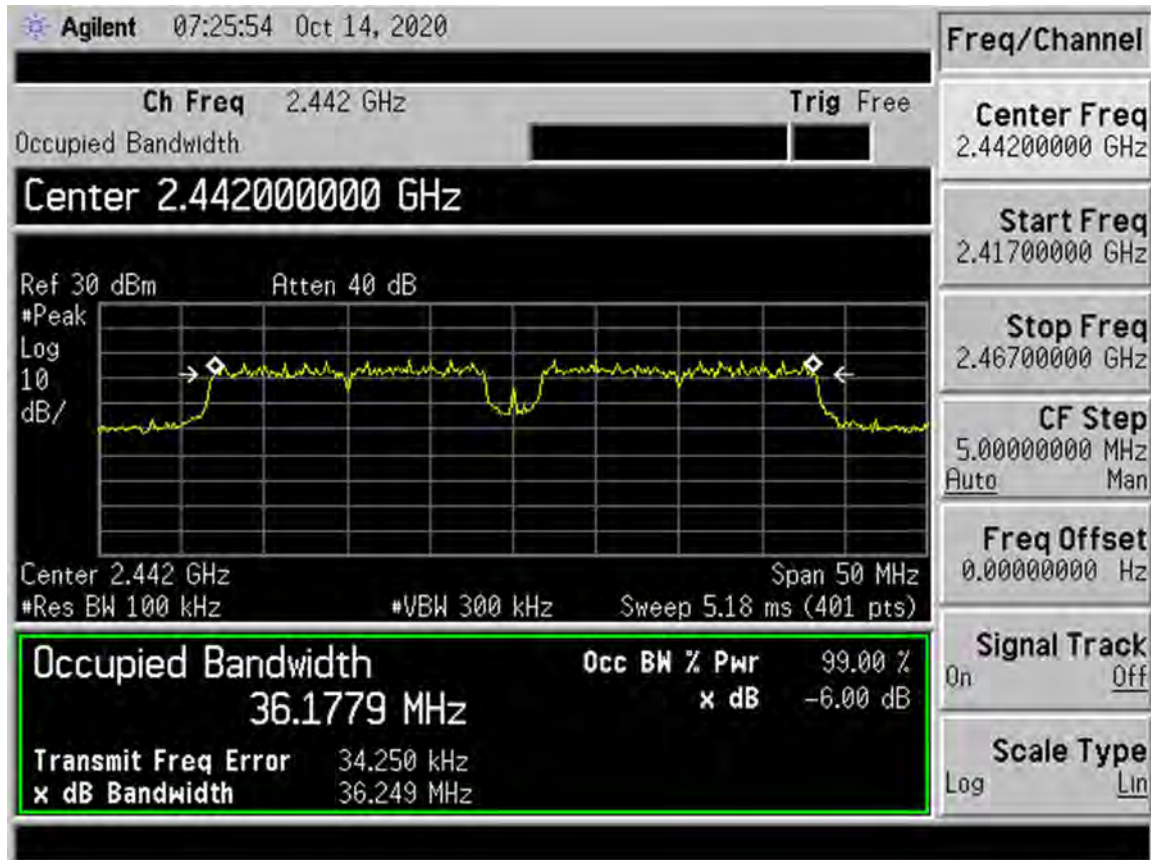
-6dB OBW, HT 40: High Channel

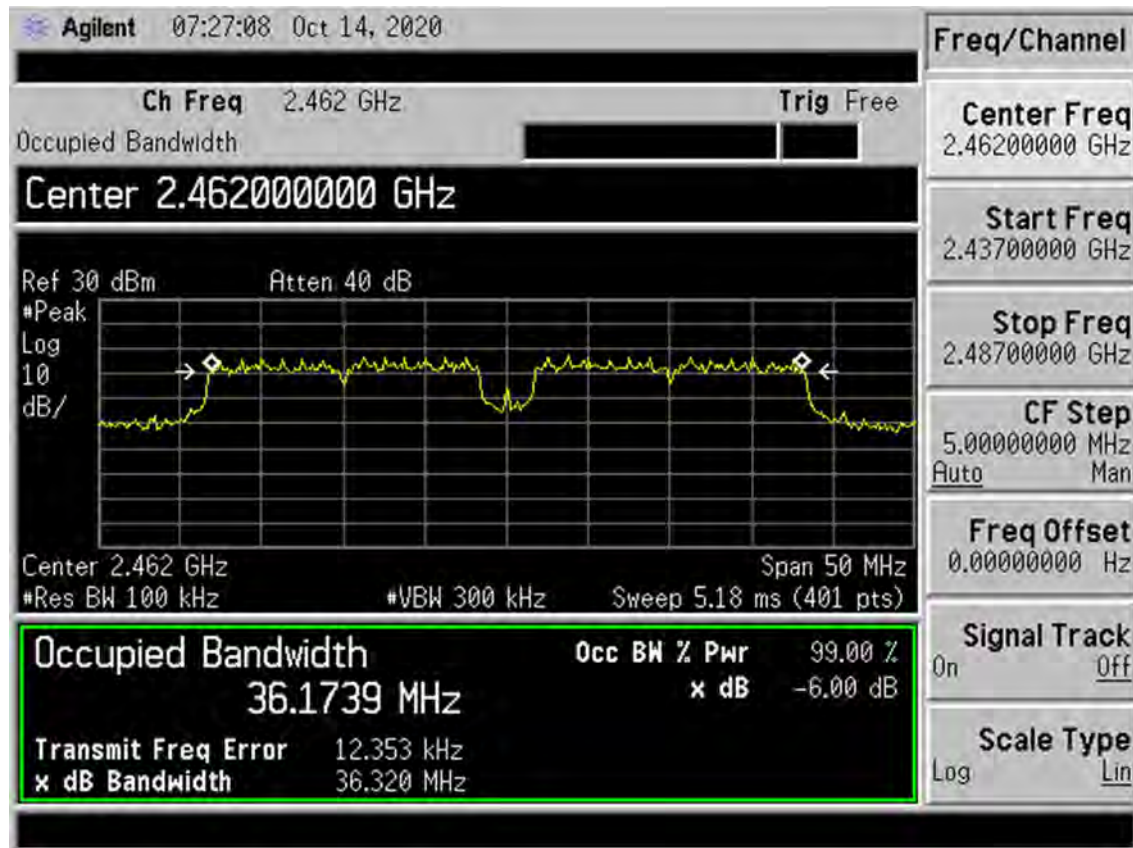




-6dB OBW, Non-HT 40: Low Channel



**-6dB OBW, Non-HT 40: Mid Channel**

**-6dB OBW, Non-HT 40: High Channel**



8 FCC PART 15.31(e) – VOLTAGE VARIATIONS

8.1 Requirements

For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery-operated equipment, the equipment tests shall be performed using a new battery.

Nominal Voltage: 110VAC

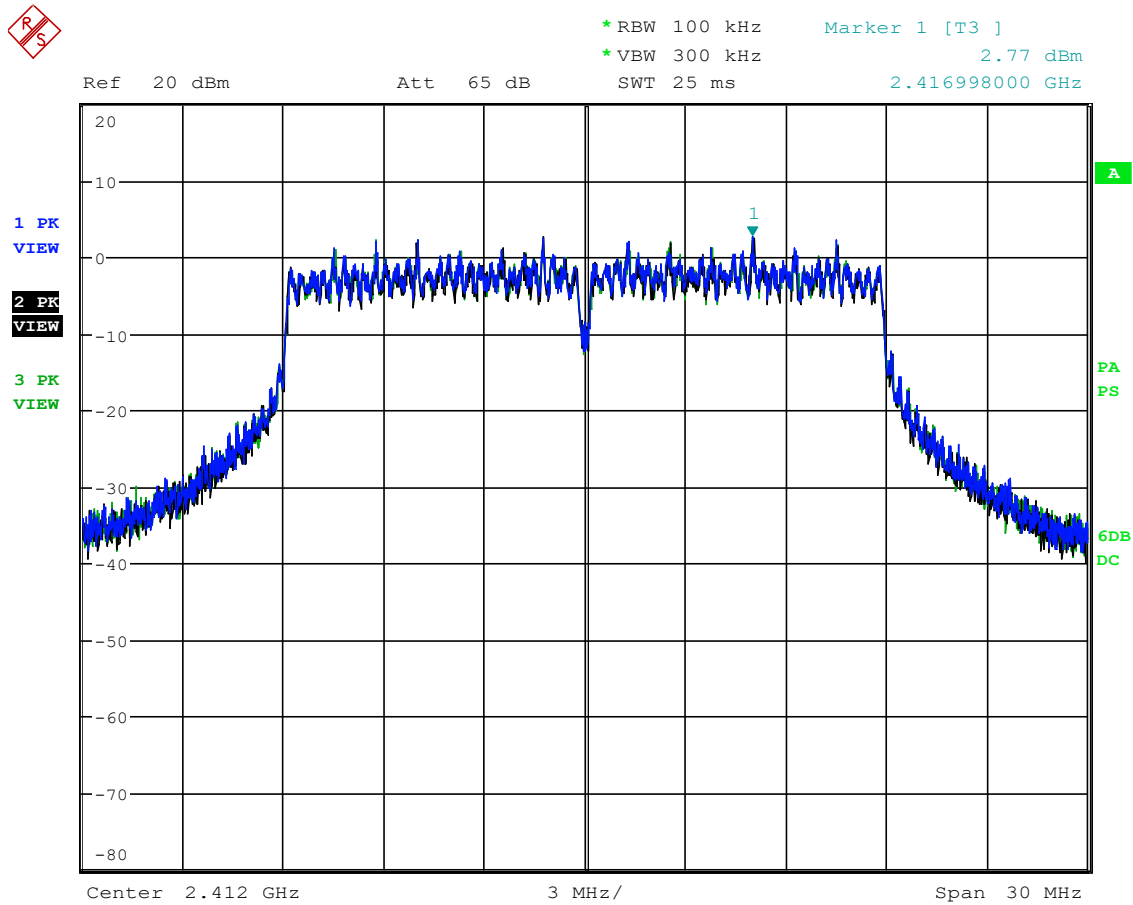
Note: Trace 1 is nominal, Trace 2 is -15% and Trace 3 is +15% voltage.



8.2 Voltage Variations Test Data

Test Date(s):	2020-11-05	Test Engineer:	J. Chiller
Rule:	15.31(e)	Air Temperature:	23.3° C
Test Results:	Complies	Relative Humidity:	40%

Low



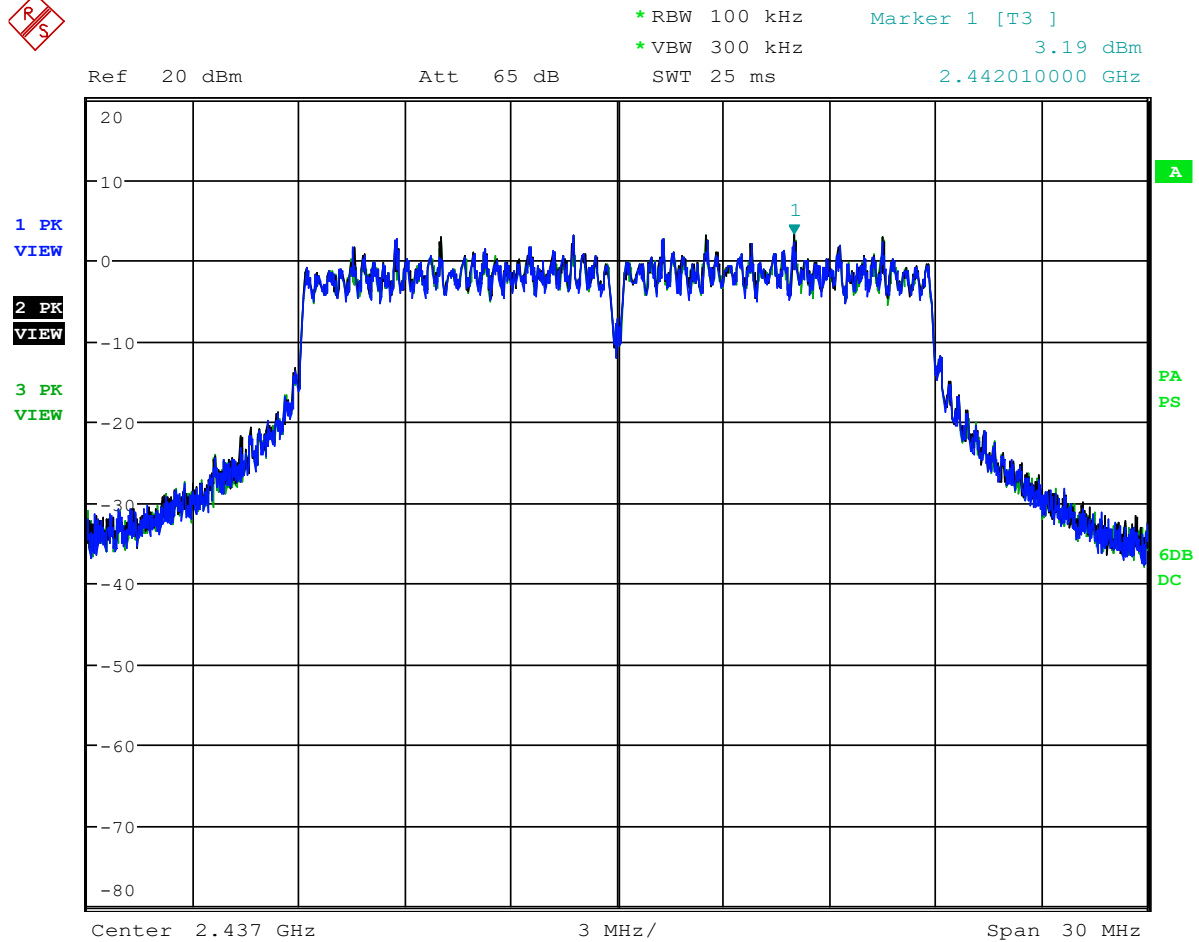
Date: 5.NOV.2020 14:42:57



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

High



Date: 5.NOV.2020 14:47:40



9 FCC PART 15.247(b)(3) – CONDUCTED OUTPUT POWER

The EUT antenna port was fitted with an SMA connector and directly connected to the input of the receiver. The peak power output was measured.

9.1 Requirements:

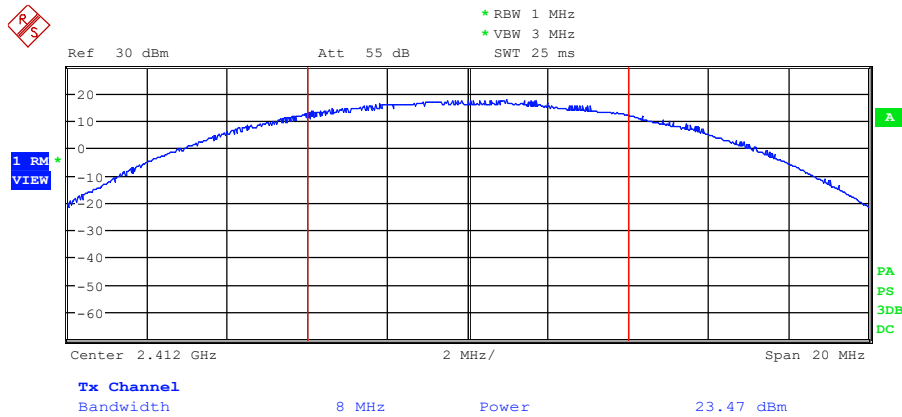
The power output shall be 1 watt (30 dBm) or less when using an antenna with a gain of less than 6dBi. For antennas having a gain of more than 6dBi, the limit is reduced by 1dB for every dB the antenna gain is over 6dBi.



9.2 Conducted Output Power Test Data

Test Date:	2020-10-13; 2021-07-21	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.247(b)(3); KDB558074	Air Temperature:	23.7°C
		Relative Humidity:	42%

Port 1, CCK 11: Low Channel



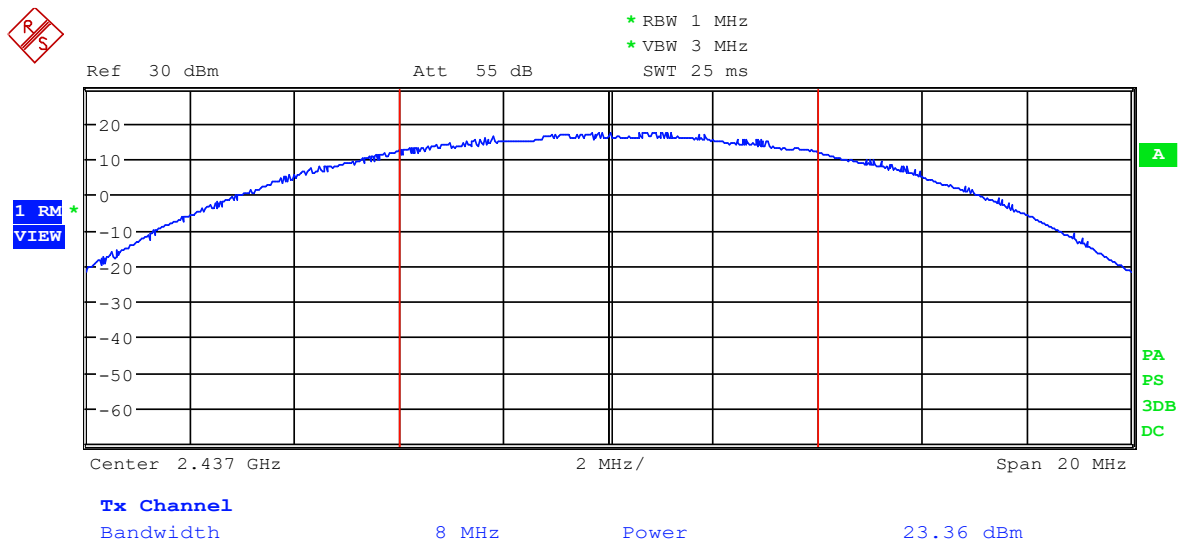
Date: 14.OCT.2020 12:25:50



Order Number: F2P19923A

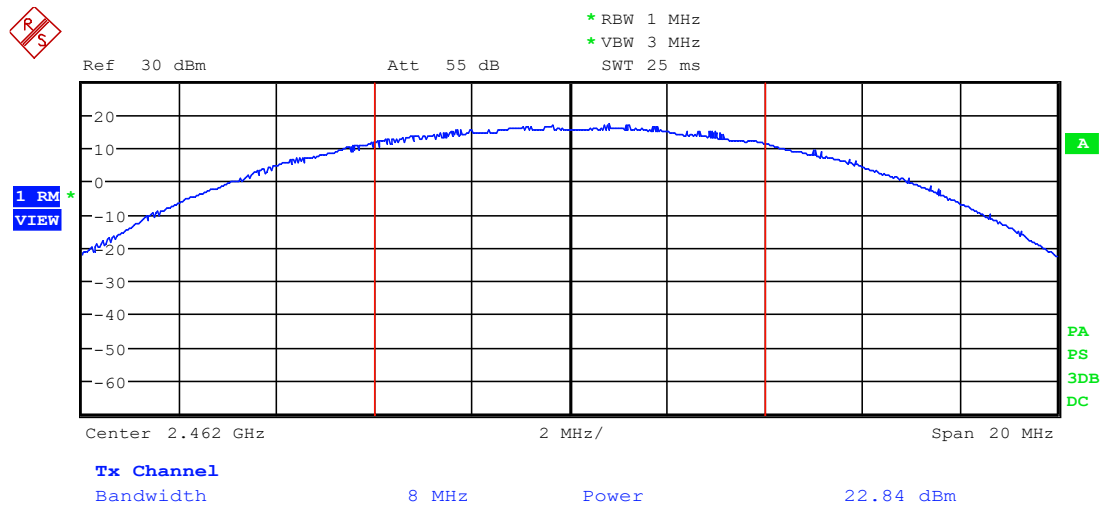
Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, CCK 11: Mid Channel



Date: 14.OCT.2020 12:29:11

Port 1, CCK 11: High Channel



Date: 14.OCT.2020 12:30:06



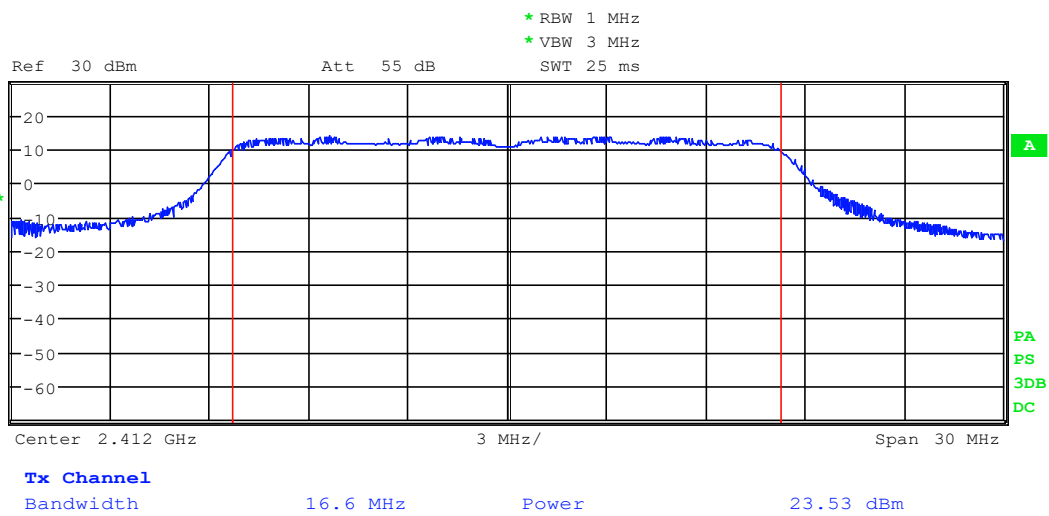
Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, OFDM: Low Channel



1 RM
VIEW



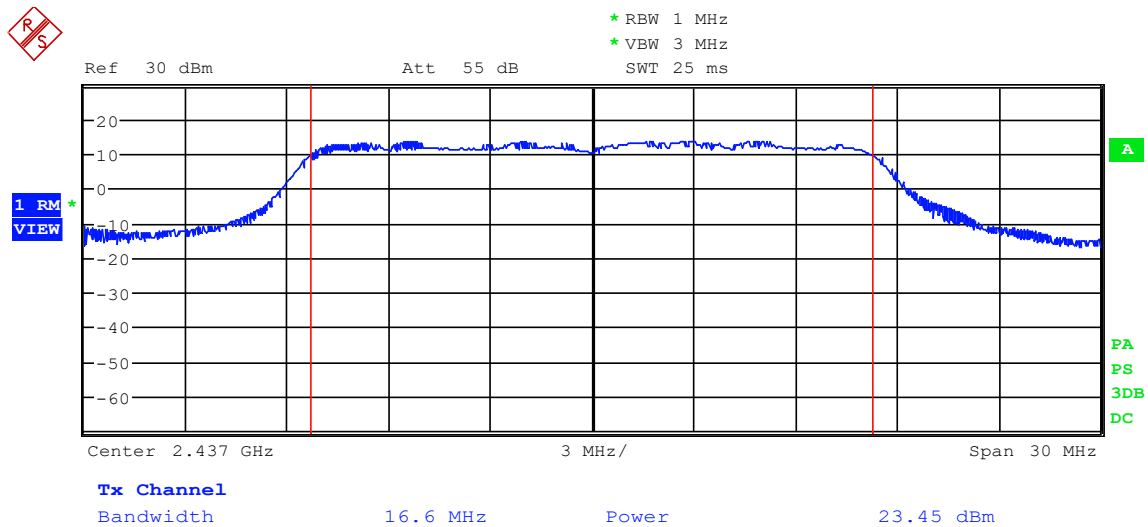
Date: 14.OCT.2020 12:33:54



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, OFDM: Mid Channel



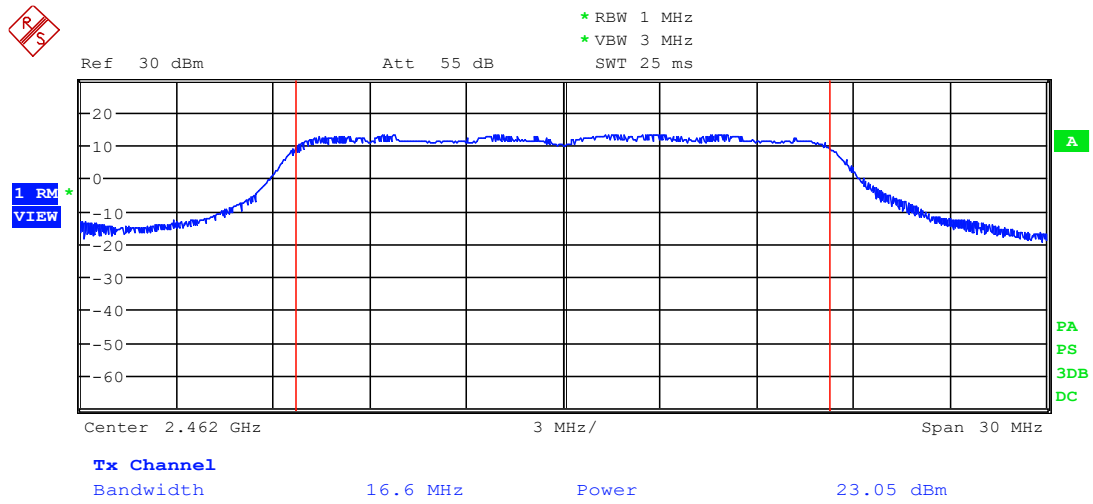
Date: 14.OCT.2020 12:34:54



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, OFDM: High Channel



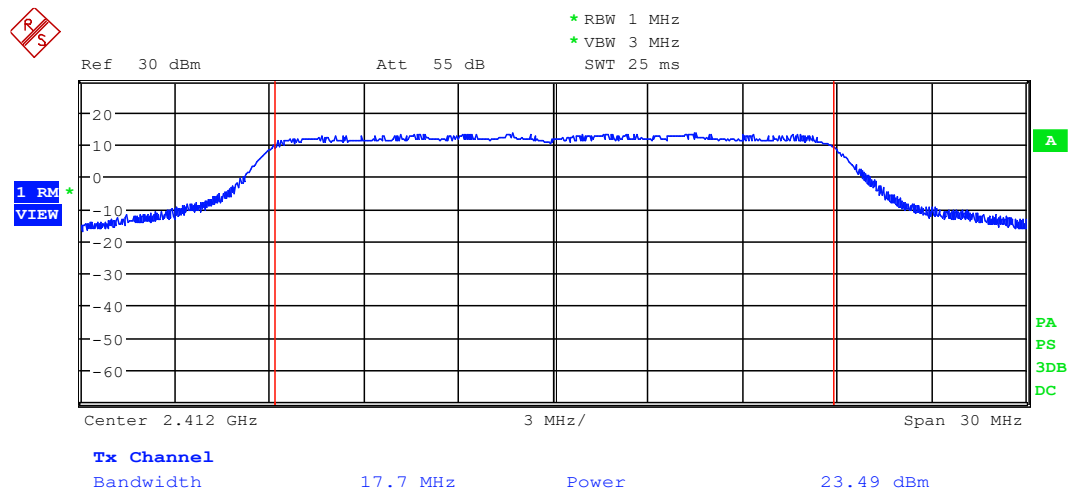
Date: 14.OCT.2020 12:36:17



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, HT 20: Low Channel



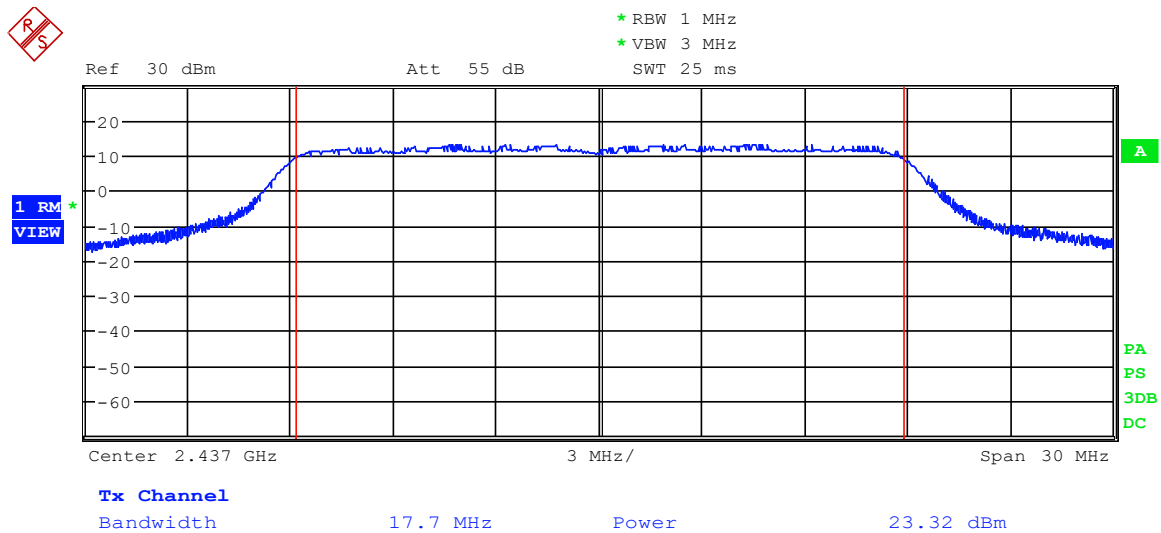
Date: 14.OCT.2020 12:39:01



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, HT 20: Mid Channel



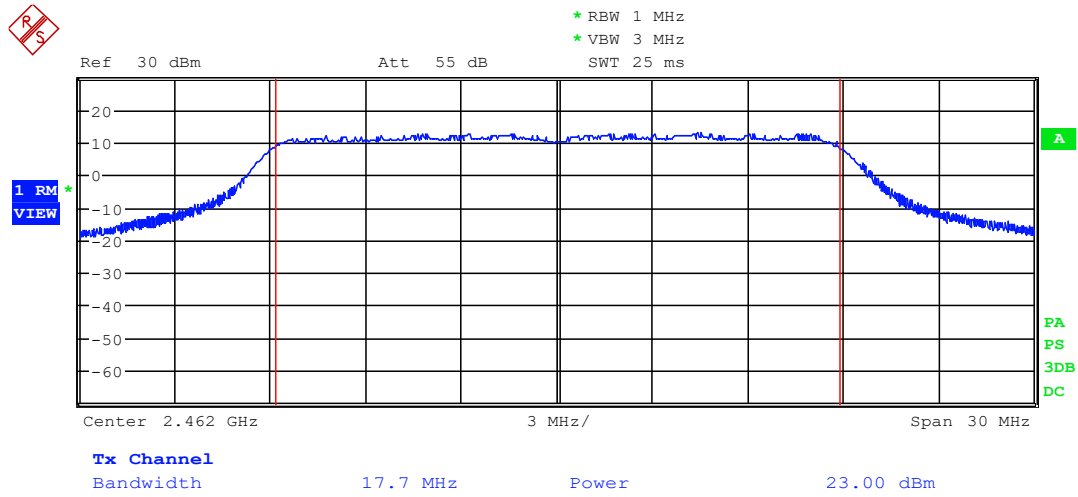
Date: 14.OCT.2020 12:40:07



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, HT 20: High Channel



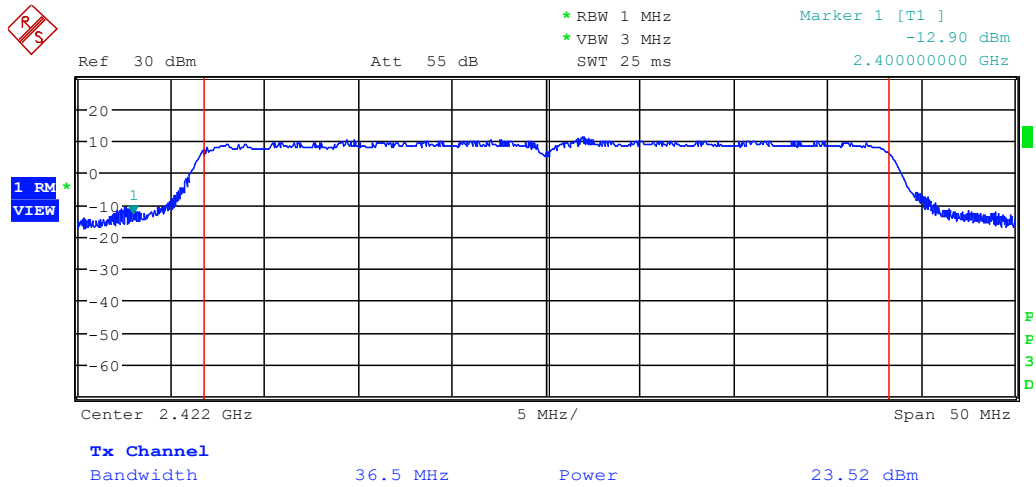
Date: 14.OCT.2020 12:41:02



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, HT 40: Low Channel



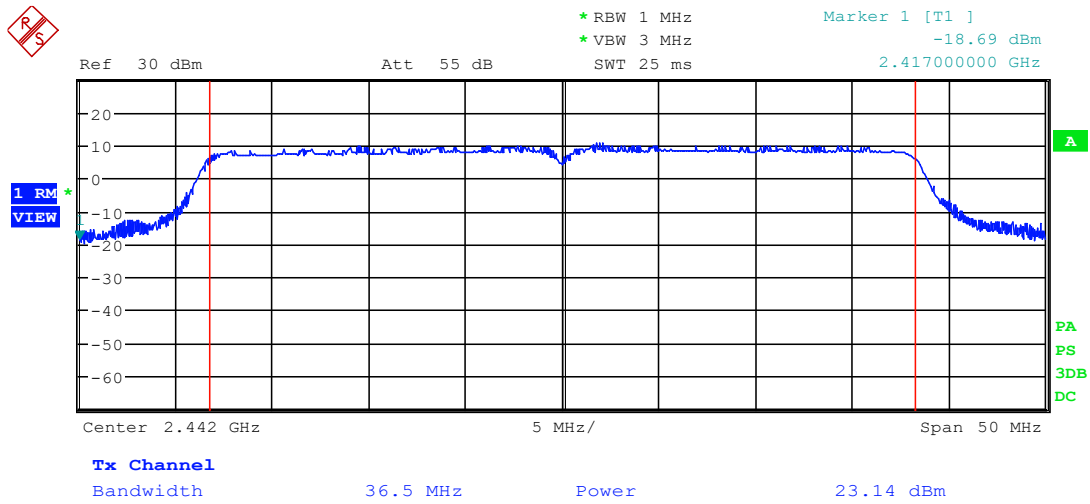
Date: 14.OCT.2020 12:47:21



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, HT 40: Mid Channel



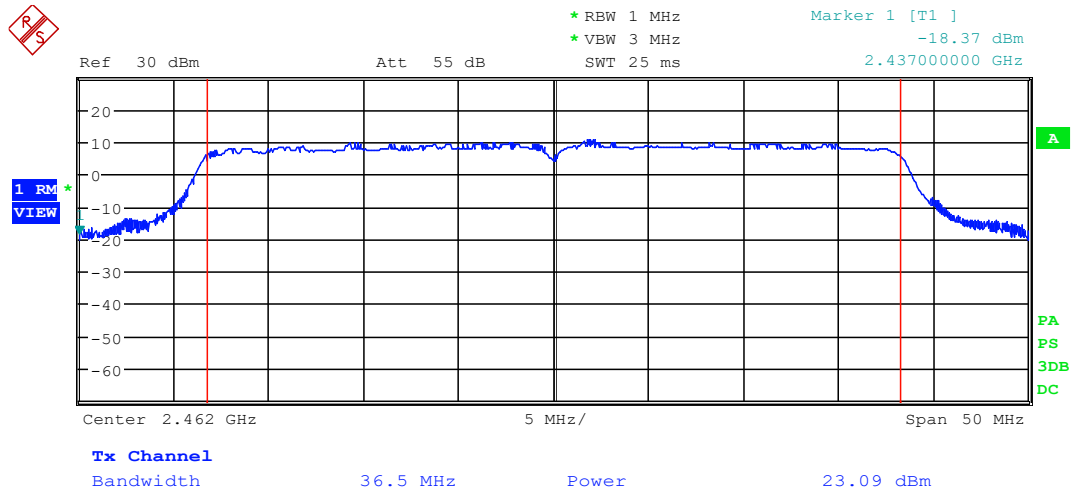
Date: 14.OCT.2020 12:49:48



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, HT 40: High Channel



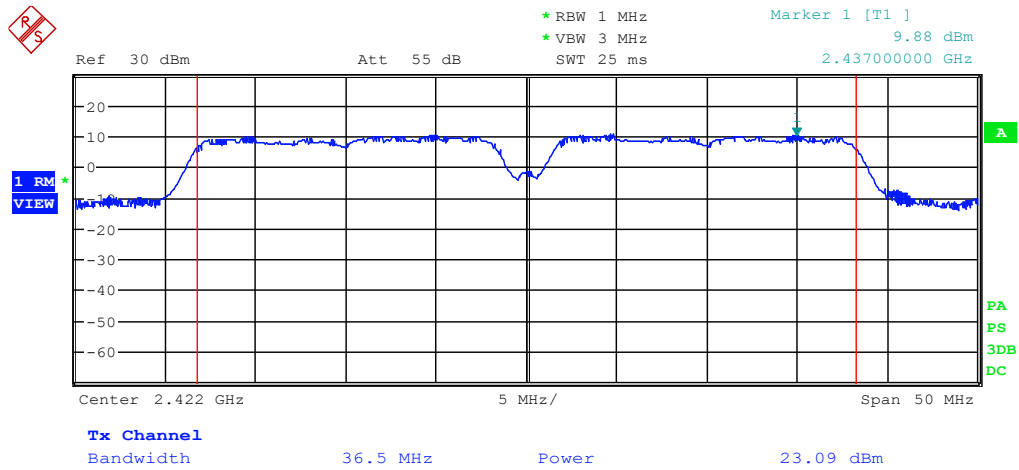
Date: 14.OCT.2020 12:50:53



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, Non-HT 40: Low Channel



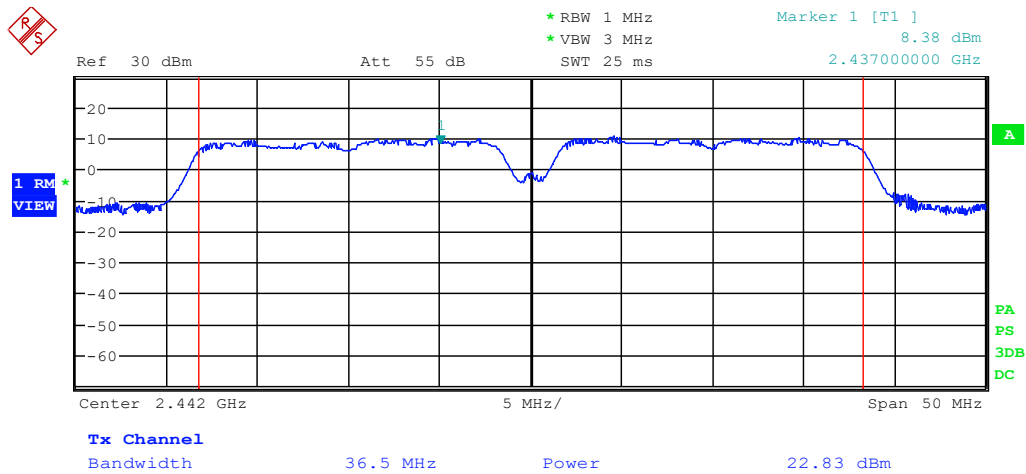
Date: 14.OCT.2020 12:58:01



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, Non-HT 40: Mid Channel



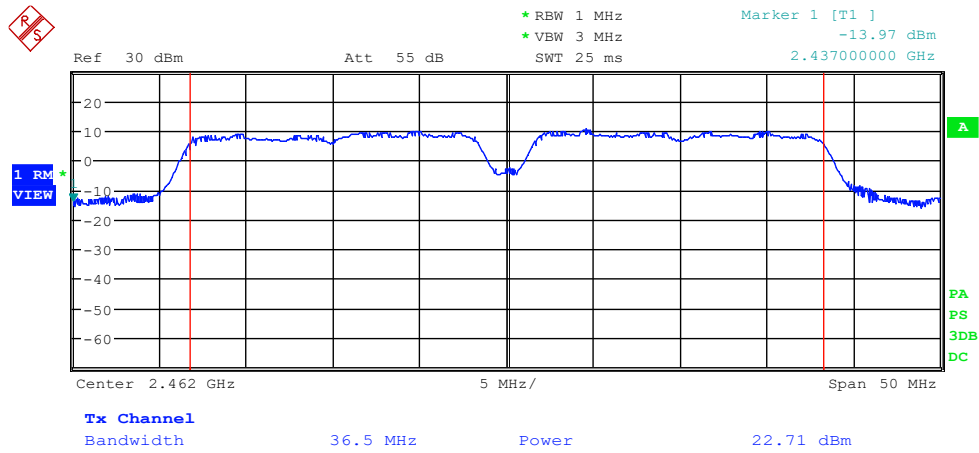
Date: 14.OCT.2020 12:59:25



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, Non-HT 40: High Channel



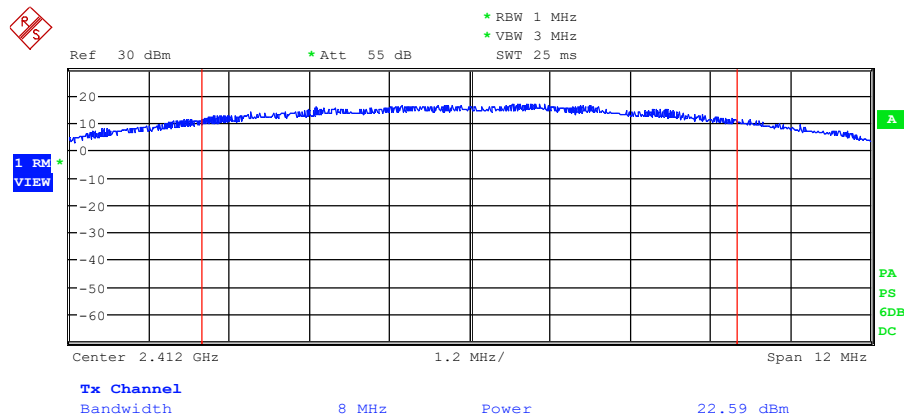
Date: 14.OCT.2020 13:01:23



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, CCK 11: Low Channel



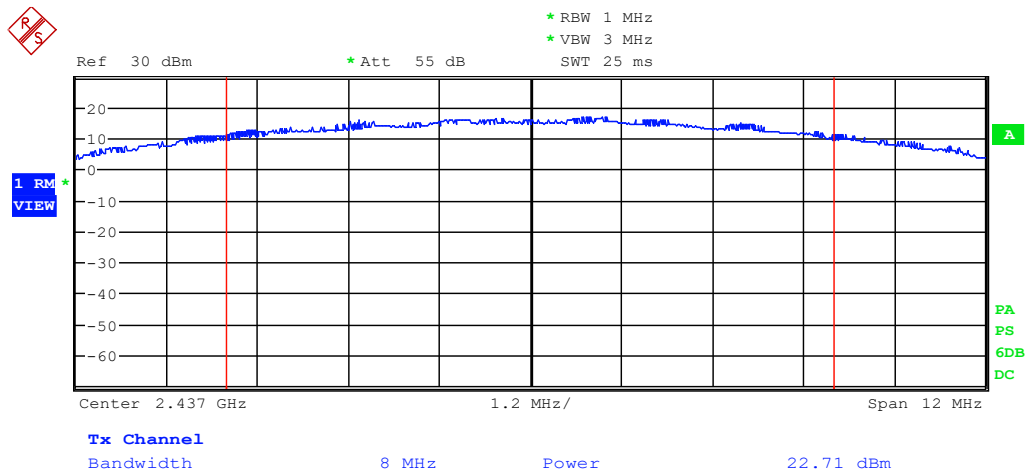
Date: 21.JUL.2021 16:02:59



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, CCK 11: Mid Channel



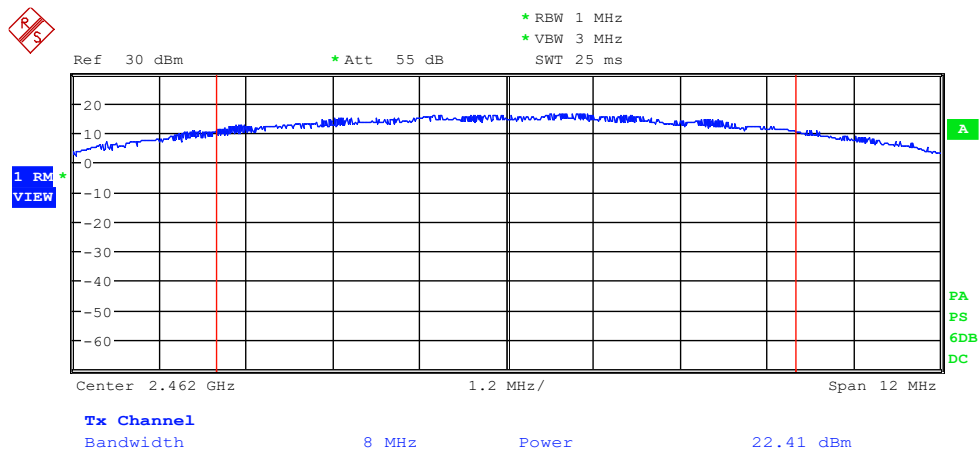
Date: 21.JUL.2021 16:04:21



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, CCK 11: High Channel



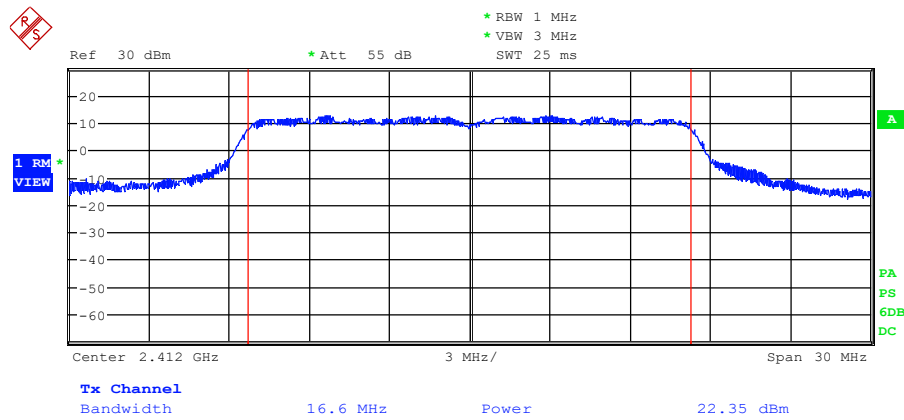
Date: 21.JUL.2021 16:05:32



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, OFDM: Low Channel



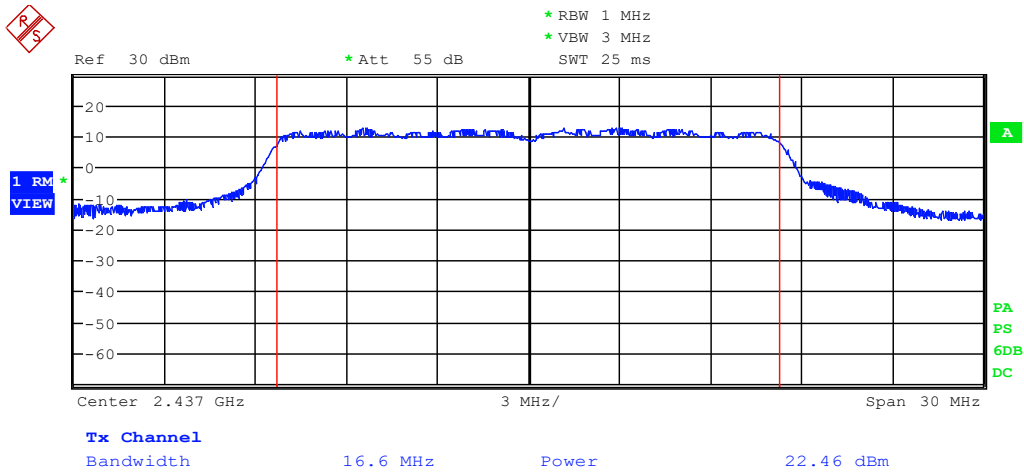
Date: 21.JUL.2021 16:07:32



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, OFDM: Mid Channel



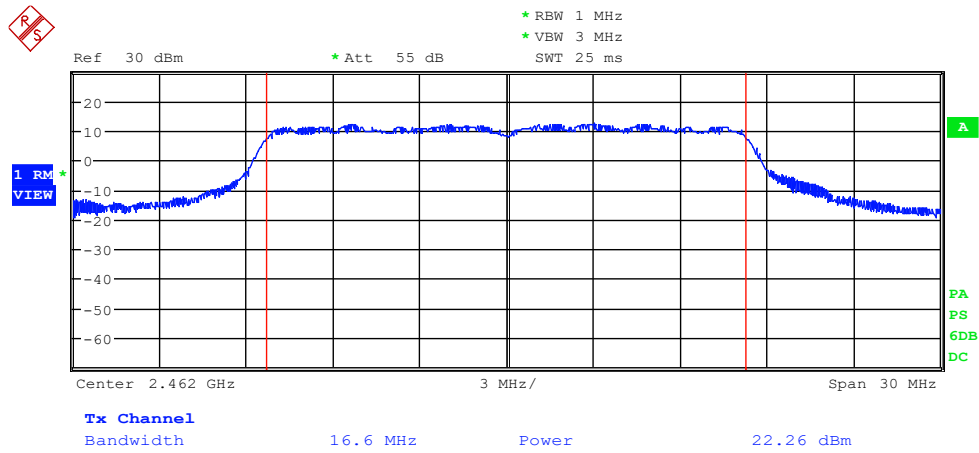
Date: 21.JUL.2021 16:08:26



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, OFDM: High Channel



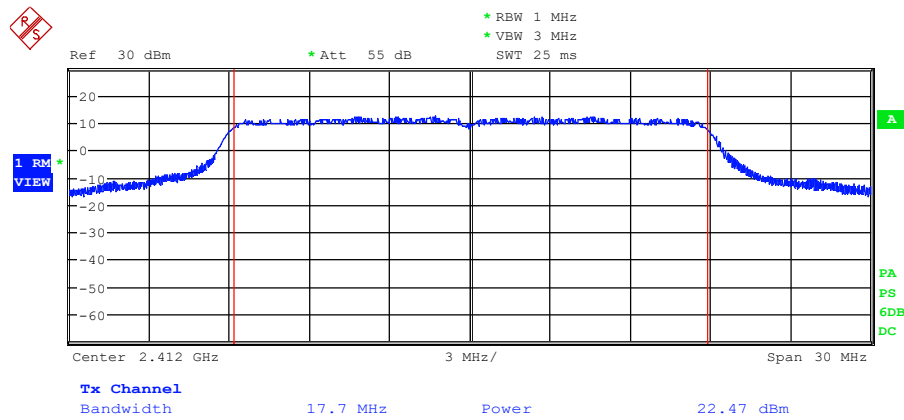
Date: 21.JUL.2021 16:09:21



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, HT 20: Low Channel



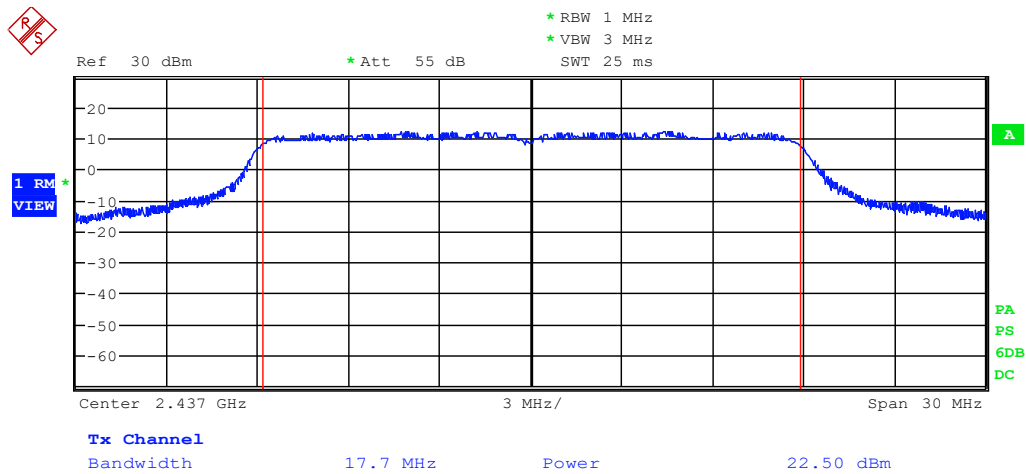
Date: 21.JUL.2021 16:11:08



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, HT 20: Mid Channel



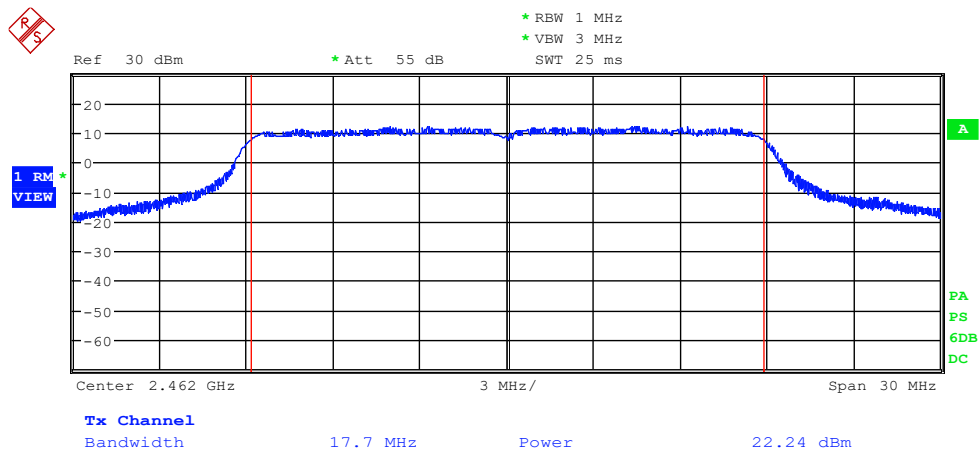
Date: 21.JUL.2021 16:12:00



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, HT 20: High Channel



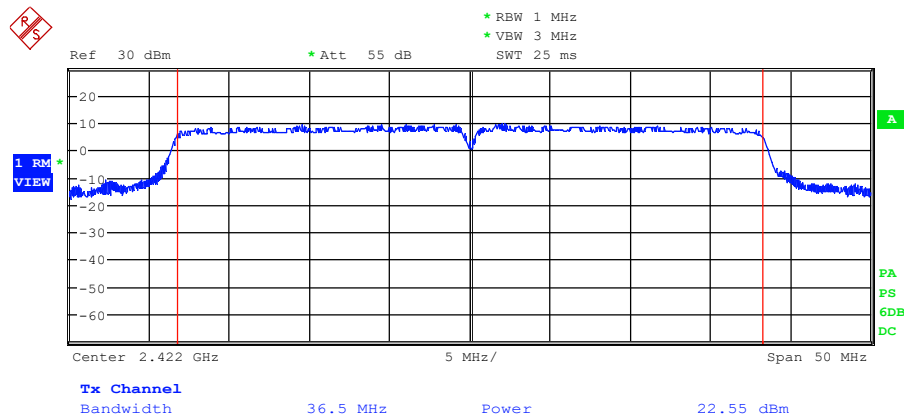
Date: 21.JUL.2021 16:12:53



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, HT 40: Low Channel



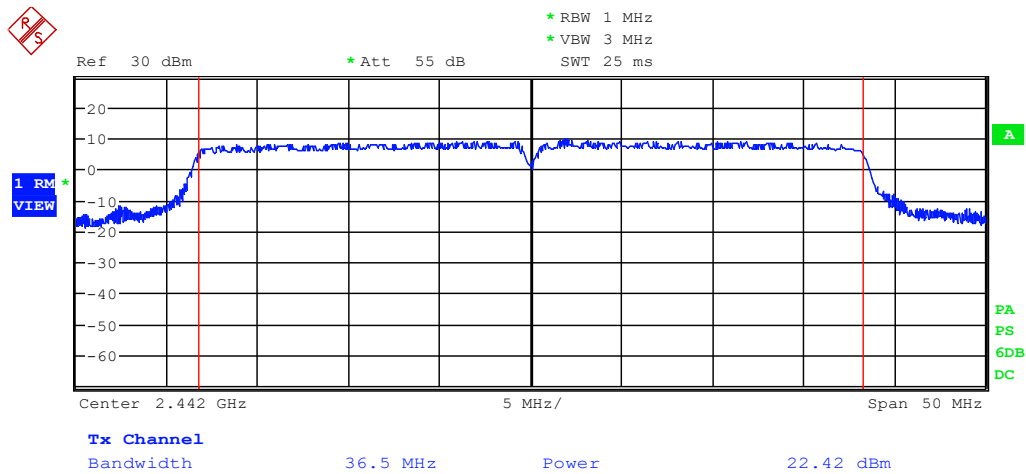
Date: 21.JUL.2021 16:15:44



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, HT 40: Mid Channel



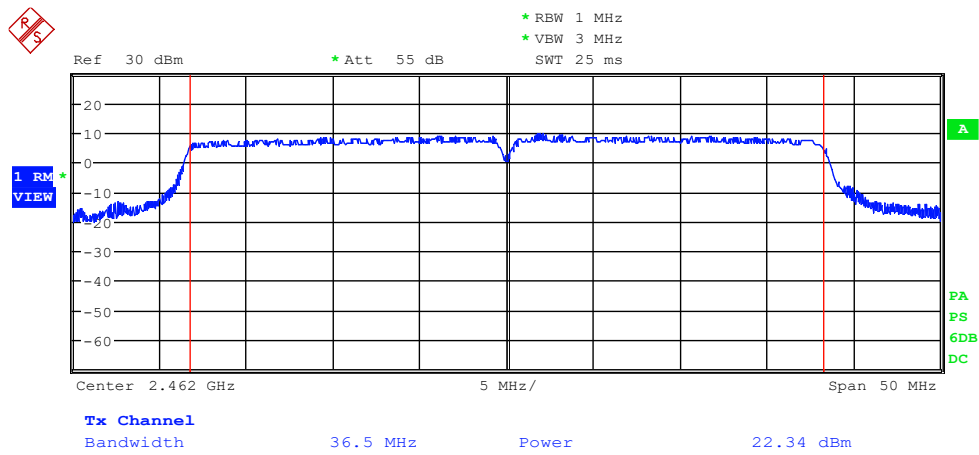
Date: 21.JUL.2021 16:16:50



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, HT 40: High Channel



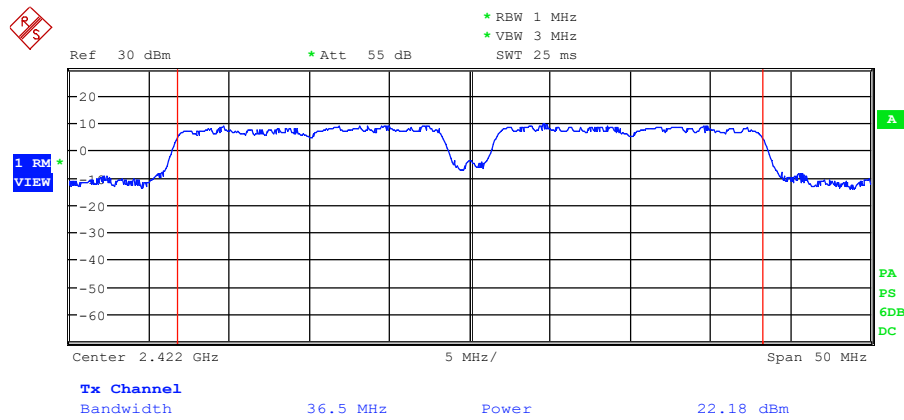
Date: 21.JUL.2021 16:23:47



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, Non-HT 40: Low Channel



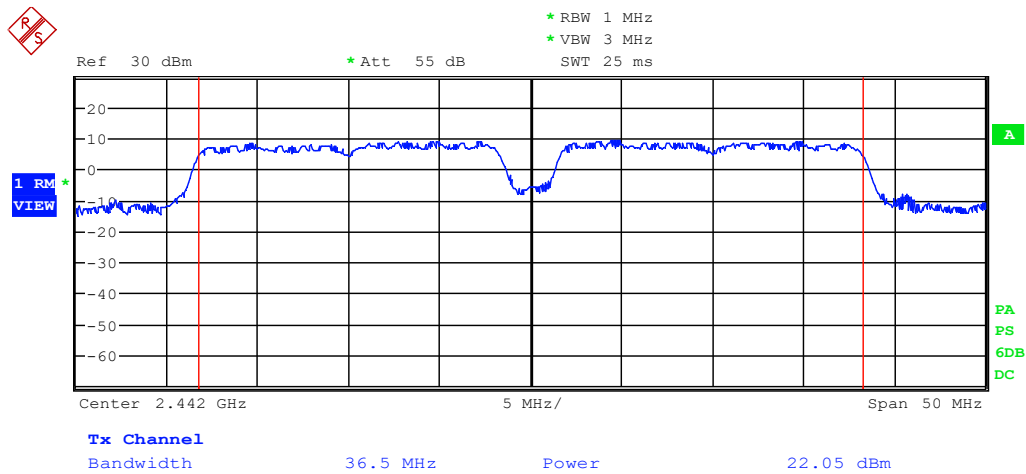
Date: 22.JUL.2021 11:47:32



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, Non-HT 40: Mid Channel



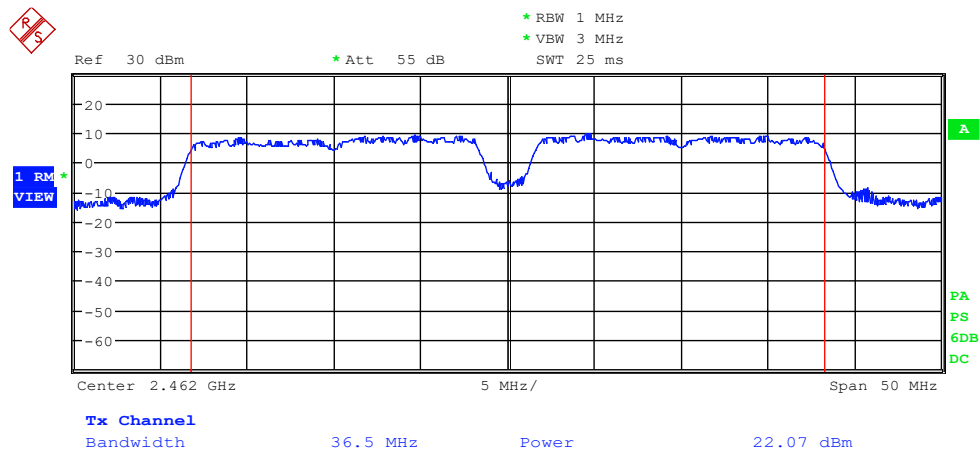
Date: 21.JUL.2021 16:27:27



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, Non-HT 40: High Channel



Date: 21.JUL.2021 16:28:14



10 FCC Part 15.247(d) – CONDUCTED SPURIOUS BAND EDGE

The following tests were performed to demonstrate compliance.

RF Antenna Conducted Test

The EUT antenna port was fitted with an SMA connector and directly connected to the input of the spectrum analyzer.

Summing and aggregation were not added to Conducted Spurious Emissions, as these were all more than 20dB below the limit and aggregation with antenna gain would only total 9dB to be added.

10.1 Requirements:

All Spurious Emissions must be at least 20dB down from the highest emission level measured within the authorized band up through the tenth harmonic.

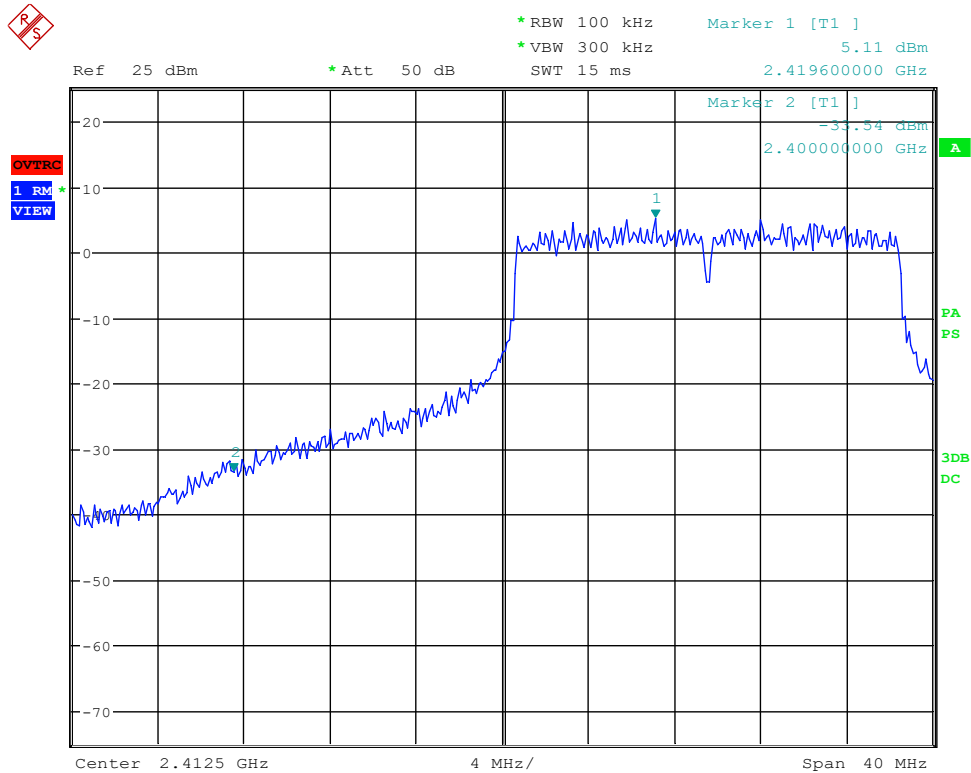
Spurious emissions measurements were made at the low, mid, and upper channels with the appropriate spectrum analyzer impulse bandwidth. Additionally, 20dB down points were measured for the low and high channels to verify band edge compliance.



10.2 Conducted Spurious Emissions Test Data

Test Date:	2020-10-15	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.247(d) / Part 15.207 KDB558074	Air Temperature:	23.2°C
		Relative Humidity:	44%

Lower Band Edge: HT 20



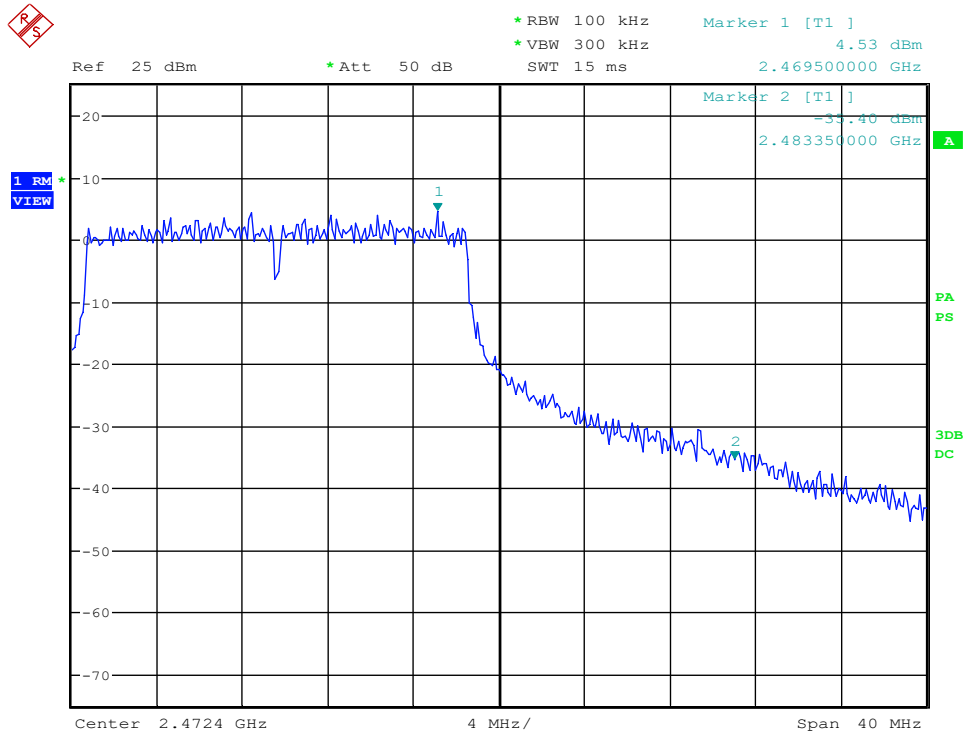
Date: 15.OCT.2020 13:15:45



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Upper Band Edge: HT 20



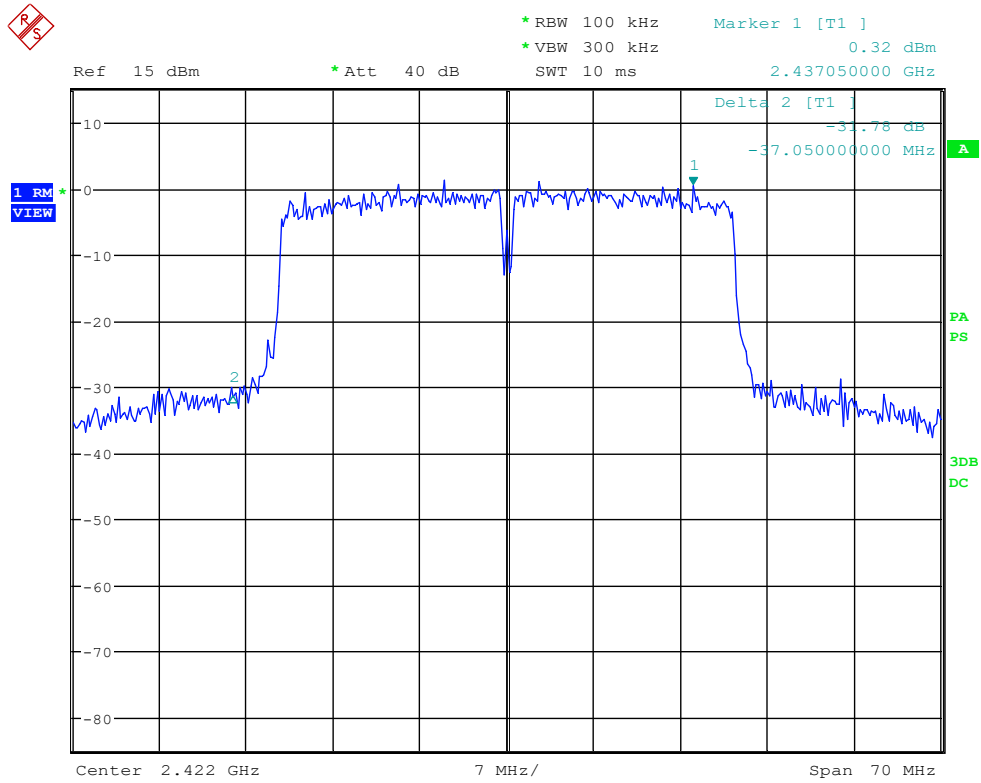
Date: 15.OCT.2020 14:41:47



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Lower Band Edge: HT 40



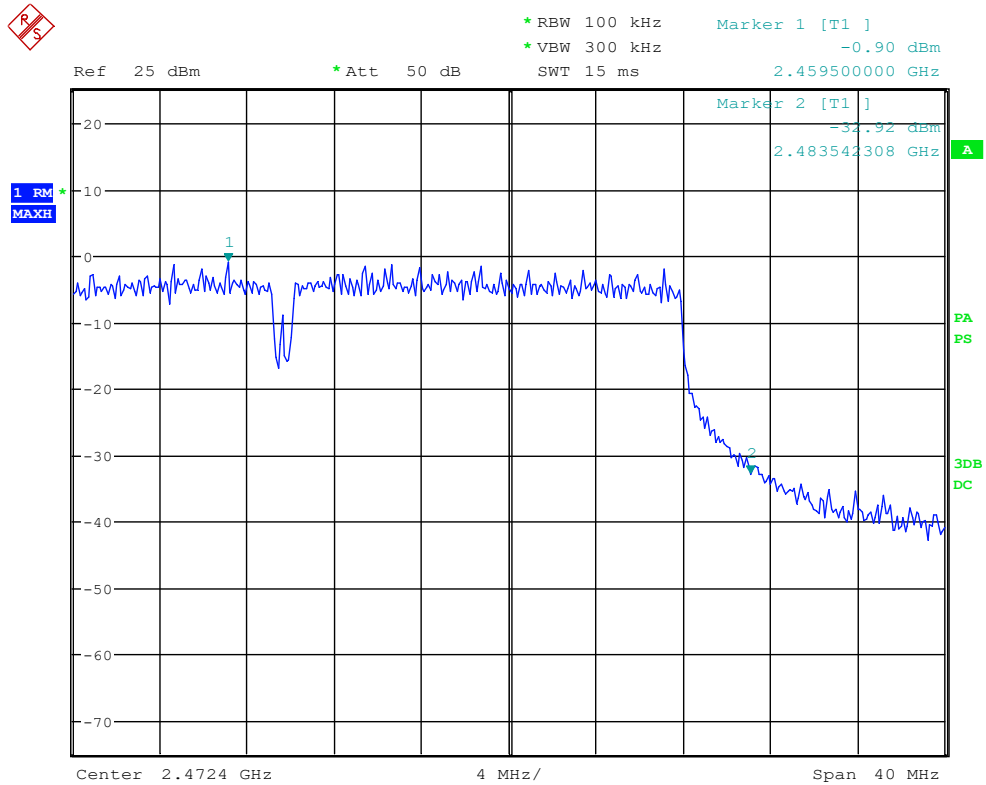
Date: 15.OCT.2020 13:10:13



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

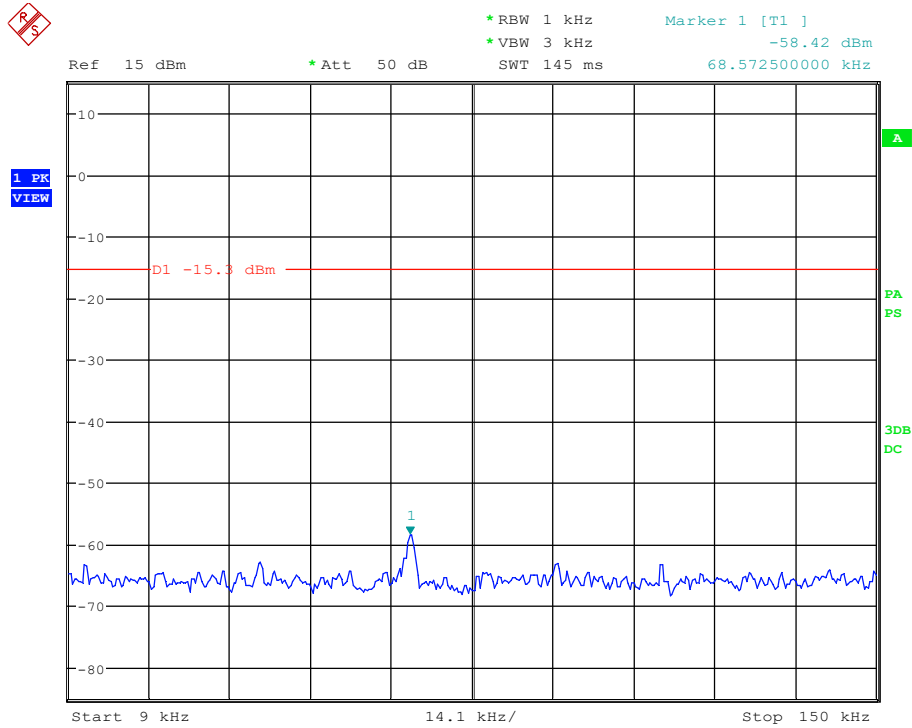
Upper Band Edge: HT 40



Date: 15.OCT.2020 14:44:20



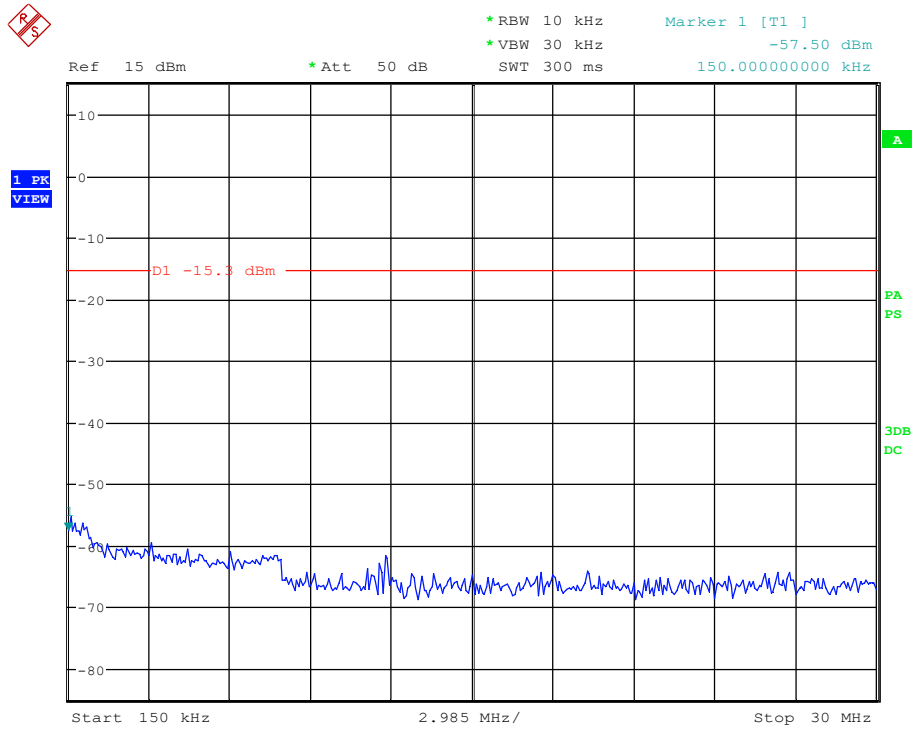
HT 20: 0.009 MHz to 0.15 MHz



Date: 15.OCT.2020 15:06:59



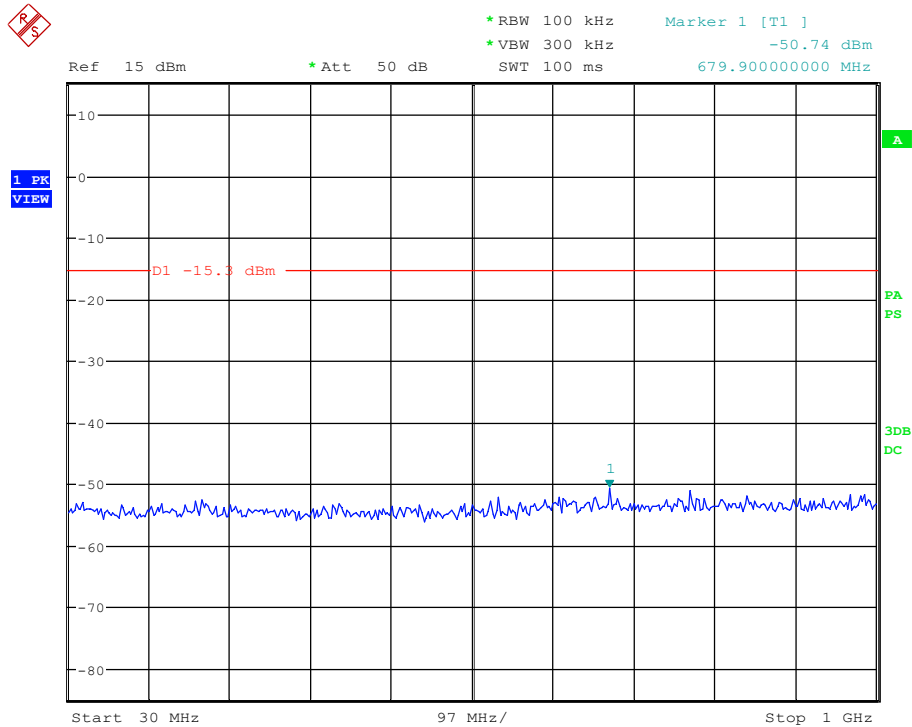
HT 20: 0.15 MHz to 30 MHz



Date: 15.OCT.2020 15:08:43



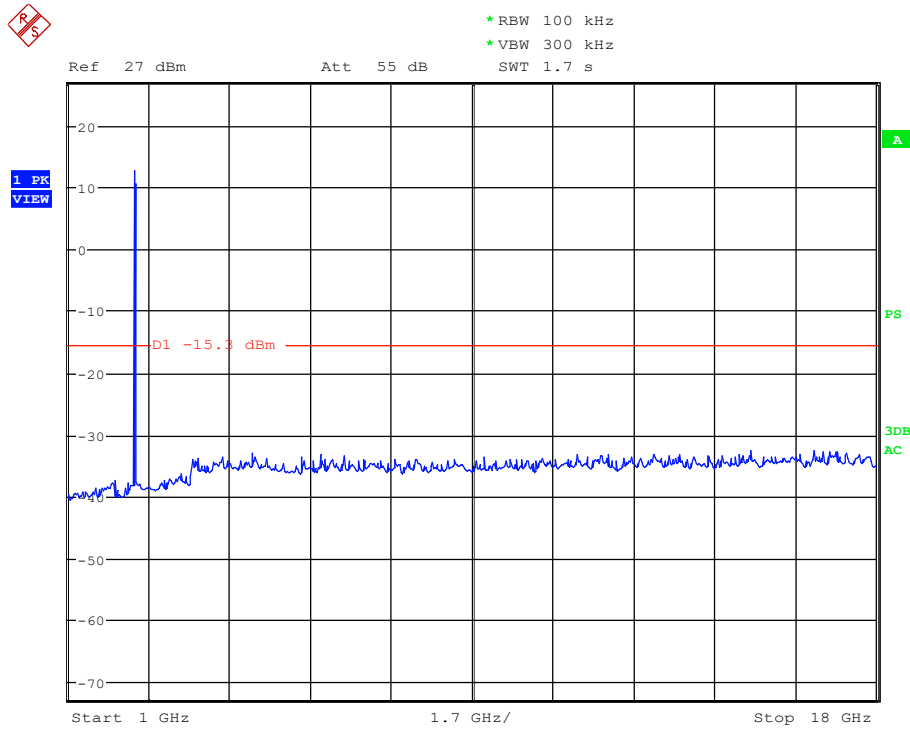
HT 20: 30 MHz to 1000 MHz



Date: 15.OCT.2020 15:09:28



HT 20: 1 GHz to 18 GHz



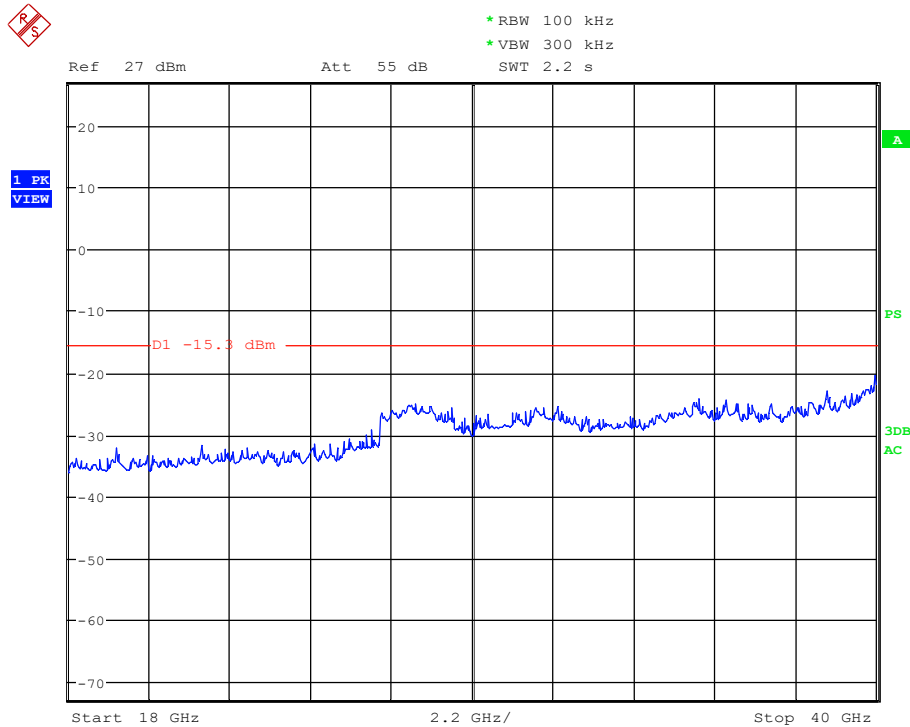
Date: 15.OCT.2020 15:15:10



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

HT 20: 18 GHz to 40 GHz



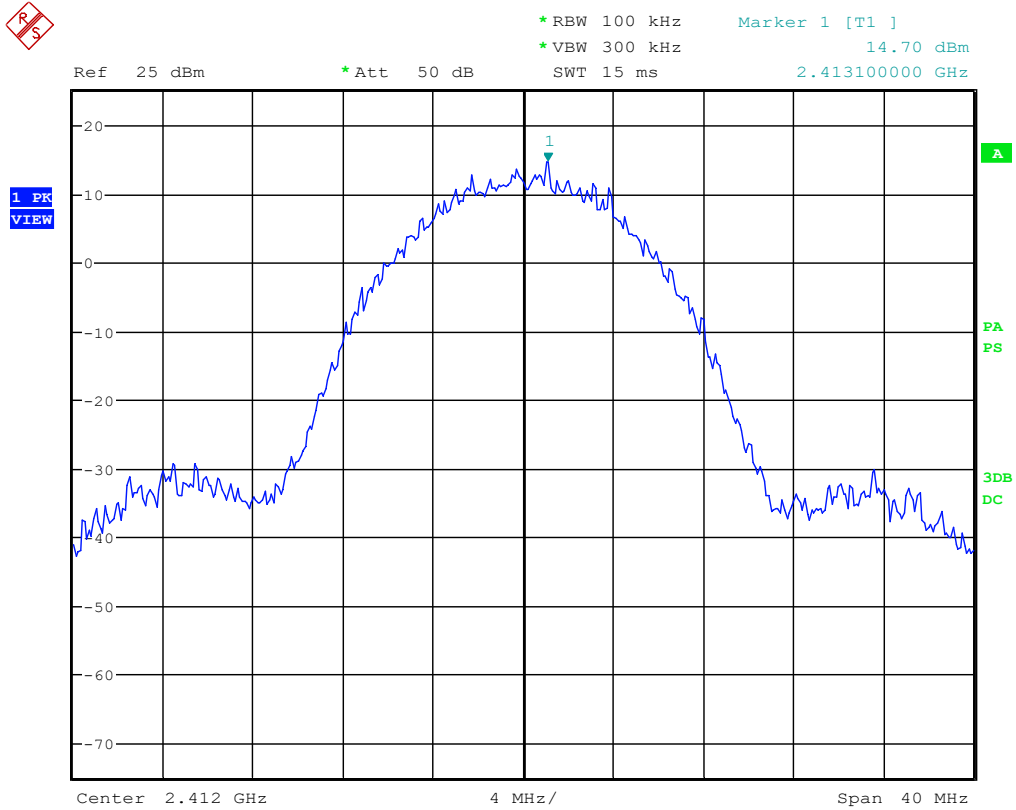
Date: 15.OCT.2020 15:15:50



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

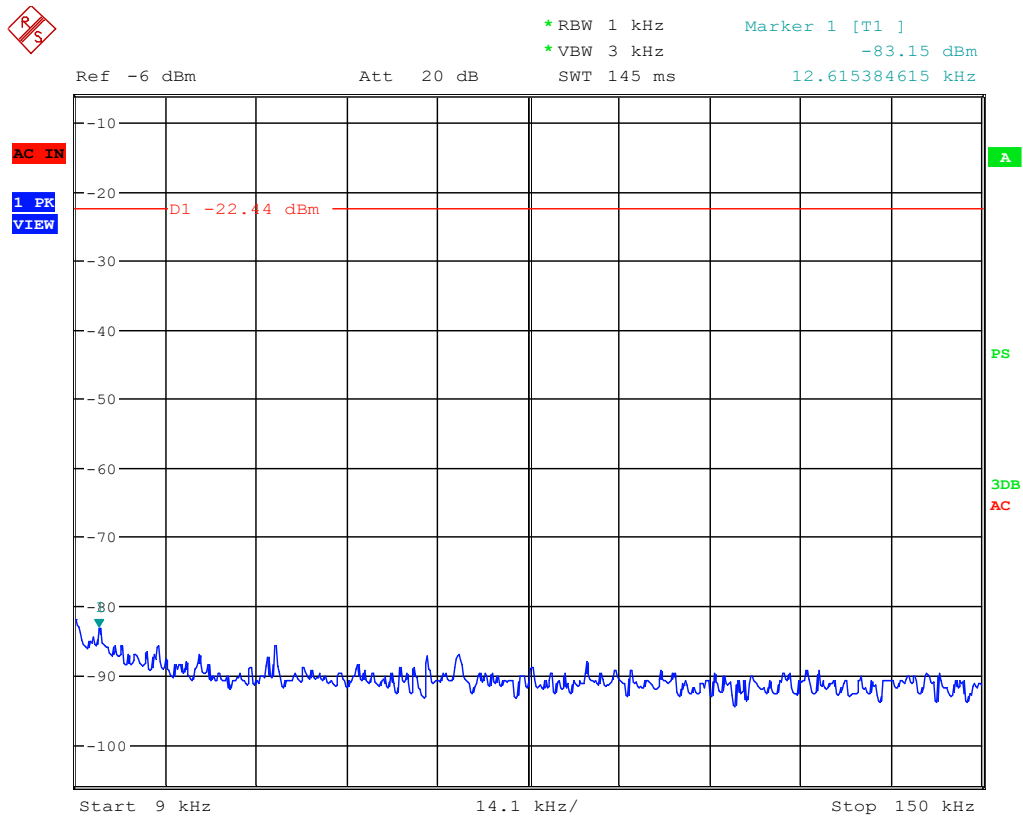
HT 20: Reference



Date: 15.OCT.2020 15:02:35



HT 40: 0.009 MHz to 0.15 MHz



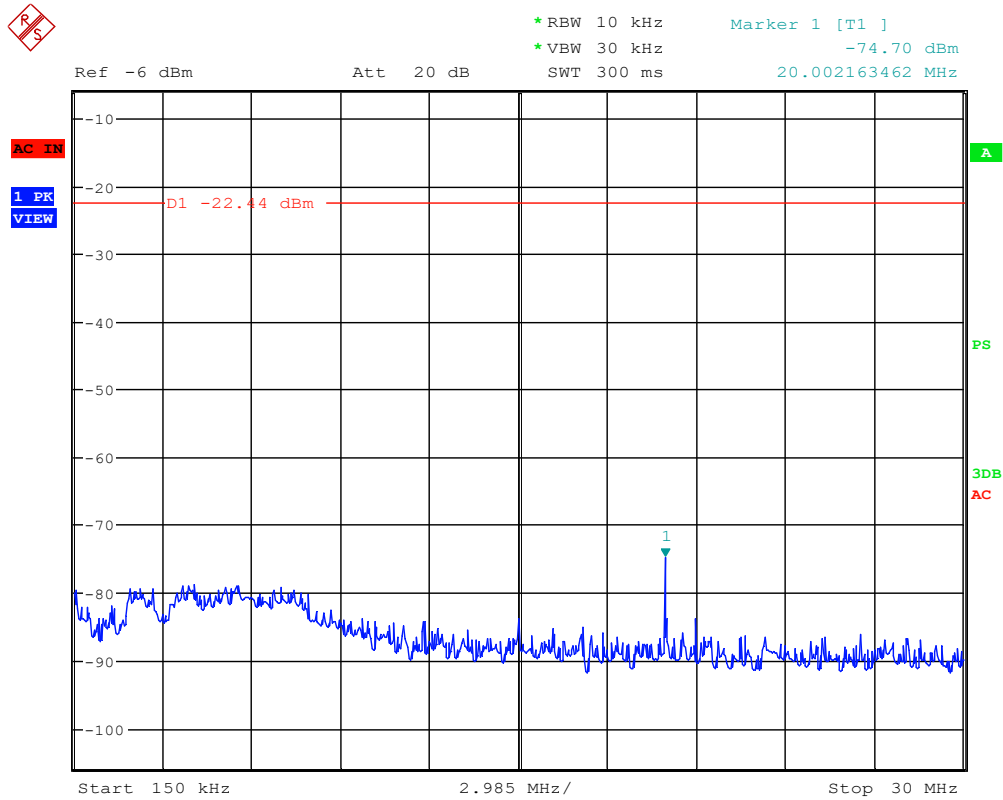
Date: 15.OCT.2020 15:55:18



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

HT 40: 0.15 MHz to 30 MHz



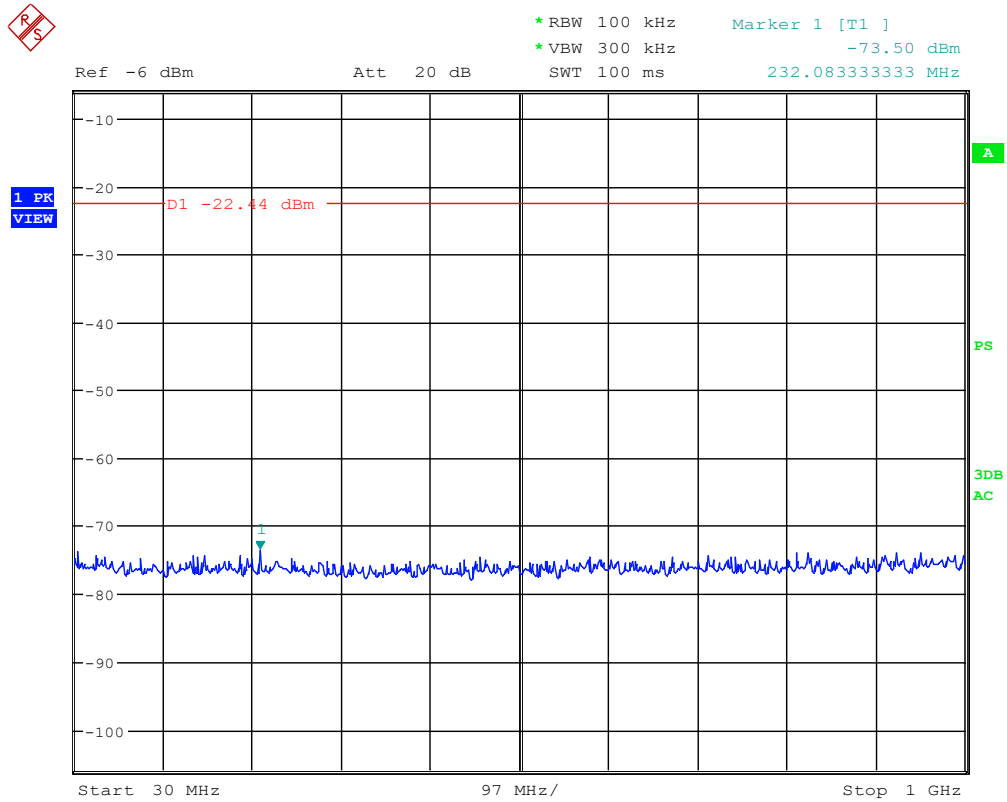
Date: 15.OCT.2020 15:56:30



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

HT 40: 30 MHz to 1000 MHz



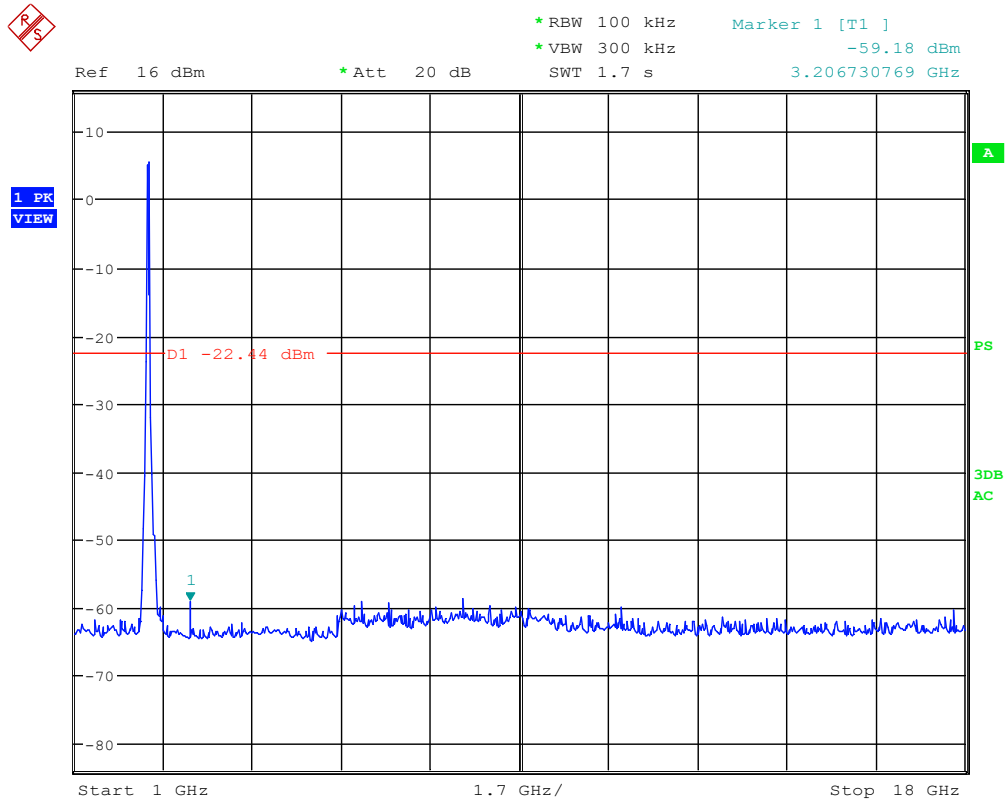
Date: 15.OCT.2020 15:57:22



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

HT 40: 1 GHz to 18 GHz



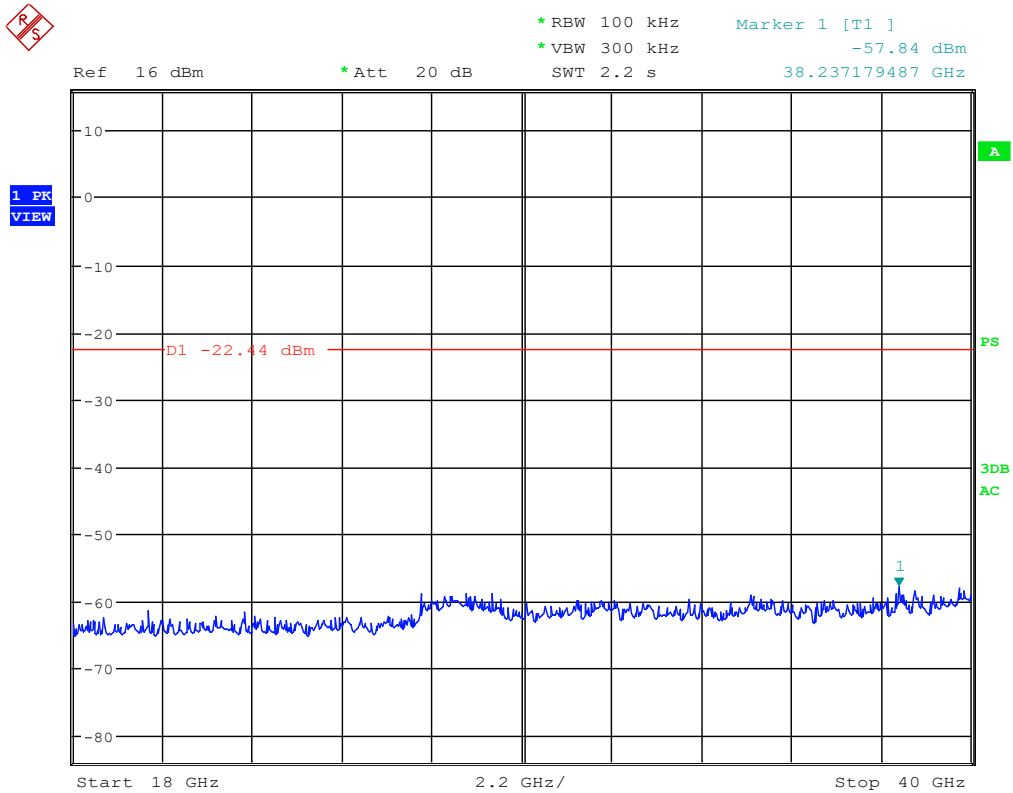
Date: 15.OCT.2020 15:59:29



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

HT 40: 18 GHz to 40 GHz



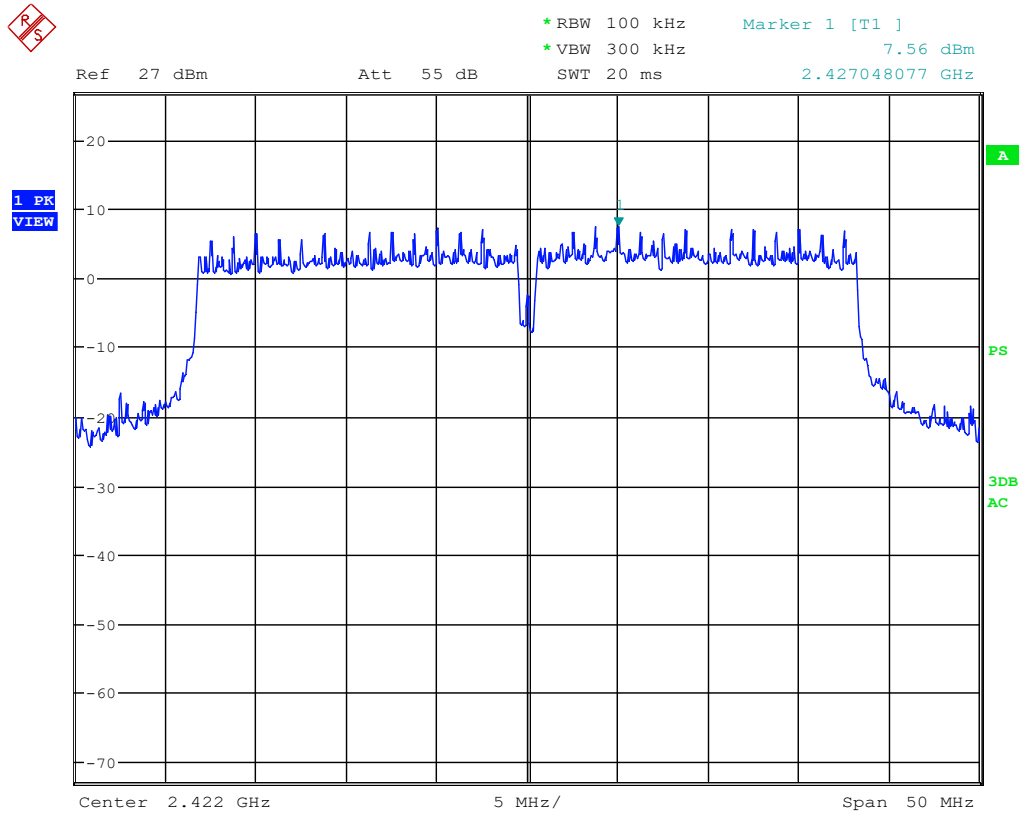
Date: 15.OCT.2020 16:00:11



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

HT 40: Reference



Date: 15.OCT.2020 15:52:59



10 RADIATED SPURIOUS EMISSION

Ports were fitted with 6dBi omni directional antennas. Radiated emissions were measured in a Semi-Anechoic Chamber. All emissions generated that fall in the restricted bands per FCC Part 15.205 were examined.

10.1 Requirements:

All emissions that fall in the restricted bands defined in FCC Part 15.205 shall not exceed the maximum field strength listed in FCC Part 15.209(a).



10.2 Radiated Spurious Emission Test Data

Test Date(s):	2020-10-23	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.247(d); Part 15.209 / KDB558074	Air Temperature:	23.2°C
		Relative Humidity:	4%

Notes: Plots are peak, max hold prescan data included only to determine what frequencies to investigate and measure. The EUT was initially placed in a semi-anechoic chamber, and rotated in all three orthogonal positions to maximize the emissions. Characterization measurements were then performed to determine at which frequencies significant emissions occurred. These graphs are shown below.

The equipment was fully exercised with all cabling attached to the EUT and was positioned on the table for maximum emissions. All antennas were mounted, and all transmitters were on and transmitting at the same time to set worst-case Radiated Emissions and Beamforming due to MIMO configuration. While the equipment was energized, the receiving antenna was scanned from 1.0 meter to 4.0 meters in both vertical and horizontal polarities while the turntable was adjusted 360 degrees to determine the maximum field strength. The tables of measured results can be found below.

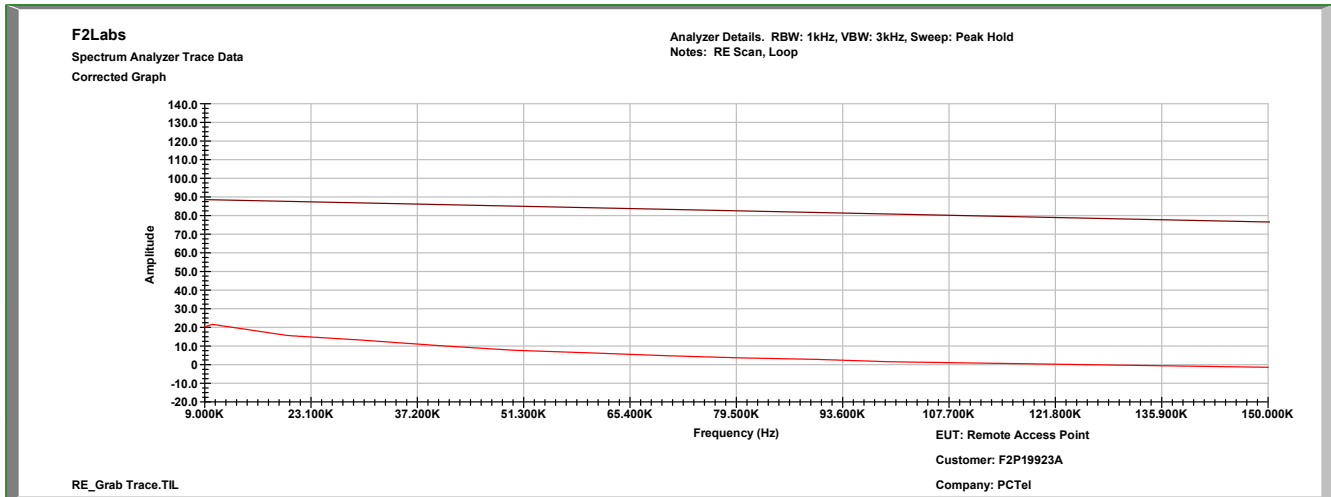
In the following plots, the black line indicates the active scan and the green line indicates the MaxPk measurement with the EUT on. Emissions to be found by the EUT were measured and listed in tables. The plots are for reference only and the limit lines are not actual limit lines but merely a guide.

The following graphs are from the Port 1 CCK 11b High Channel, which was found to be the worst-case.

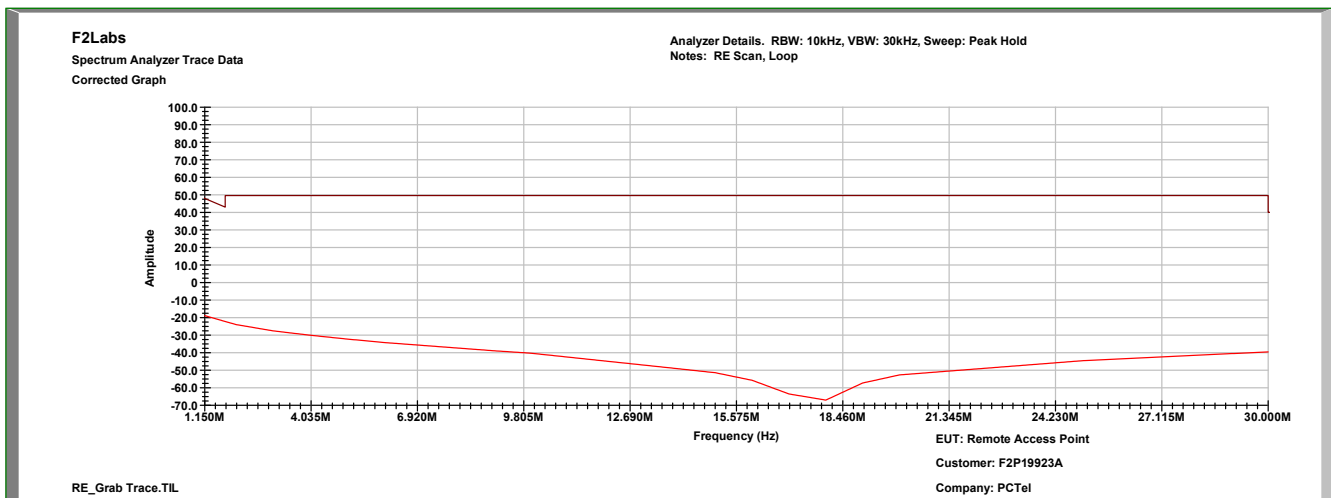
Data presented in the table reflects results from all channels.



0.009 MHz to 0.15 MHz - Loop Antenna

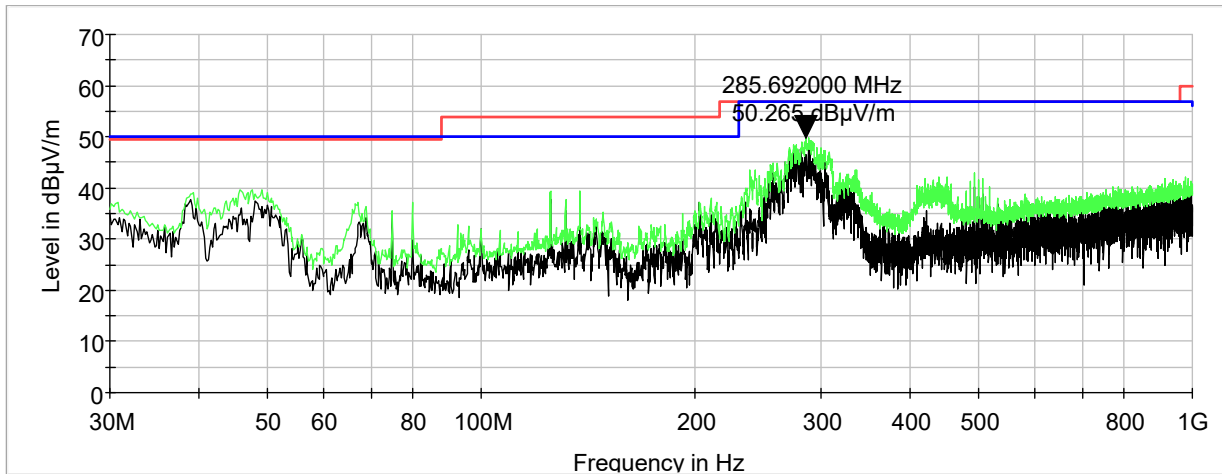


0.15 MHz to 30 MHz - Loop Antenna

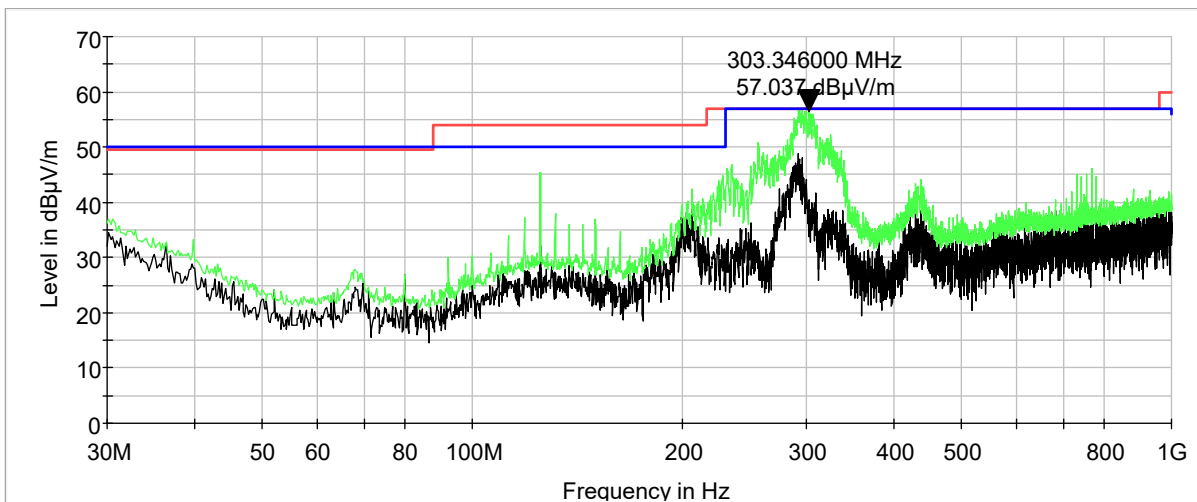




30 MHz to 1000 MHz - Vertical

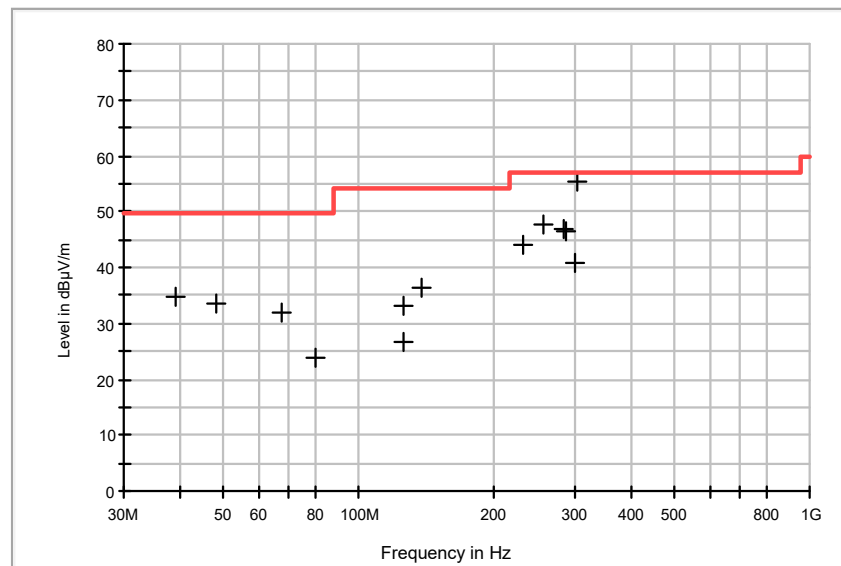


30 MHz to 1000 MHz - Horizontal



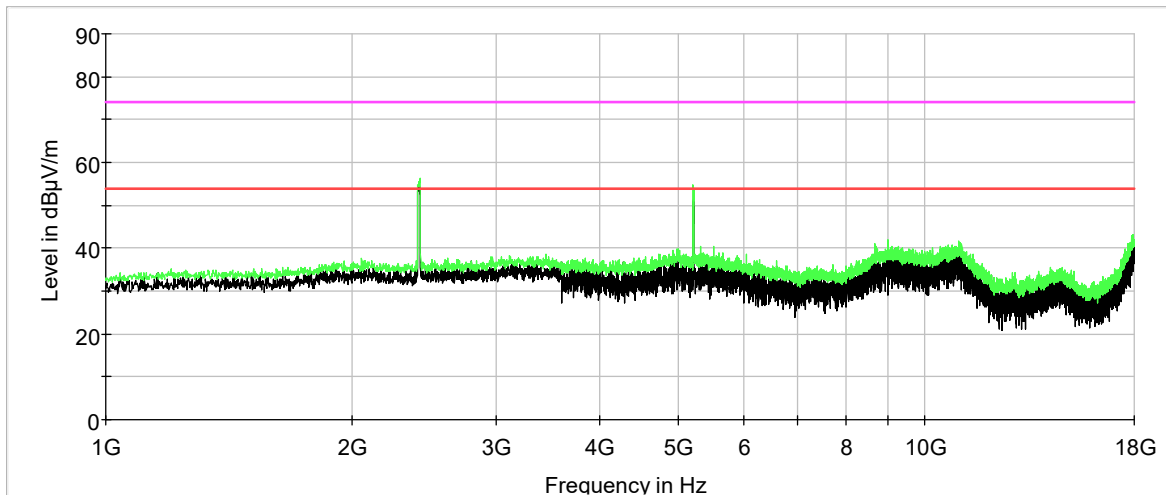


Frequency (MHz)	Antenna Polarization	Reading (dBμV)	Correction Factors (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
38.920000	V	36.3	-1.6	34.7	49.6	-14.9
48.040000	V	41.1	-7.4	33.7	49.6	-15.9
67.050000	V	40.2	-8.3	31.9	49.6	-17.7
79.860000	V	32.5	-8.5	24.0	49.6	-25.6
124.870000	H	28.1	-1.6	26.5	54.0	-27.5
125.060000	V	34.6	-1.6	33.0	54.0	-21.0
137.480000	V	38.2	-1.9	36.3	54.0	-17.7
231.370000	H	47.2	-3.0	44.2	56.9	-12.7
256.200000	H	50.1	-2.3	47.8	56.9	-9.1
285.690000	V	47.2	-0.5	46.7	56.9	-10.2
288.800000	V	46.9	-0.5	46.4	56.9	-10.5
299.850000	V	41.4	-0.4	41.0	56.9	-15.9
303.350000	H	55.6	-0.2	55.4	56.9	-1.5

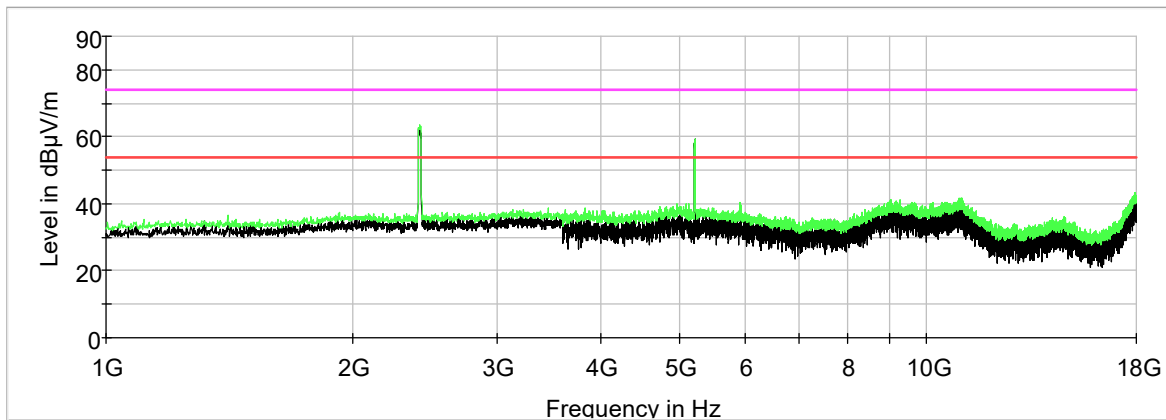




1 GHz to 18 GHz - Vertical

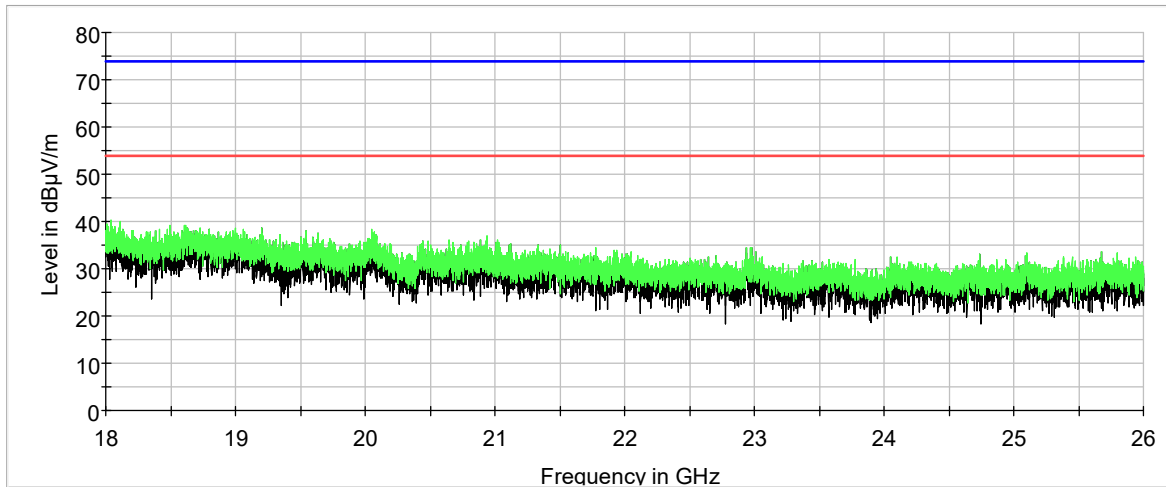


1 GHz to 18 GHz - Horizontal

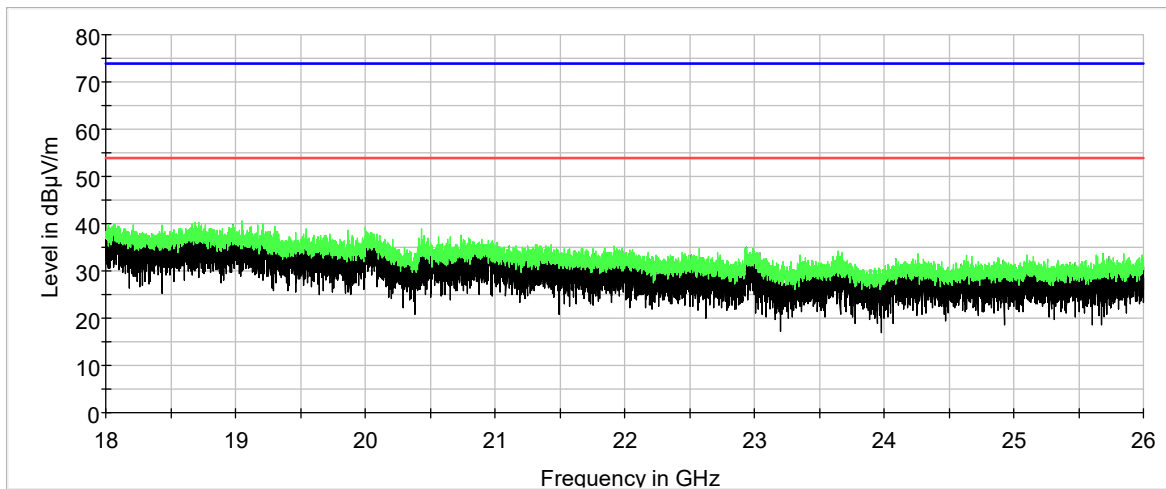




18 GHz to 26 GHz - Vertical

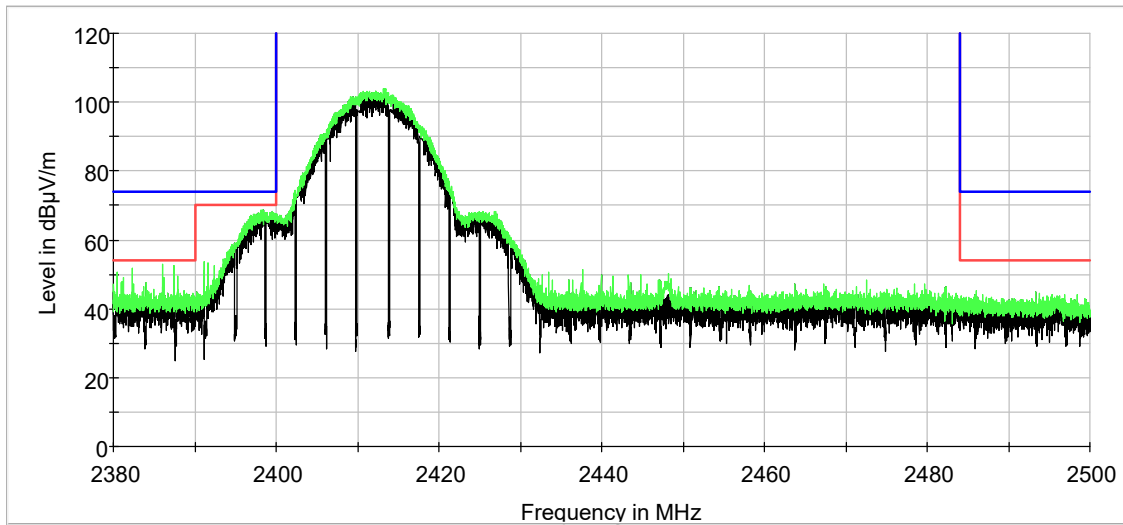


18 GHz to 26 GHz - Horizontal

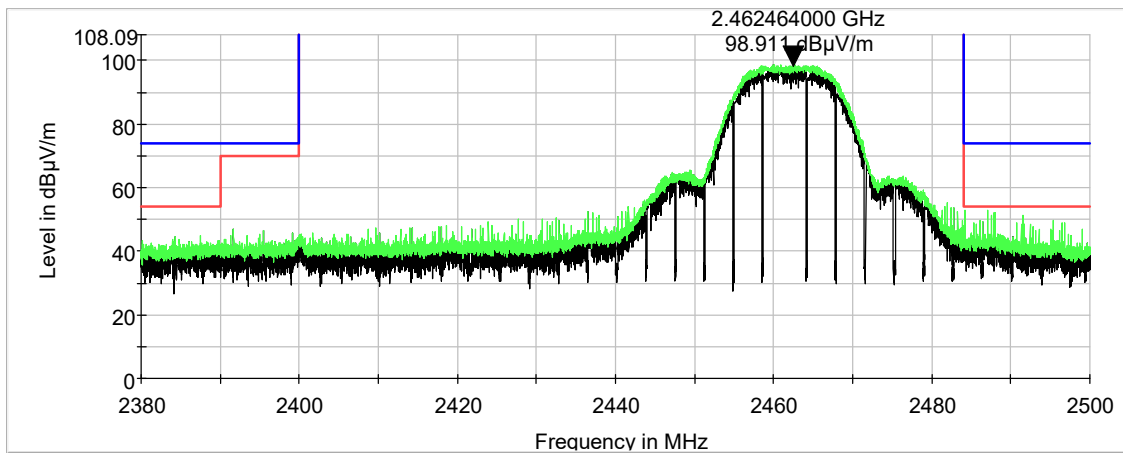




Lower Band Edge, CCK 11: Horizontal

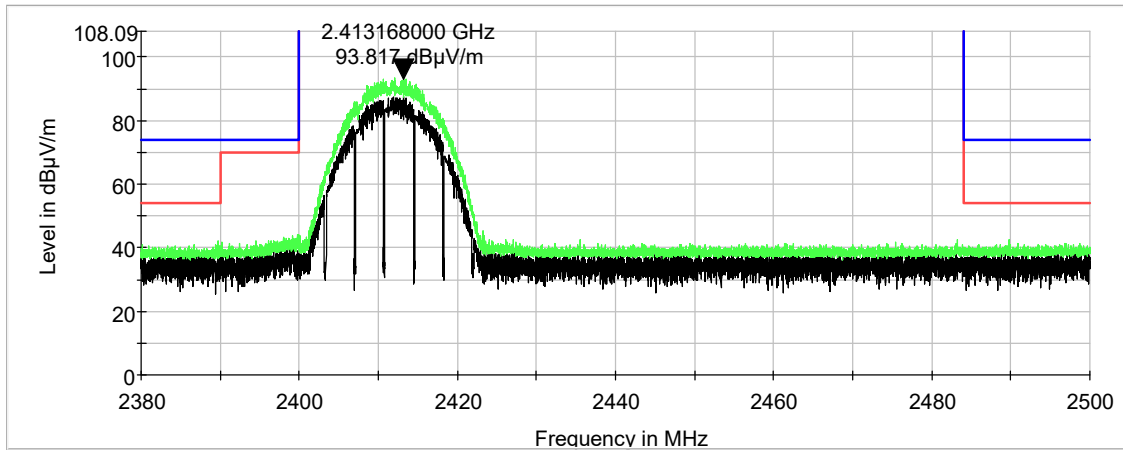


Upper Band Edge, CCK 11: Horizontal

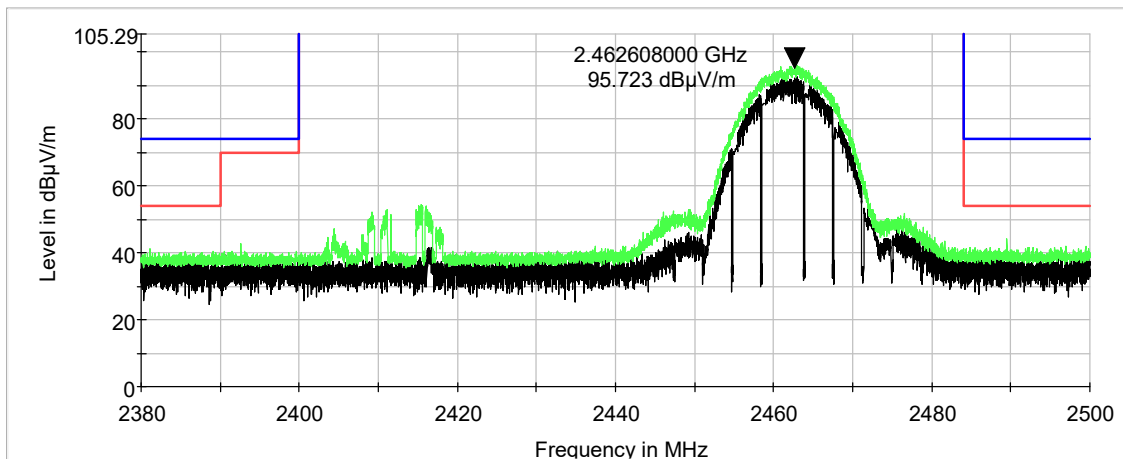




Lower Band Edge, CCK 11: Vertical

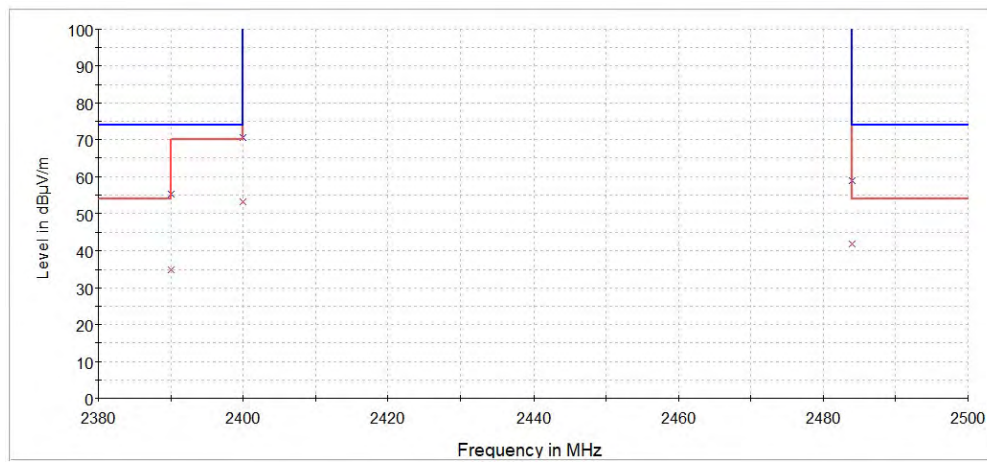


Upper Band Edge, CCK 11: Vertical





CCK 11: Band Edge



MaxPeak

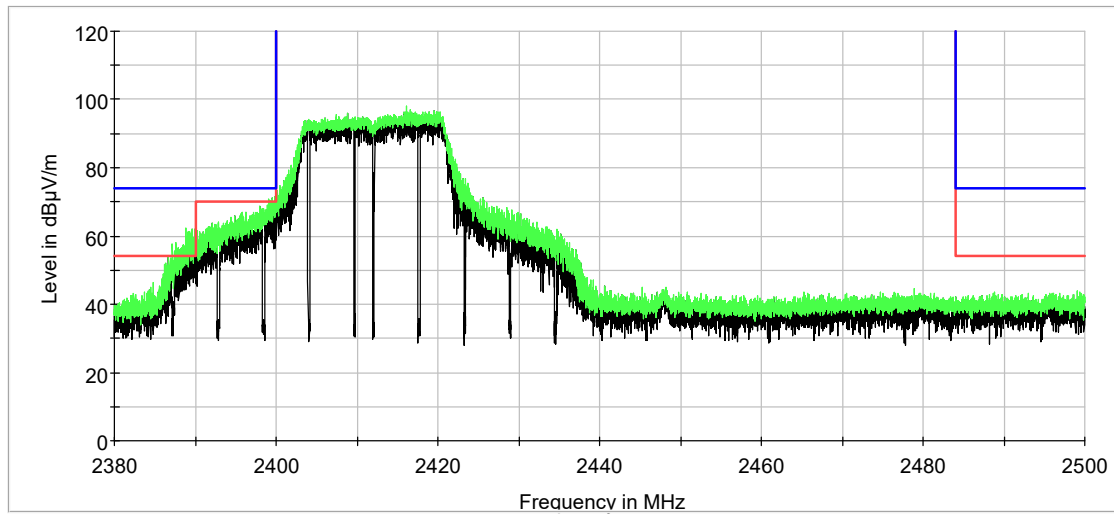
Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Azimuth (deg)	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2390.00	H	150.00	0.00	61.0	-5.7	55.30	74.0	-18.7
2400.00	H	150.00	0.00	76.4	-5.7	70.70	74.0	-3.3
2483.50	H	150.00	3.00	64.1	-5.2	58.90	74.0	-15.1

AVG

Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Azimuth (deg)	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2390.00	H	150.00	0.00	40.6	-5.7	34.90	54.0	-19.1
2400.00	H	150.00	0.00	58.8	-5.7	53.10	54.0	-0.9
2483.50	H	150.00	3.00	47.2	-5.2	42.00	54.0	-12.0

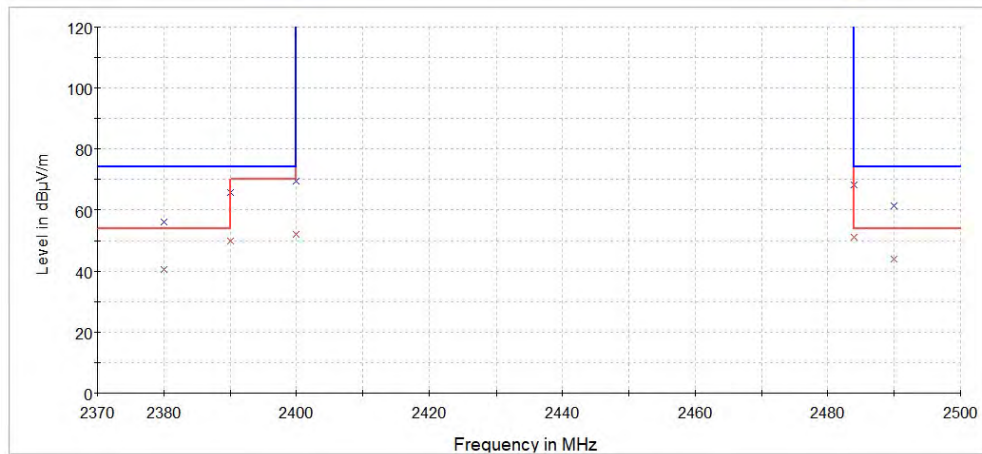


Lower Band Edge, 20 MHz, HT 20: Pre-scan





20 MHz, HT 20: Band Edge



MaxPeak

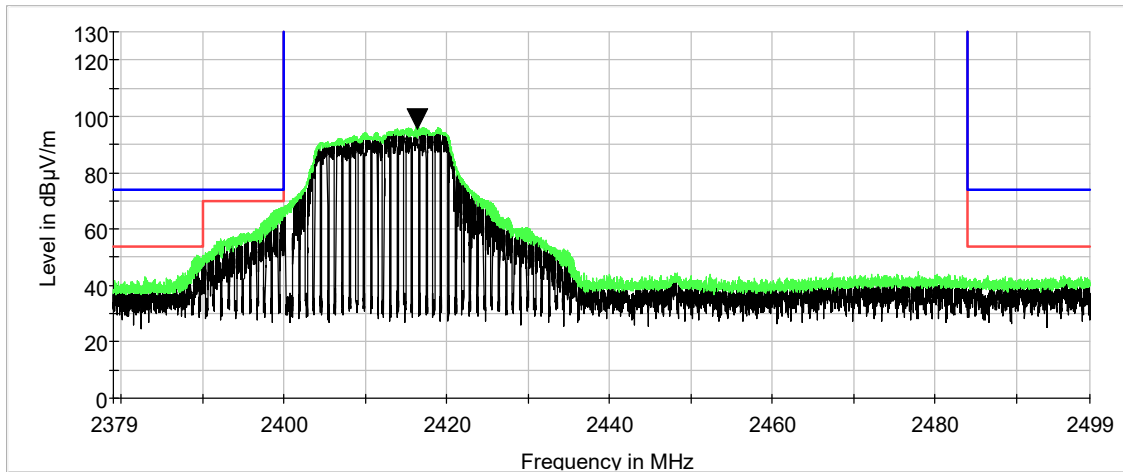
Frequency (MHz)	Antenna Polarization	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2380.00	H	51.7	4.7	56.40	74.0	-17.6
2390.00	H	60.9	4.7	65.60	74.0	-8.4
2400.00	H	64.8	4.7	69.50	74.0	-4.5
2483.50	H	62.7	5.4	68.10	74.0	-5.9

AVG

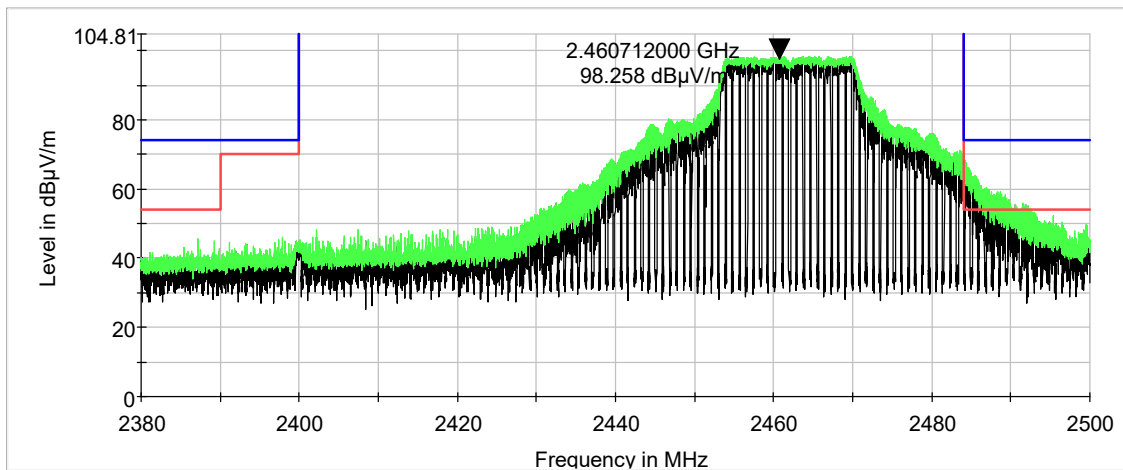
Frequency (MHz)	Antenna Polarization	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2380.00	H	36.0	4.7	40.70	54.0	-13.3
2390.00	H	45.4	4.7	50.10	54.0	-3.9
2400.00	H	47.6	4.7	52.30	54.0	-1.7
2483.50	H	45.8	5.4	51.20	54.0	-2.8



Lower Band Edge, 20 MHz, OFDM: Horizontal

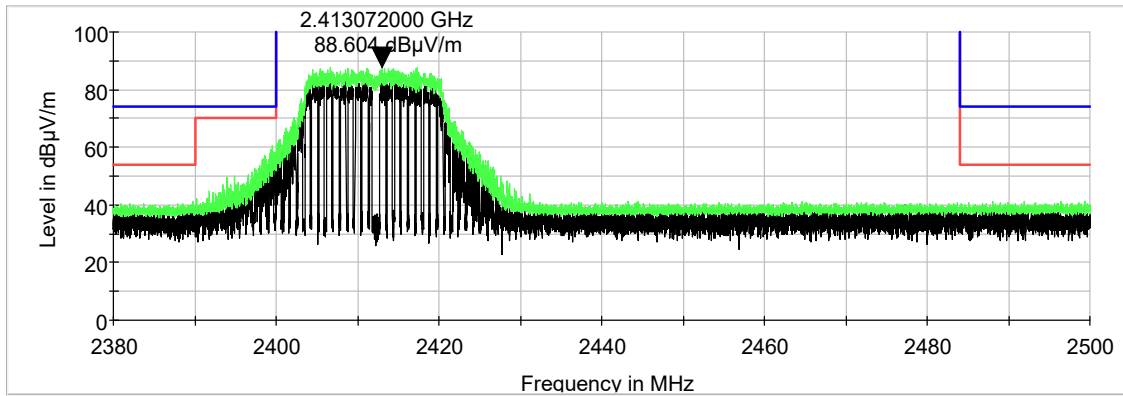


Upper Band Edge, 20 MHz, OFDM: Horizontal

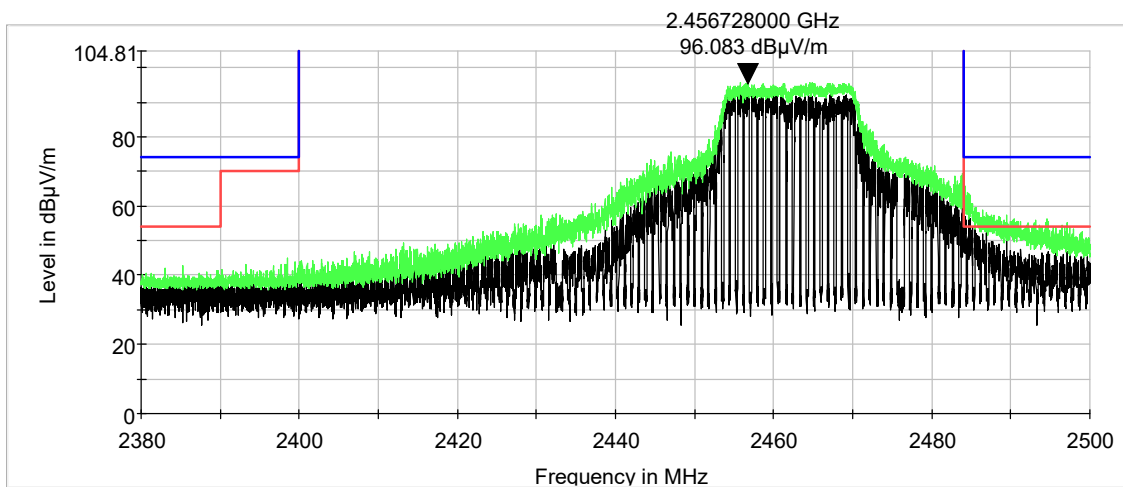




Lower Band Edge, 20 MHz, OFDM: Vertical

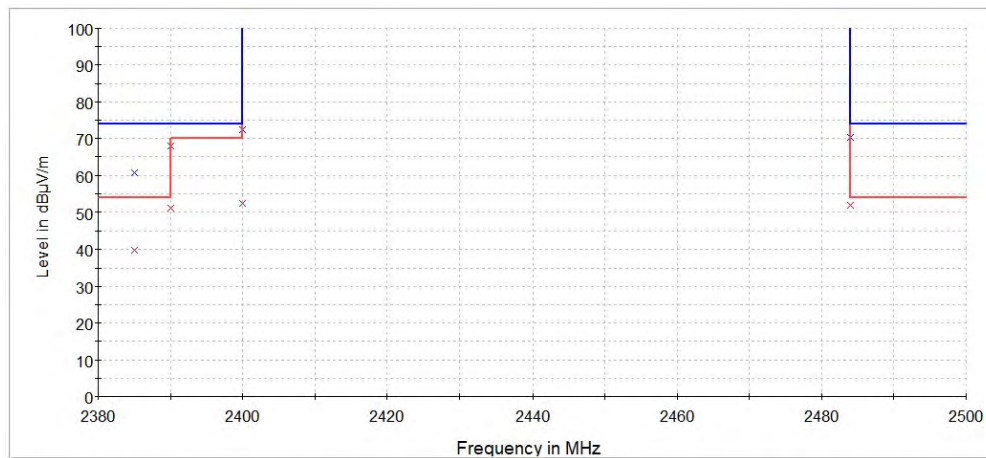


Upper Band Edge, 20 MHz, OFDM: Vertical





20 MHz, OFDM: Band Edge



MaxPeak

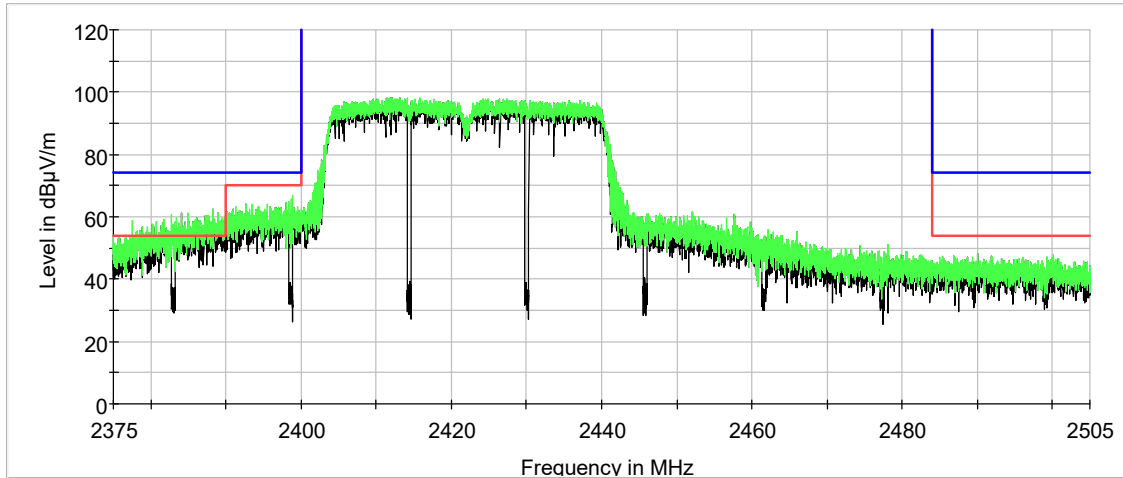
Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Azimuth (deg)	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2385.00	H	150.00	0.00	66.3	-5.7	60.60	74.0	-13.4
2390.00	H	150.00	0.00	73.7	-5.7	68.00	74.0	-6.0
2400.00	H	150.00	0.00	78.0	-5.7	72.30	74.0	-1.7
2483.50	H	150.00	0.00	75.4	-5.2	70.20	74.0	-3.8

AVG

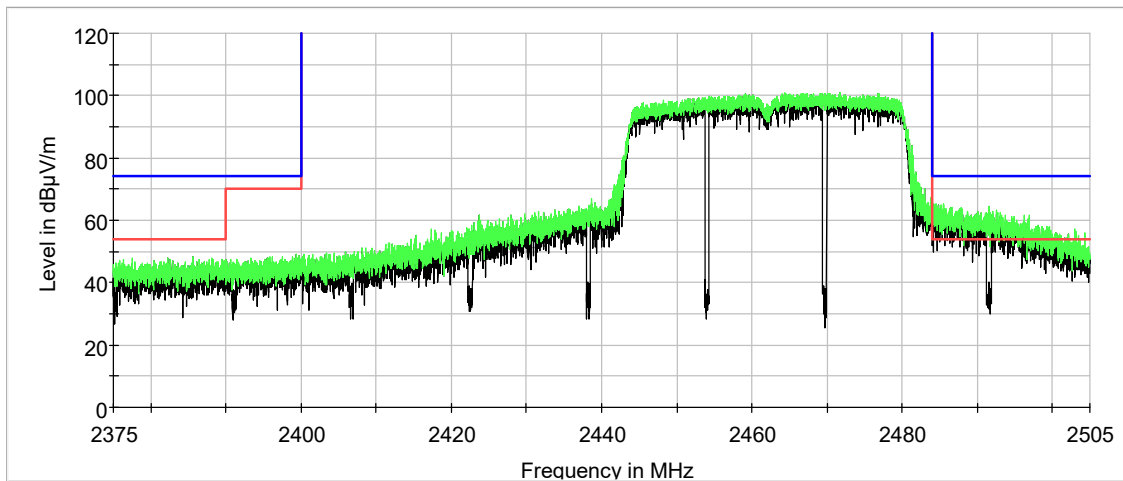
Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Azimuth (deg)	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2385.00	H	150.00	0.00	45.5	-5.7	39.80	54.0	-14.2
2390.00	H	150.00	0.00	56.6	-5.7	50.90	54.0	-3.1
2400.00	H	150.00	0.00	58.1	-5.7	52.40	54.0	-1.6
2483.50	H	150.00	0.00	57.0	-5.2	51.80	54.0	-2.2

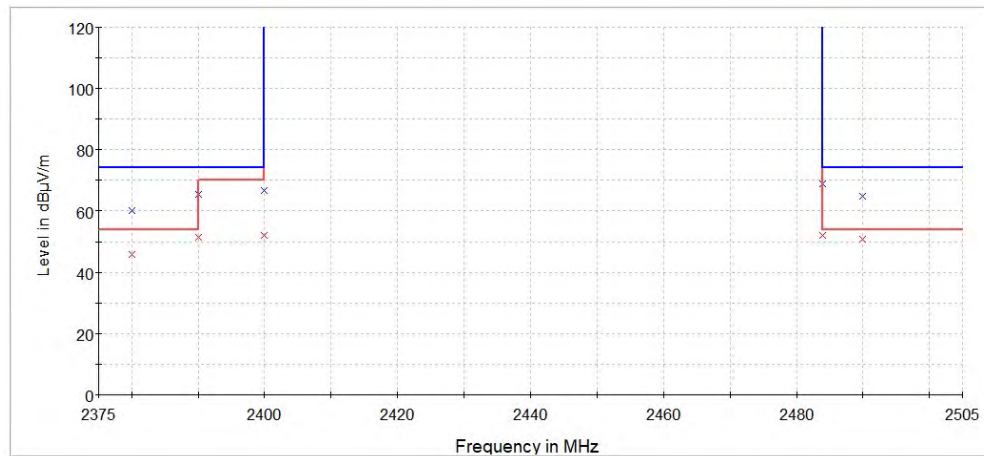


Lower Band Edge, HT40



Upper Band Edge, HT40



**HT40: Band Edge****MaxPeak**

Frequency (MHz)	Antenna Polarization	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2380.00	H	55.4	4.7	60.10	74.0	-13.9
2390.00	H	60.6	4.7	65.30	74.0	-8.7
2400.00	H	61.9	4.7	66.60	74.0	-7.4
2483.50	H	63.4	5.4	68.80	74.0	-5.2
2490.00	H	59.4	5.4	64.80	74.0	-9.2

AVG

Frequency (MHz)	Antenna Polarization	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2380.00	H	41.3	4.7	46.00	54.0	-8.0
2390.00	H	46.8	4.7	51.50	54.0	-2.5
2400.00	H	47.4	4.7	52.10	54.0	-1.9
2483.50	H	46.7	5.4	52.10	54.0	-1.9
2490.00	H	45.6	5.4	51.00	54.0	-3.0



11 FCC PART 15.247(e) – PEAK POWER SPECTRAL DENSITY (PSD)

Peak power spectral density measurements were performed.

11.1 Requirements:

The peak power spectral density shall not exceed +8dBm in any 3 kHz band during any time interval of continuous transmission.

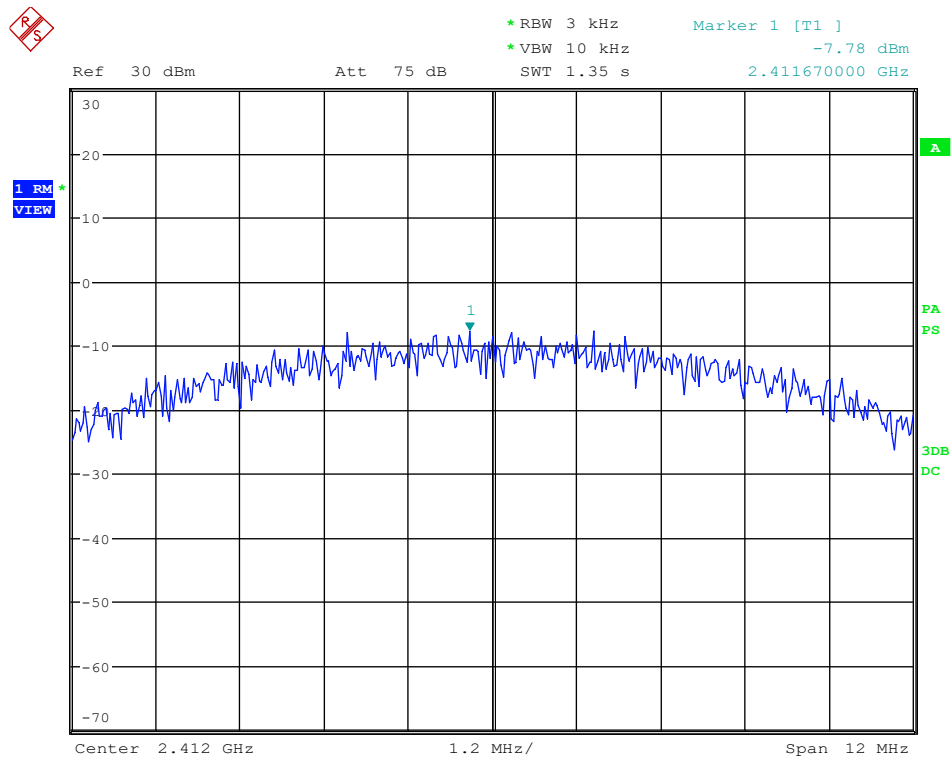
Power spectral density measurements were performed at a resolution bandwidth of 3 kHz (video bandwidth set at 10 kHz). The peak spectral densities were measured at the low, mid, and upper channels.



11.2 Peak Power Spectral Density Test Data

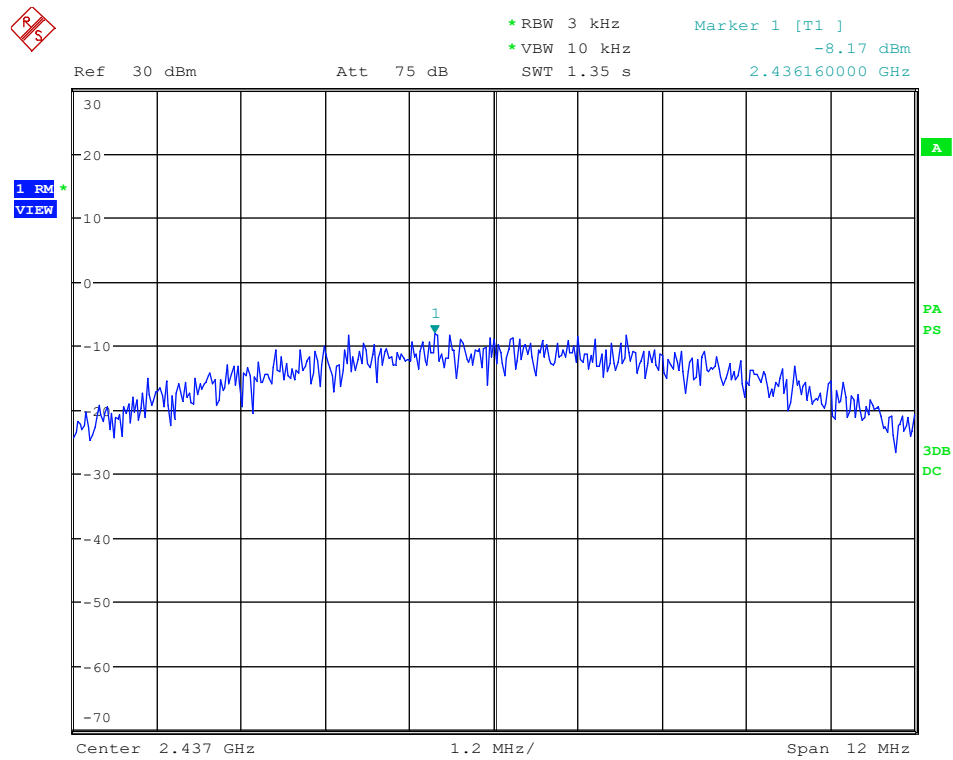
Test Date(s):	2020-10-14	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.247(e); KDB558074	Air Temperature:	23.6°C
		Relative Humidity:	35%

Port 1, CCK 11: Low Channel



Date: 14.OCT.2020 13:14:42

Port 1, CCK 11: Mid Channel



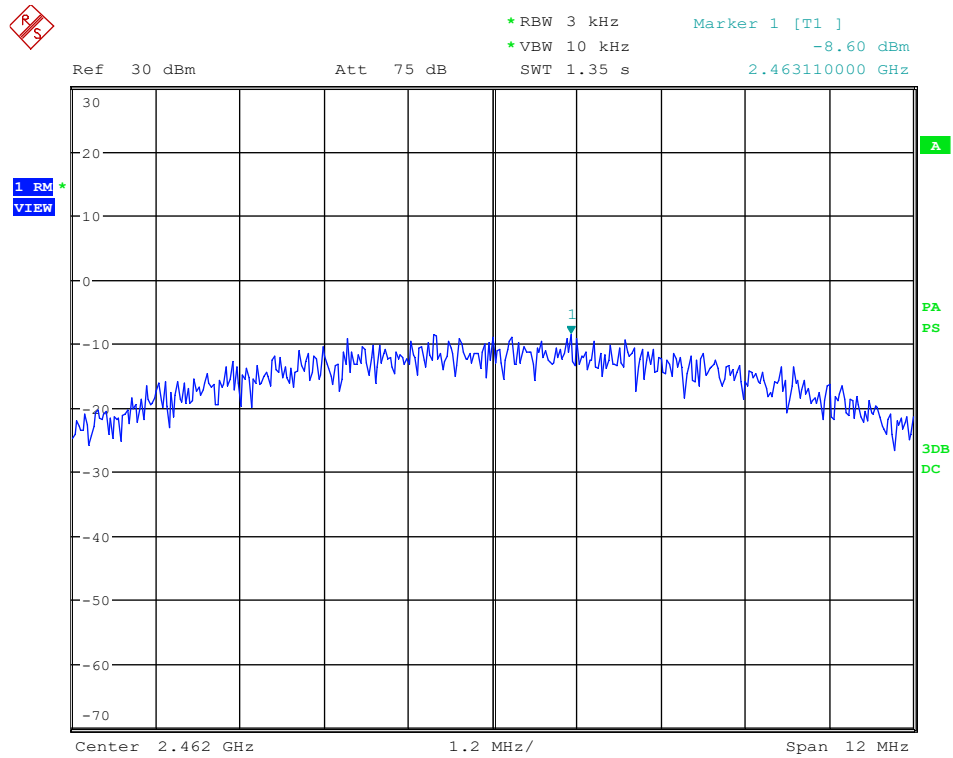
Date: 14.OCT.2020 13:15:50



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, CCK 11: High Channel



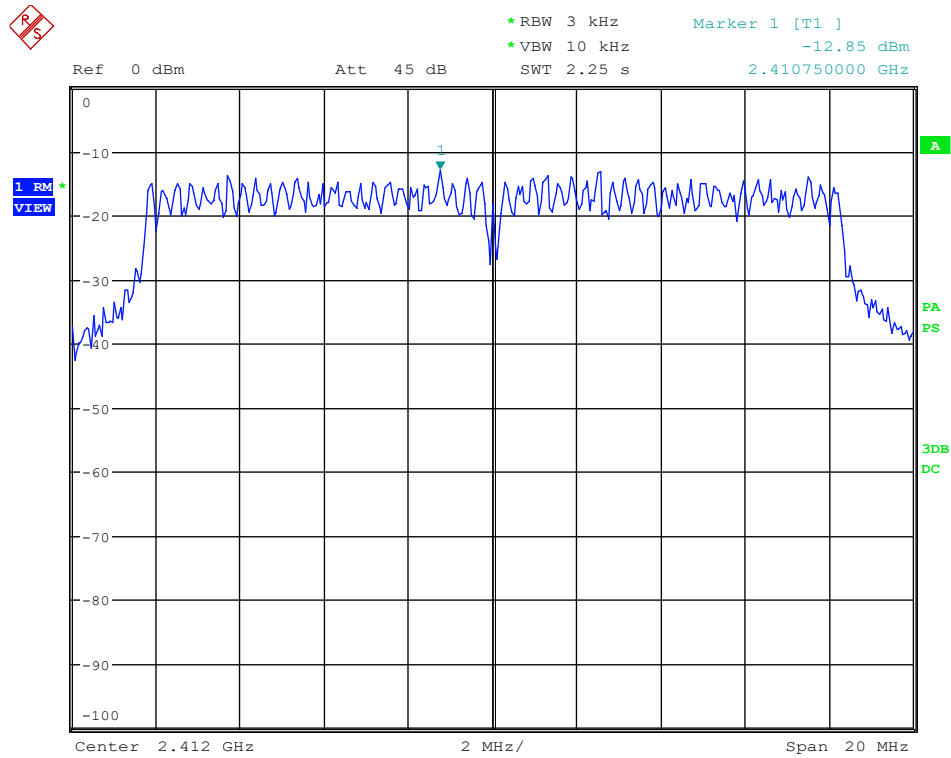
Date: 14.OCT.2020 13:17:12



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, OFDM: Low Channel



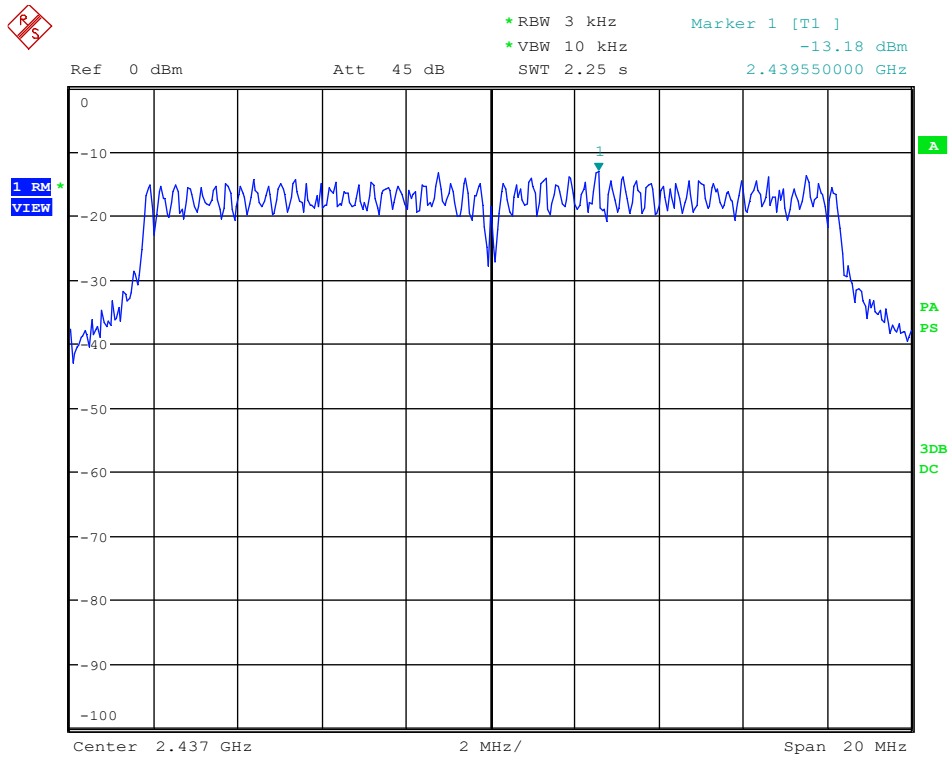
Date: 14.OCT.2020 13:22:20



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, OFDM: Mid Channel



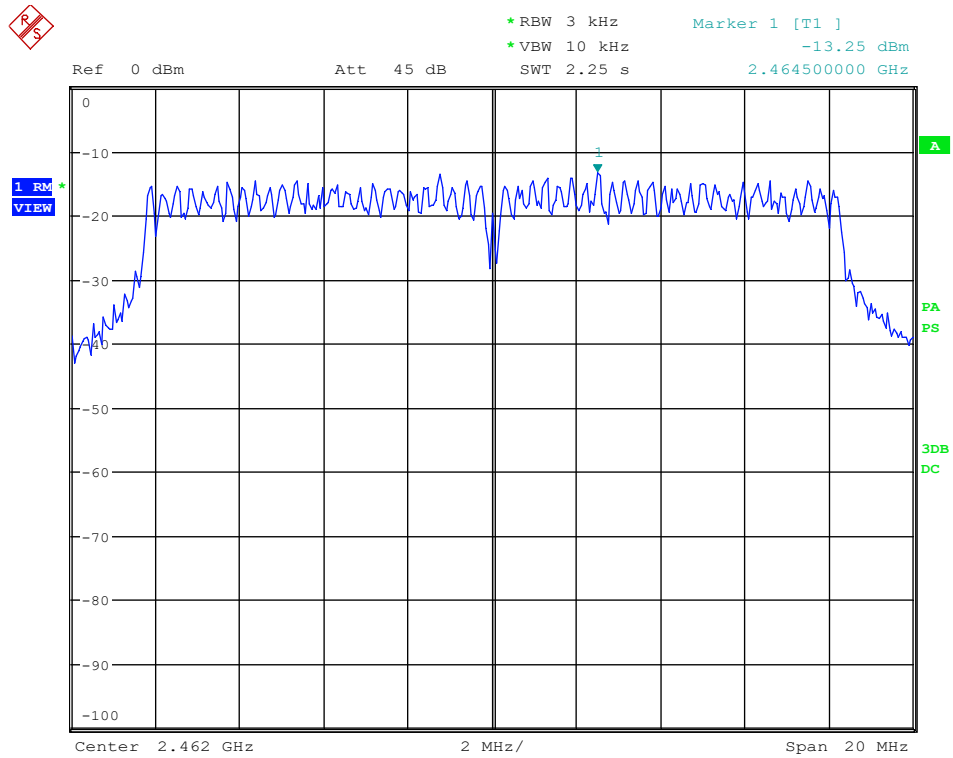
Date: 14.OCT.2020 13:23:25



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, OFDM: High Channel



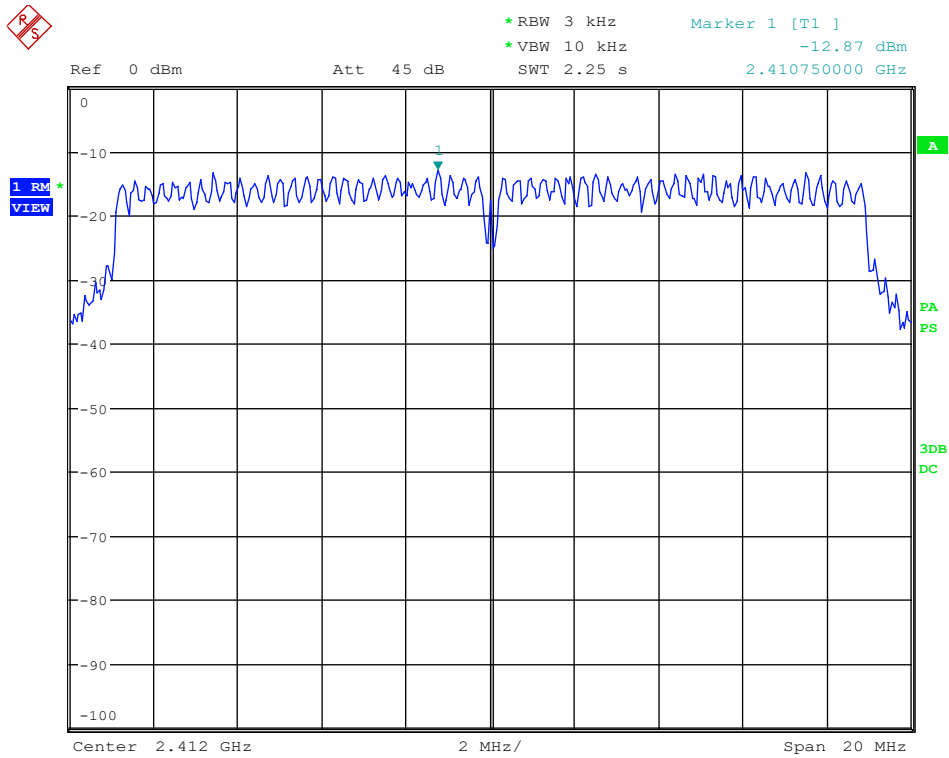
Date: 14.OCT.2020 13:24:31



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, HT 20: Low Channel



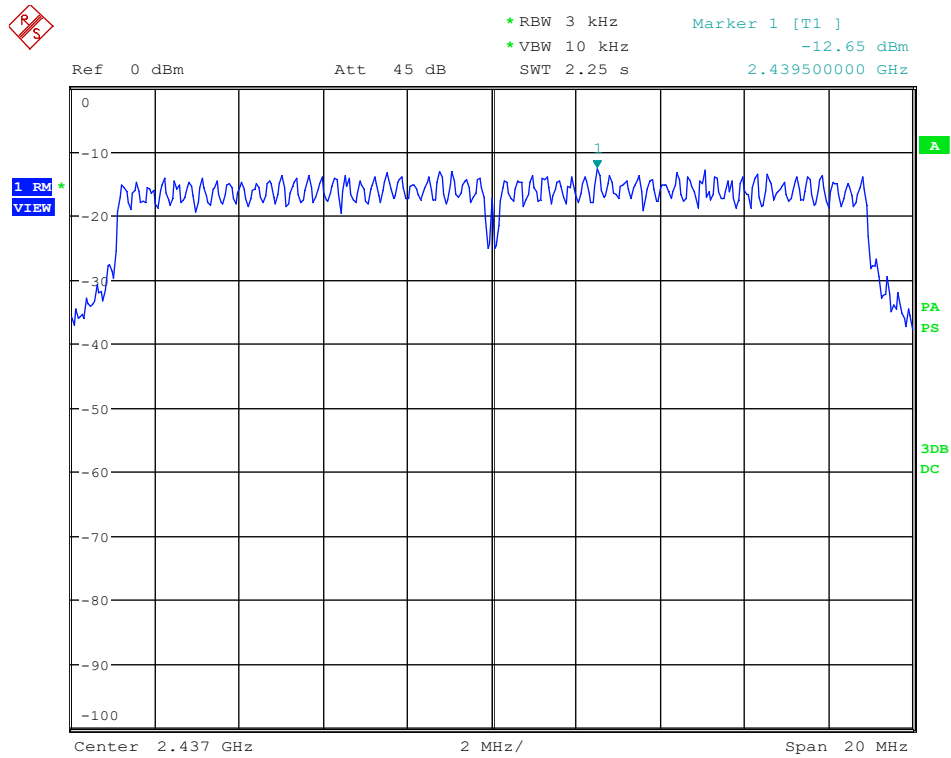
Date: 14.OCT.2020 13:28:17



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, HT 20: Mid Channel



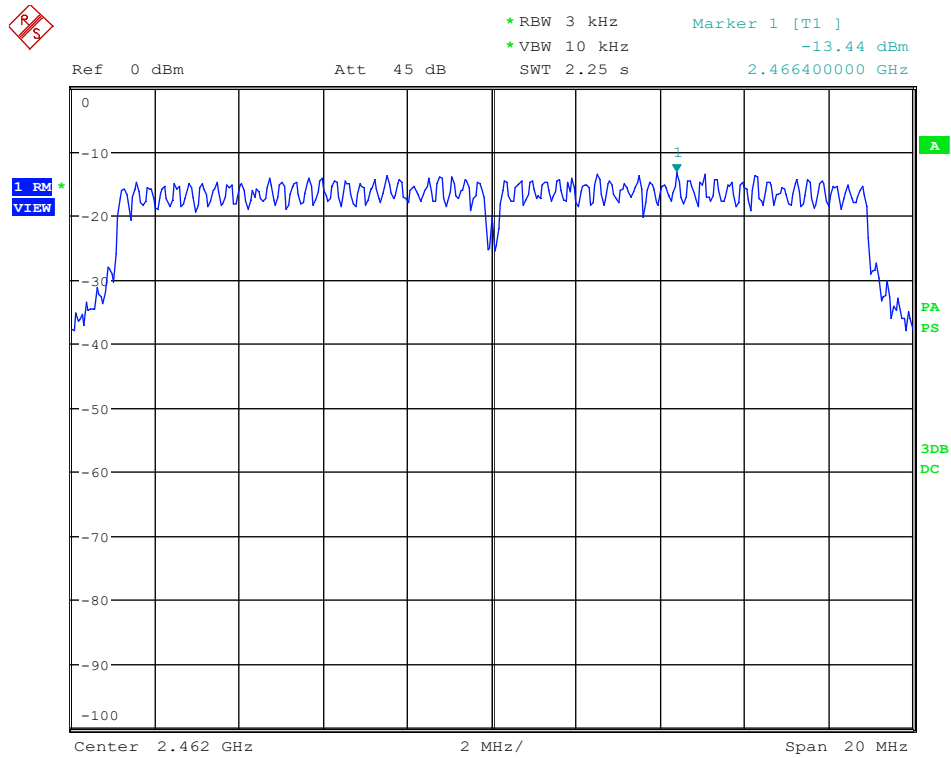
Date: 14.OCT.2020 13:29:12



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, HT 20: High Channel



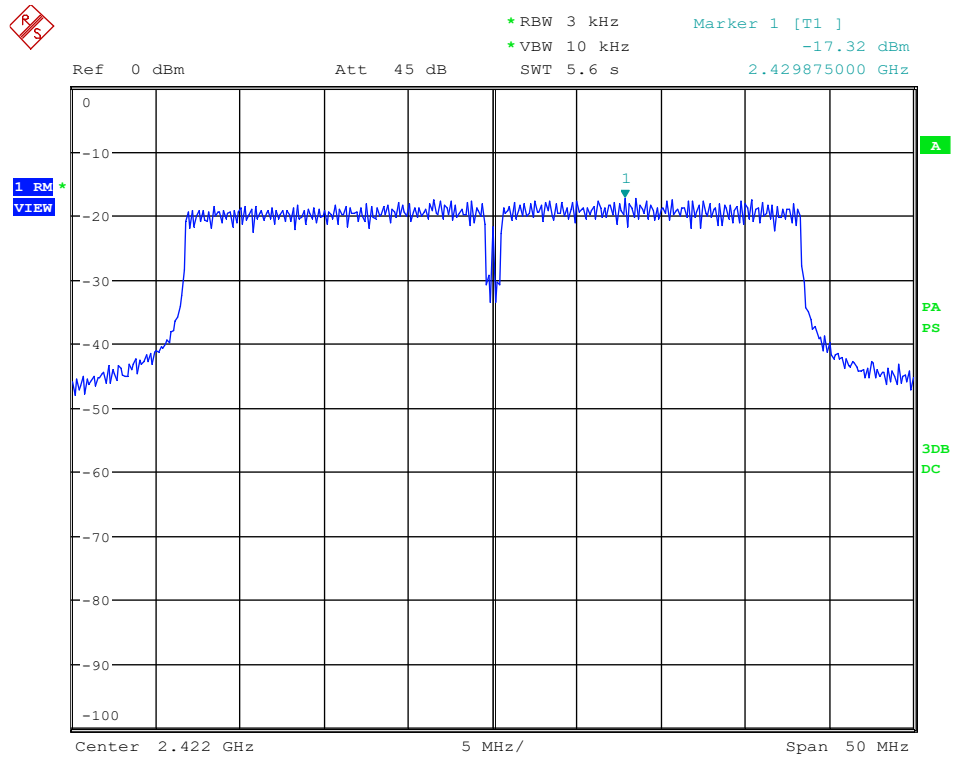
Date: 14.OCT.2020 13:30:54



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, HT 40: Low Channel



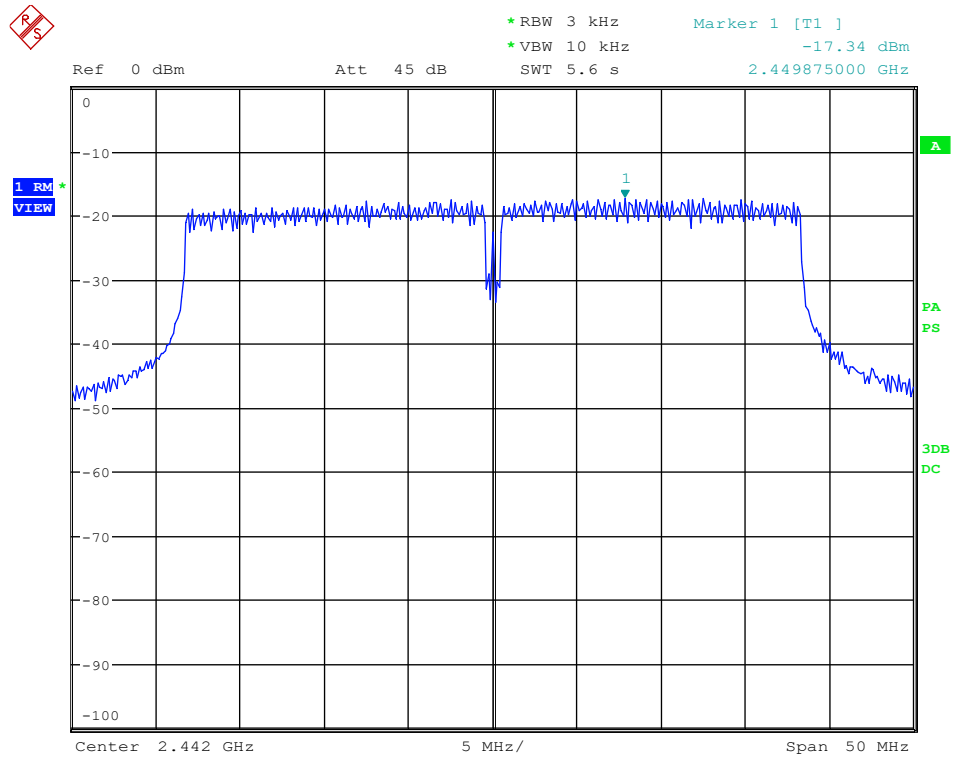
Date: 14.OCT.2020 13:34:36



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, HT 40: Mid Channel



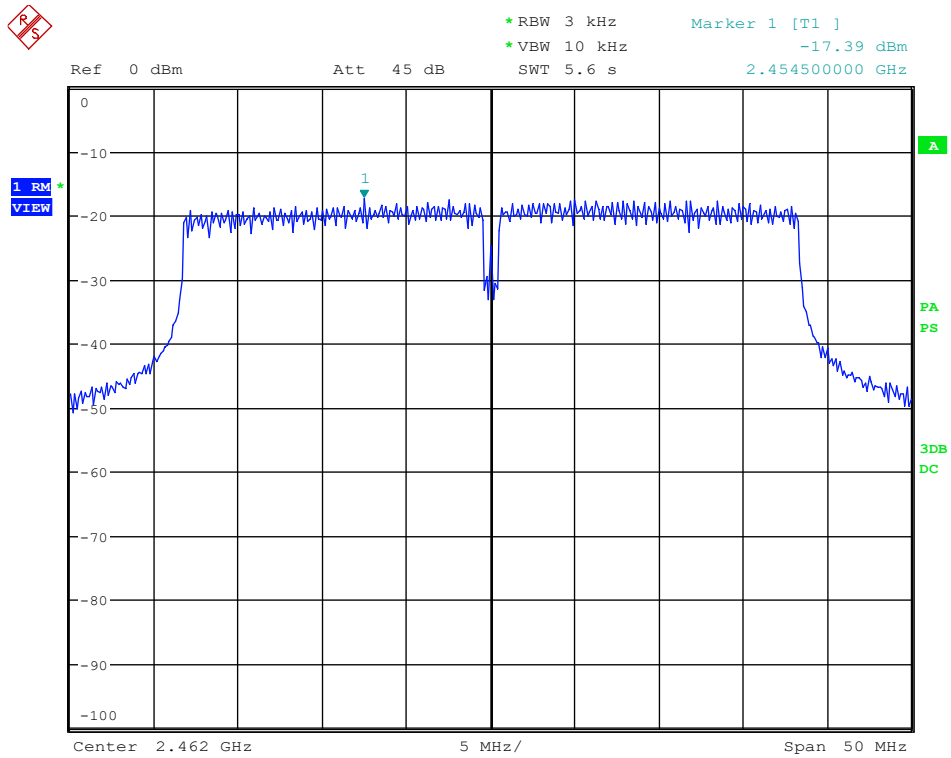
Date: 14.OCT.2020 13:35:53



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, HT 40: High Channel



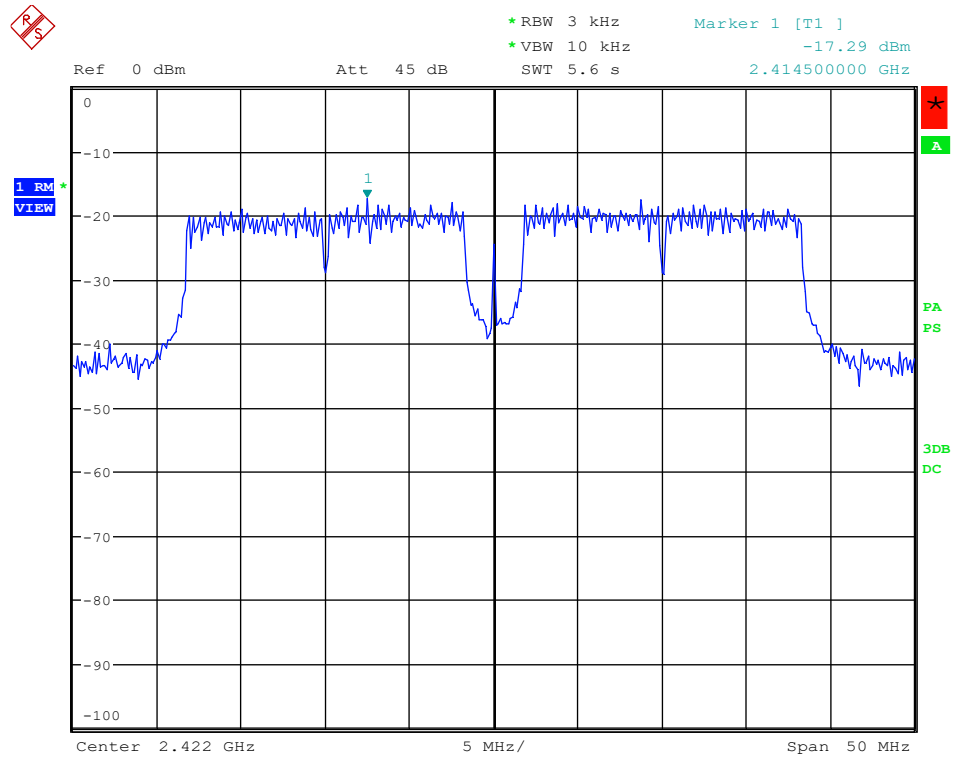
Date: 14.OCT.2020 13:37:01



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, Non-HT 40: Low Channel



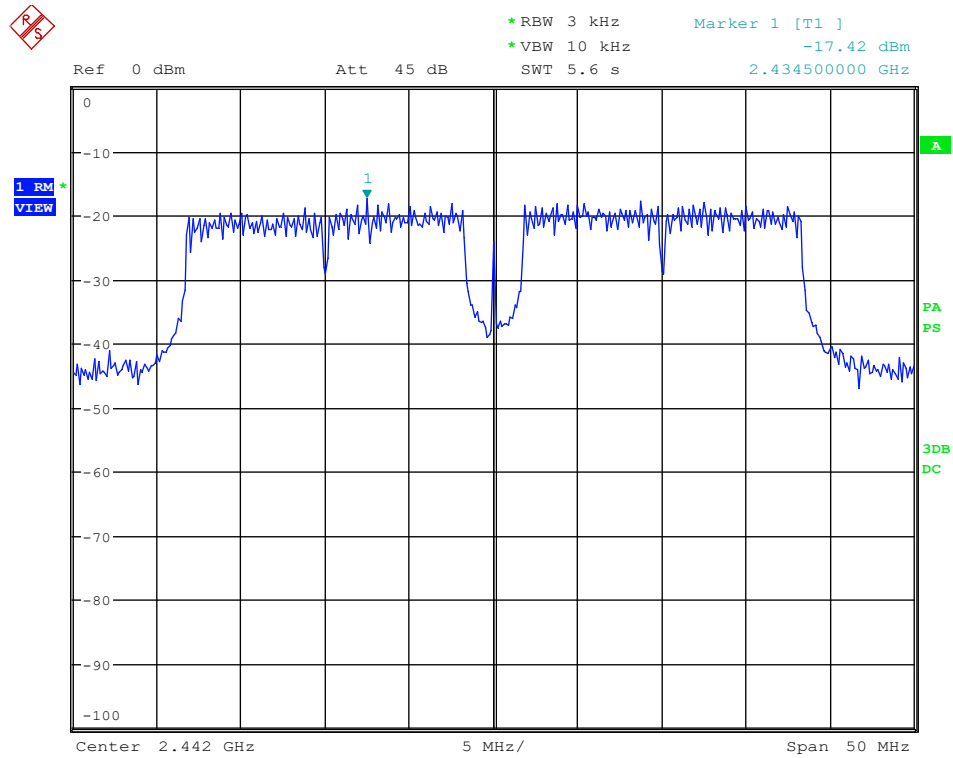
Date: 14.OCT.2020 13:39:42



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, Non-HT 40: Mid Channel



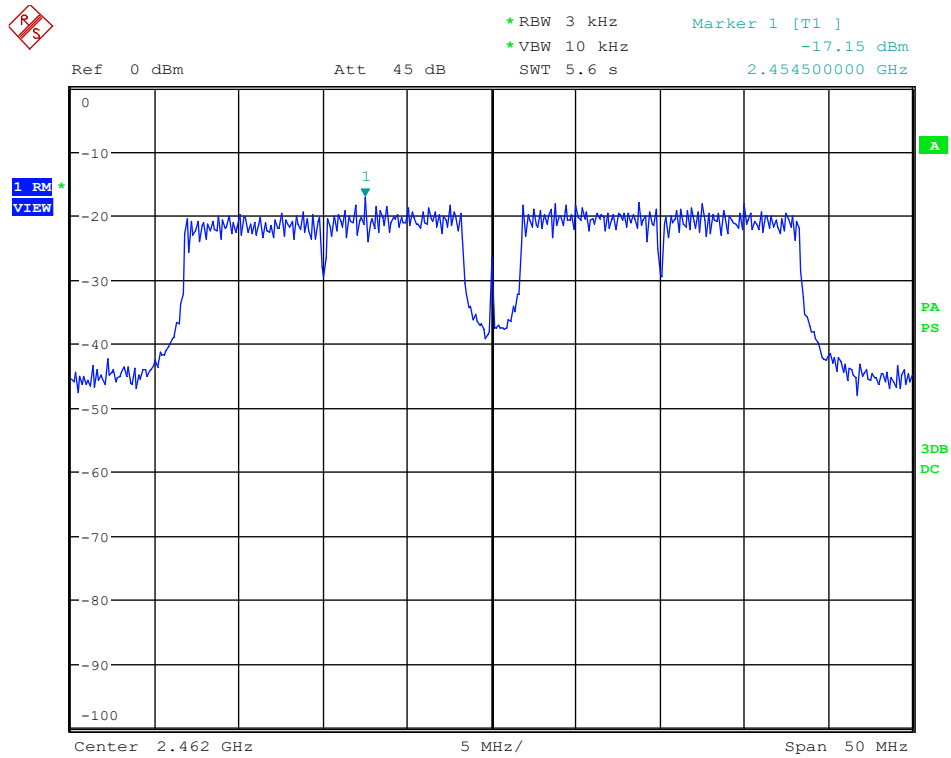
Date: 14.OCT.2020 13:41:20



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 1, Non-HT 40: High Channel



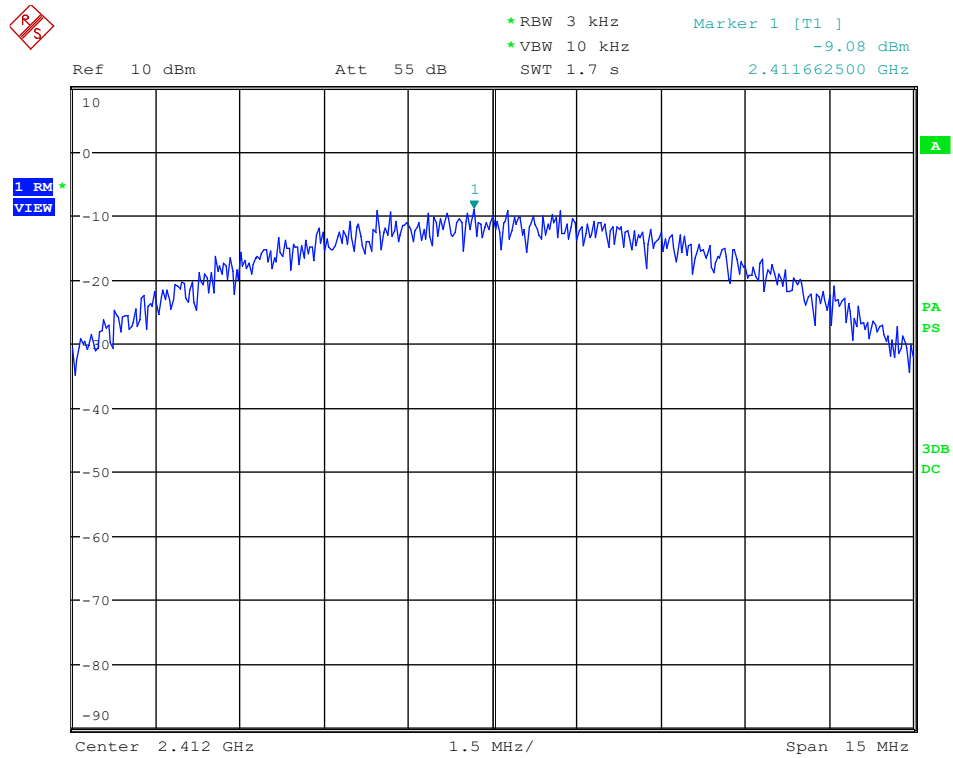
Date: 14.OCT.2020 13:42:59



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, CCK 11: Low Channel



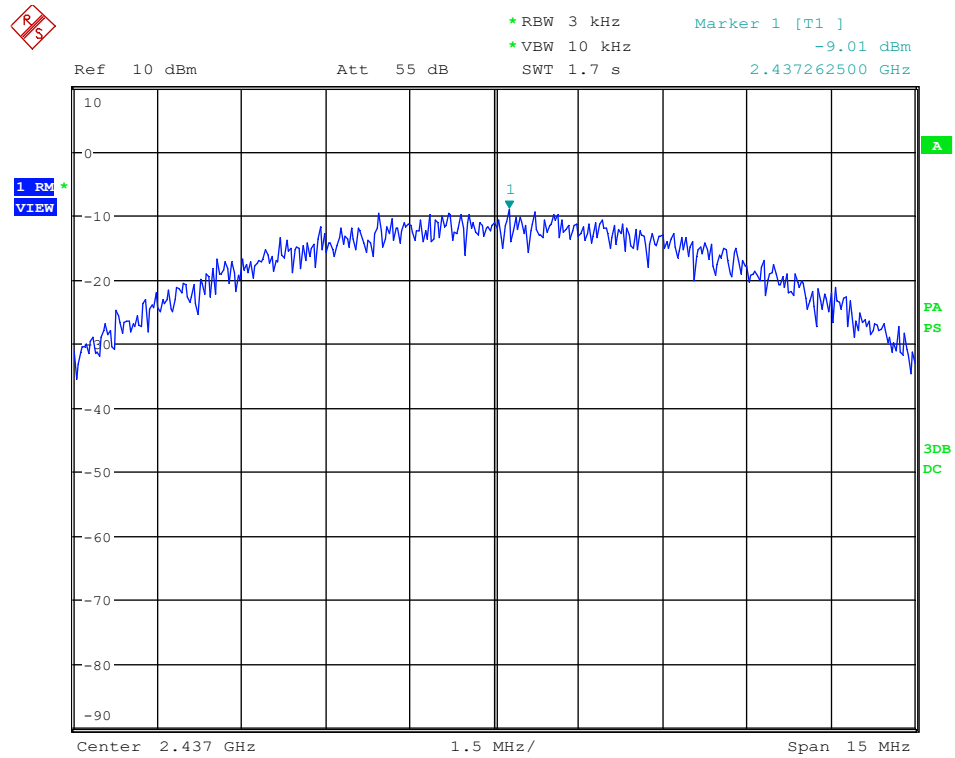
Date: 14.OCT.2020 14:50:29



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, CCK 11: Mid Channel



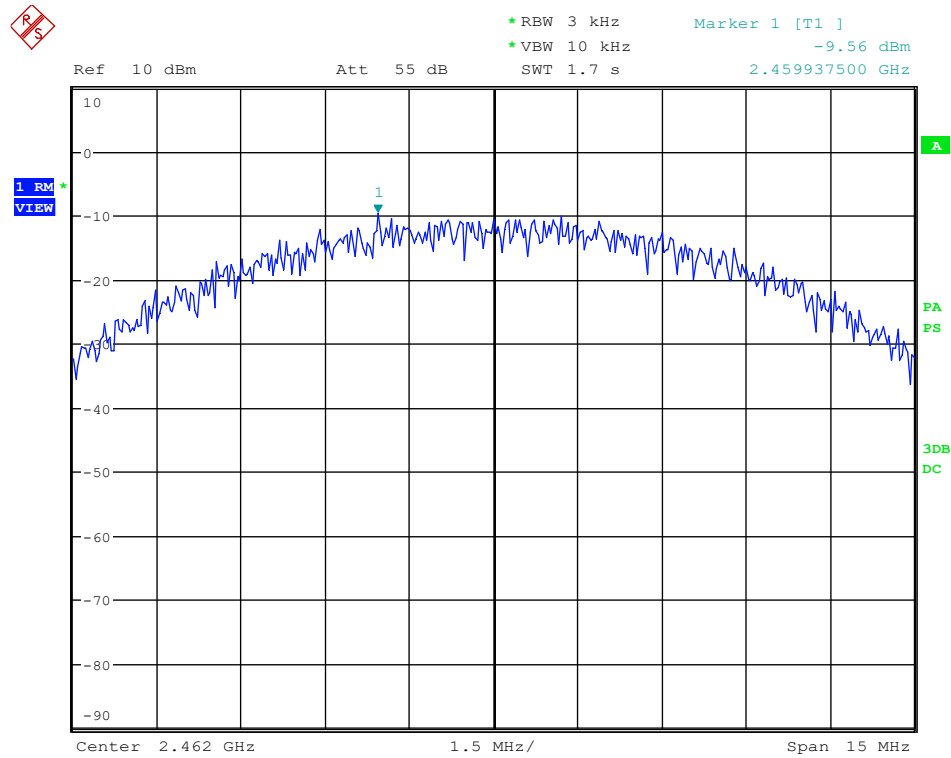
Date: 14.OCT.2020 14:52:43



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, CCK 11: High Channel



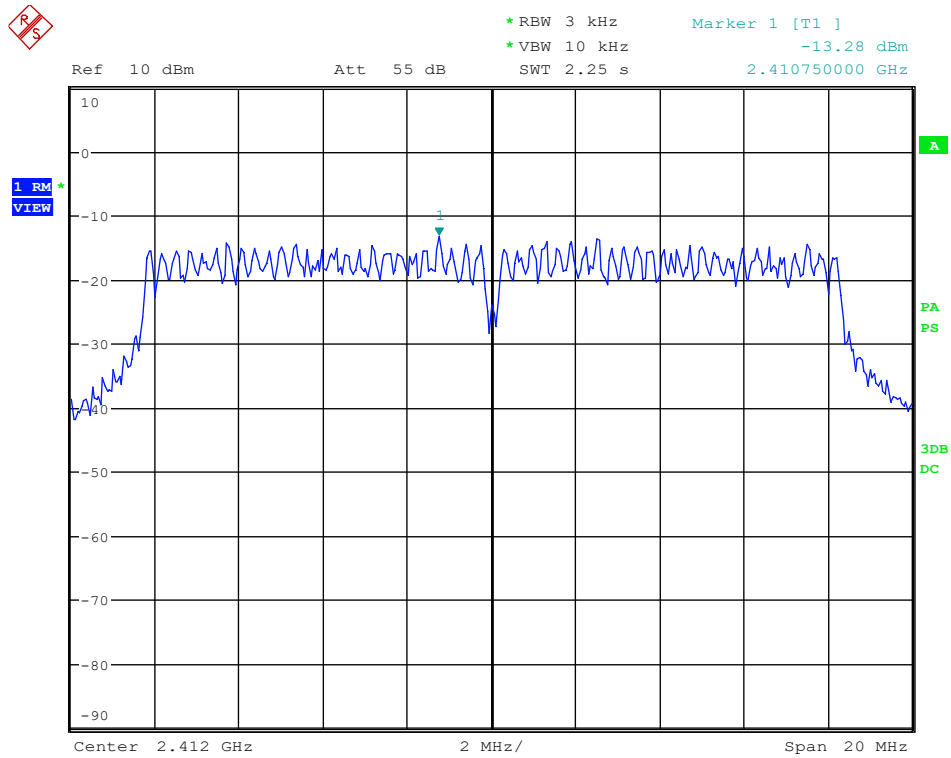
Date: 14.OCT.2020 14:53:53



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

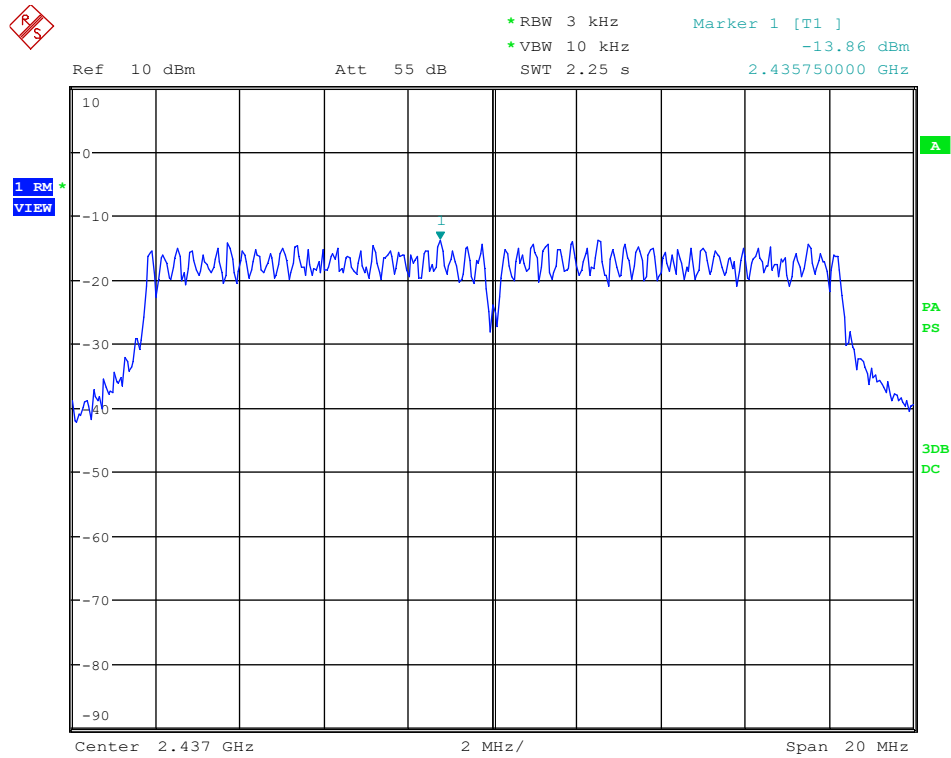
Port 2, OFDM: Low Channel



Date: 14.OCT.2020 14:57:33



Port 2, OFDM: Mid Channel



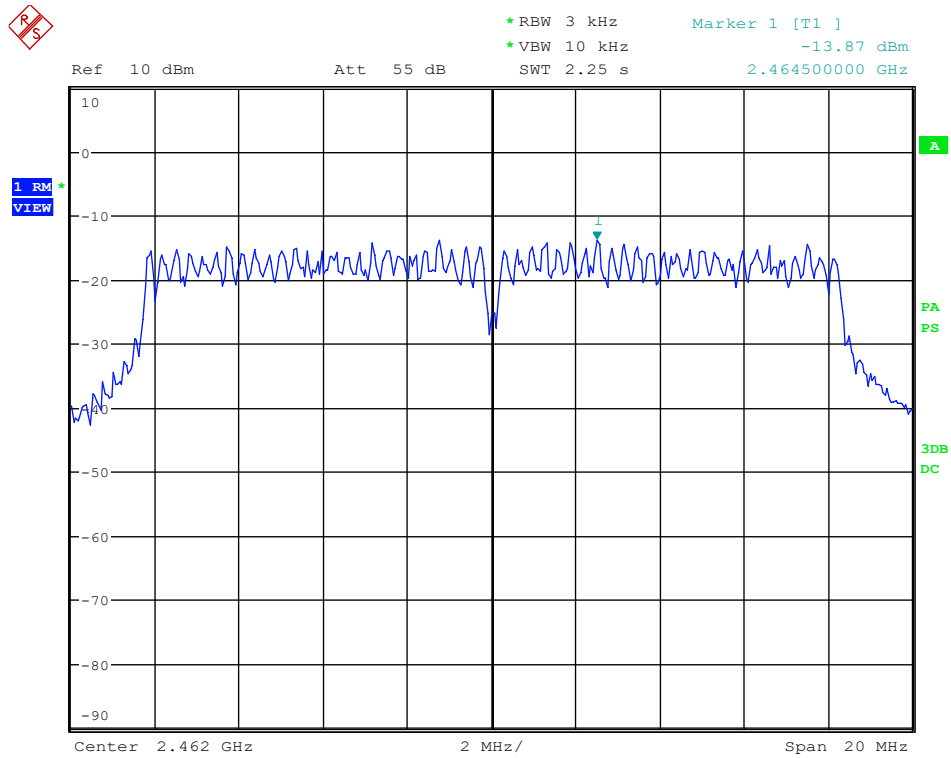
Date: 14.OCT.2020 14:58:25



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, OFDM: High Channel



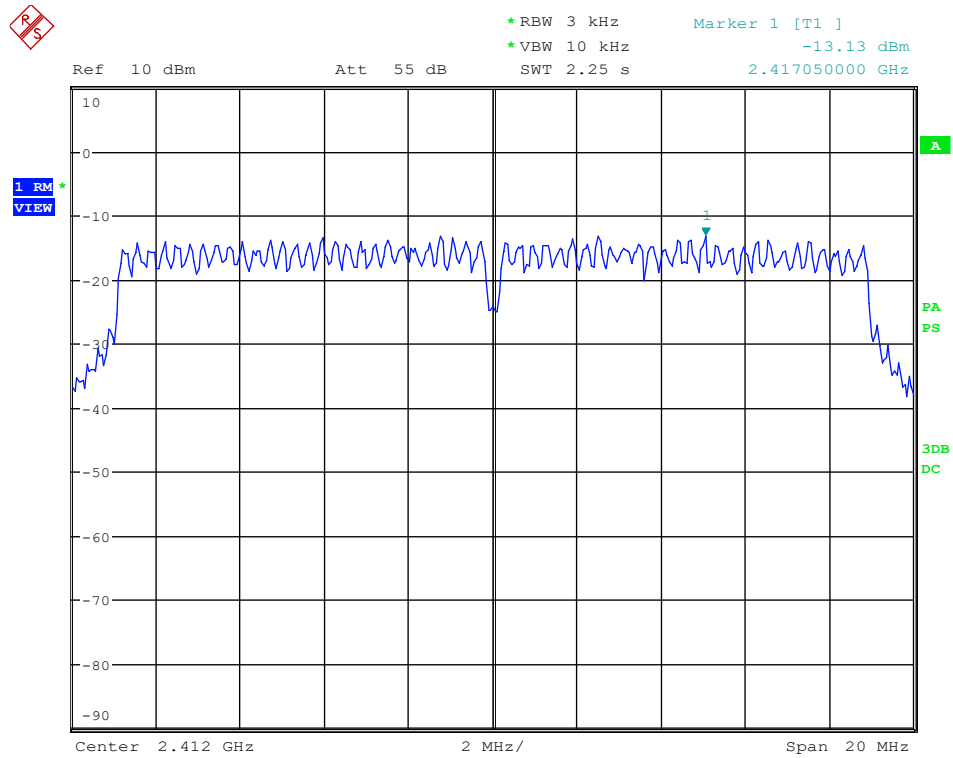
Date: 14.OCT.2020 14:59:27



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, HT 20: Low Channel



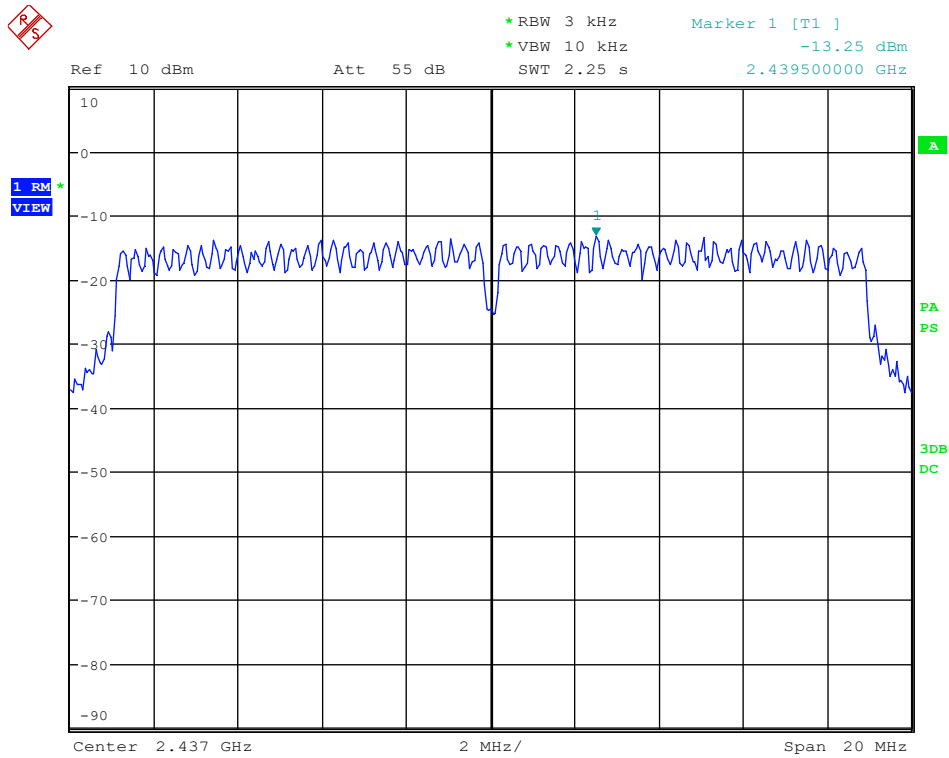
Date: 14.OCT.2020 15:01:31



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, HT 20: Mid Channel



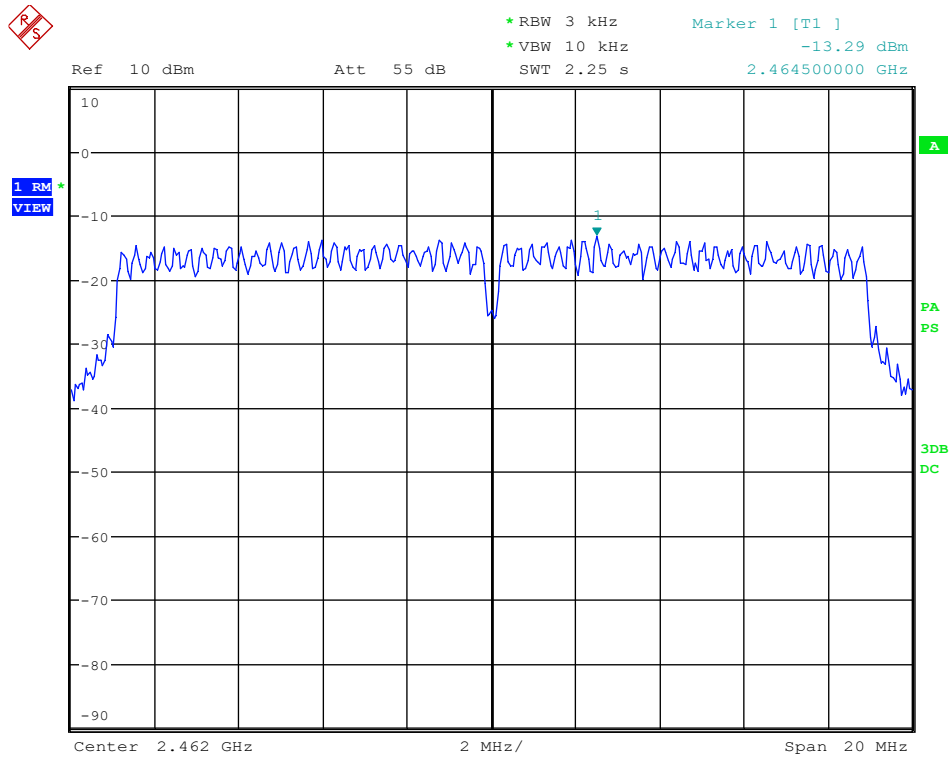
Date: 14.OCT.2020 15:02:39



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, HT 20: High Channel



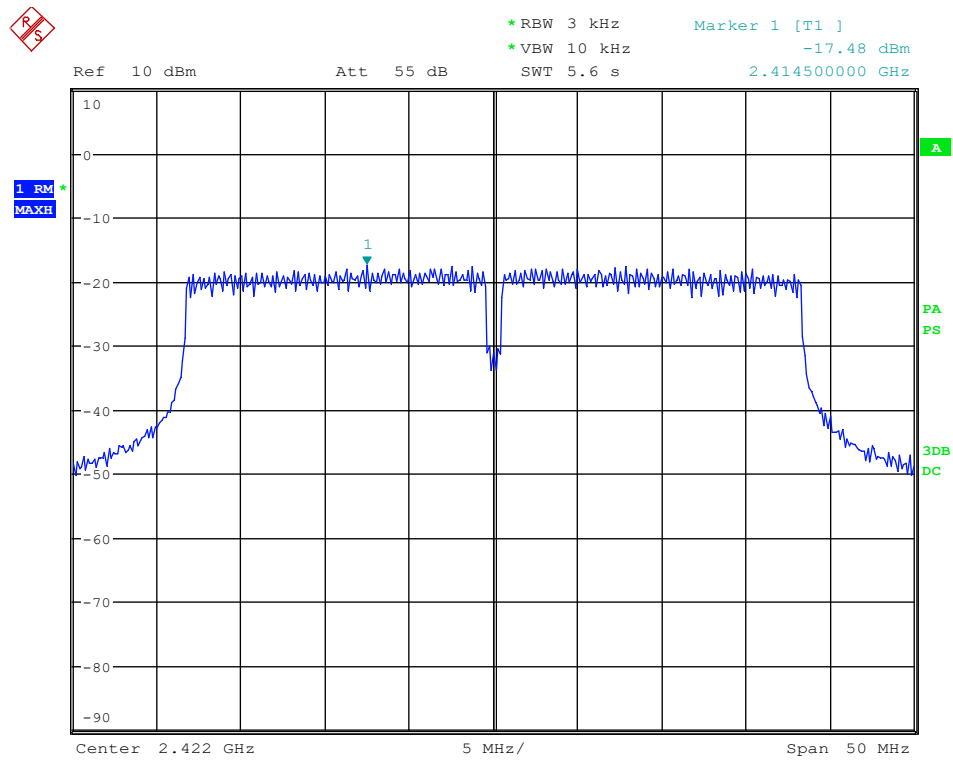
Date: 14.OCT.2020 15:03:39



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, HT 40: Low Channel



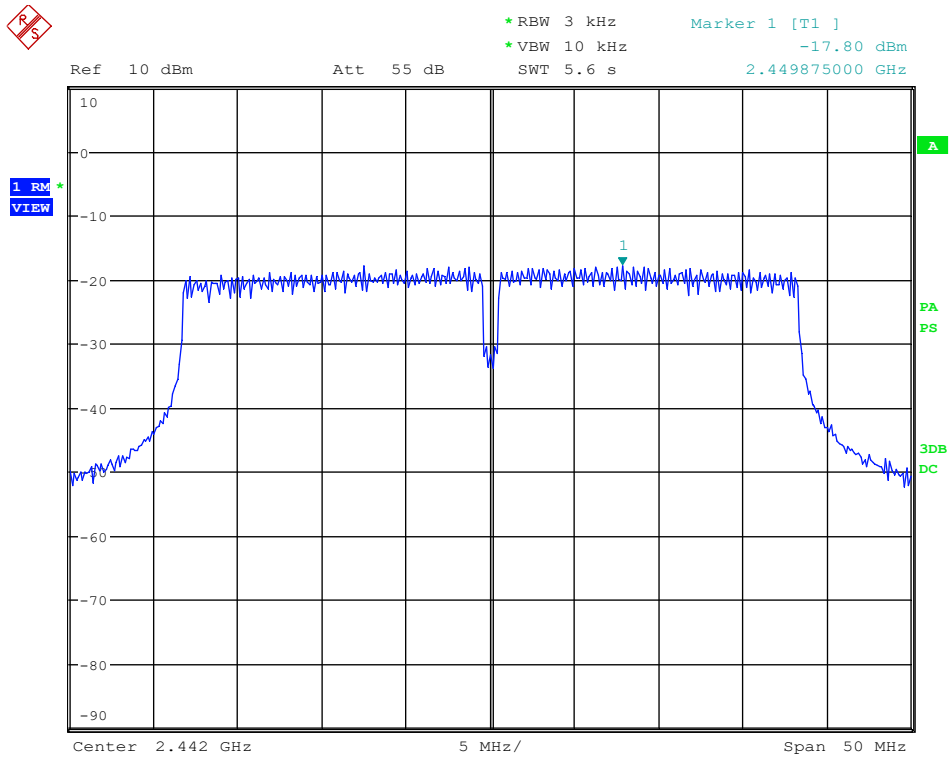
Date: 14.OCT.2020 15:06:25



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, HT 40: Mid Channel



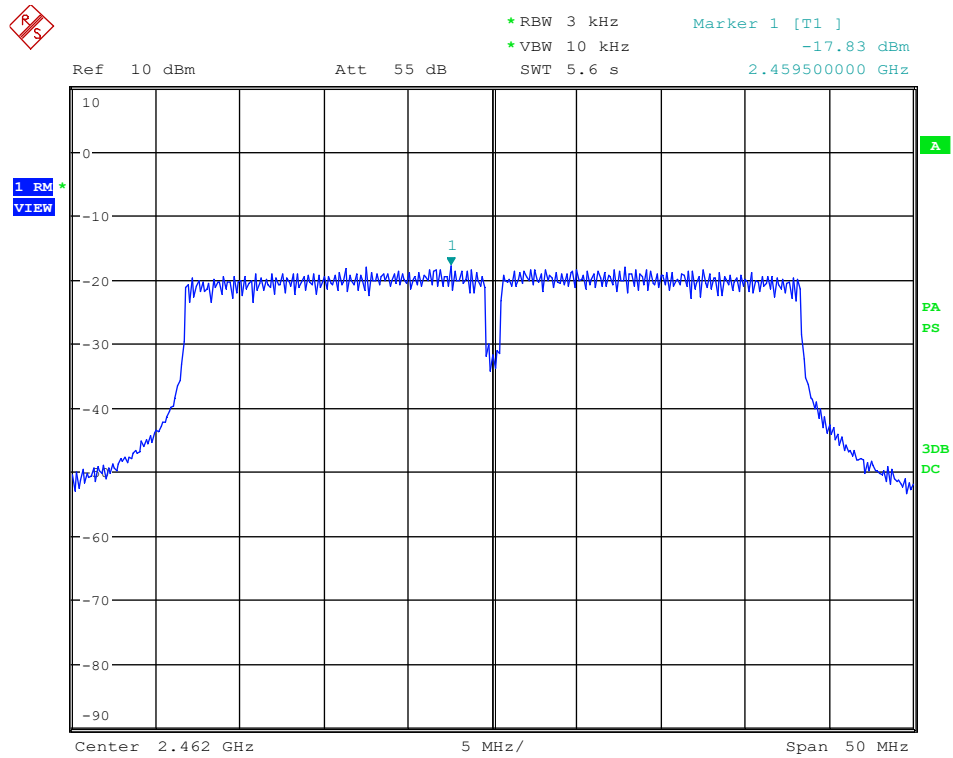
Date: 14.OCT.2020 15:07:42



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, HT 40: High Channel



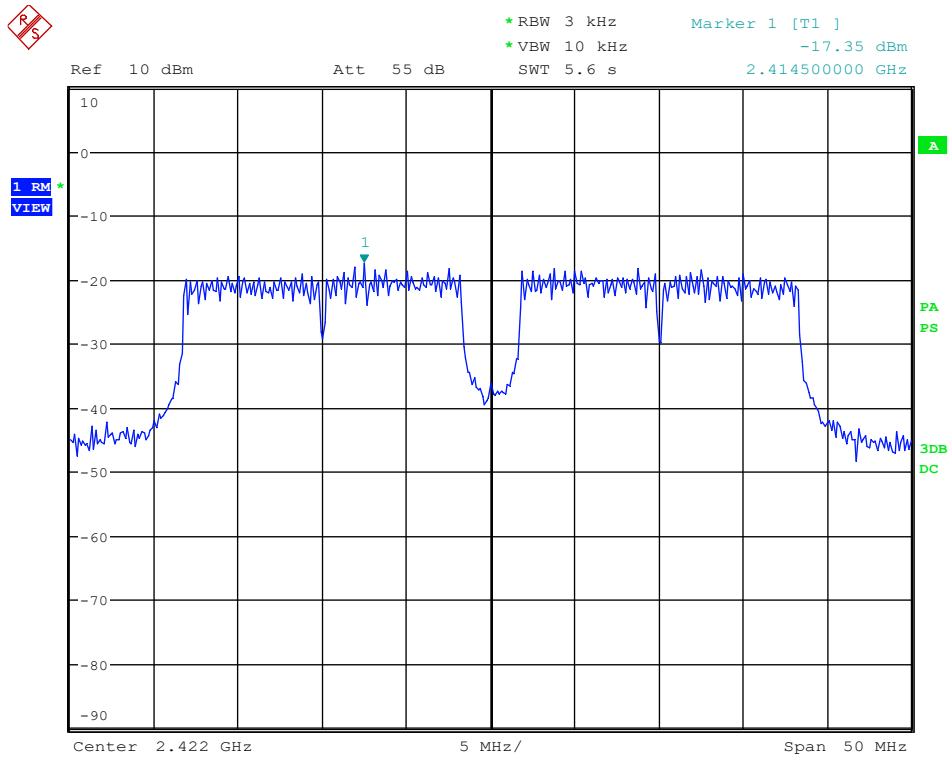
Date: 14.OCT.2020 15:09:10



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, Non-HT 40: Low Channel



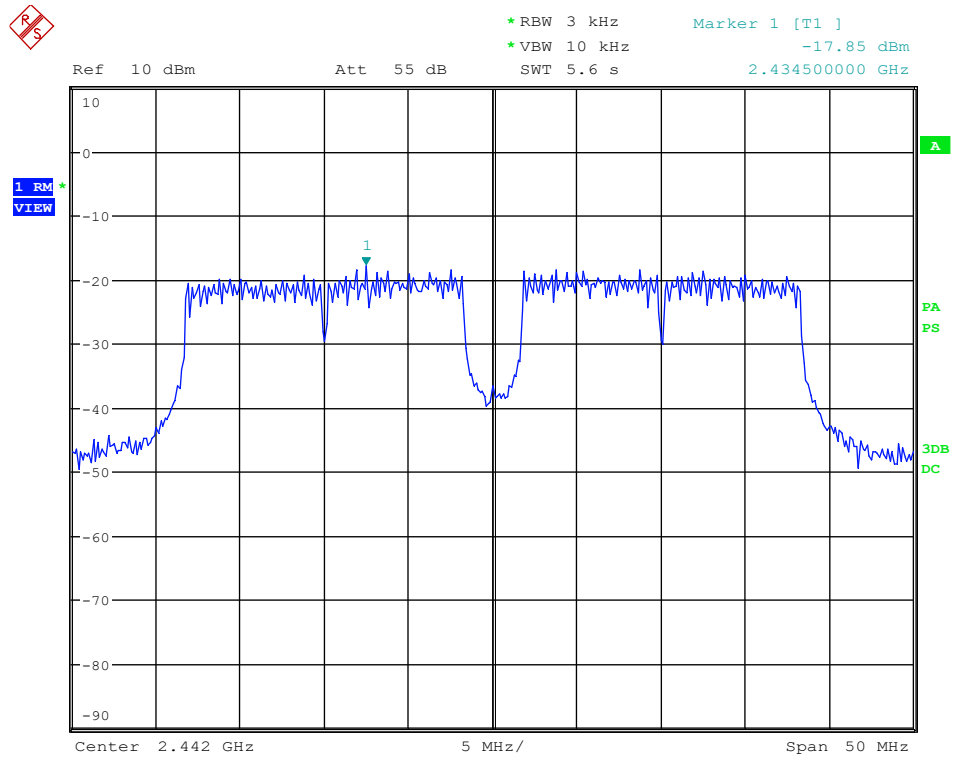
Date: 14.OCT.2020 15:12:31



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, Non-HT 40: Mid Channel



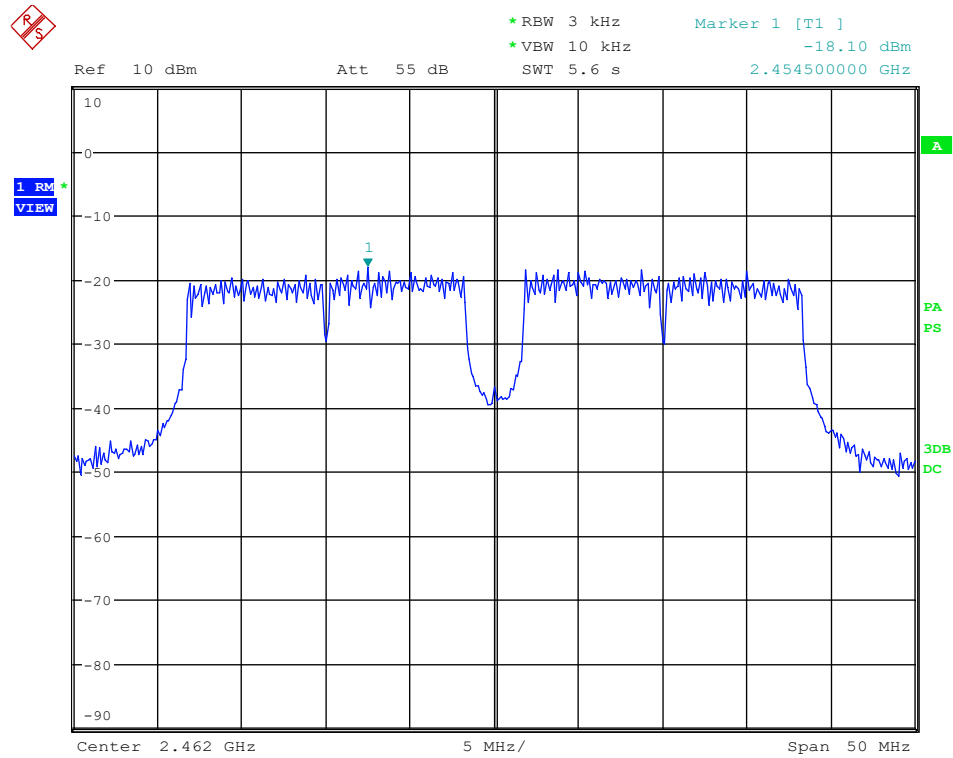
Date: 14.OCT.2020 15:14:29



Order Number: F2P19923A

Applicant: PCTEL, Inc
Model: AP-WIFI-1200-US

Port 2, Non-HT 40: High Channel



Date: 14.OCT.2020 15:23:49



12 CONDUCTED EMISSIONS

12.1 Requirements

In accordance with FCC CFR 47 Part 15.207(a), "Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

12.2 Procedure

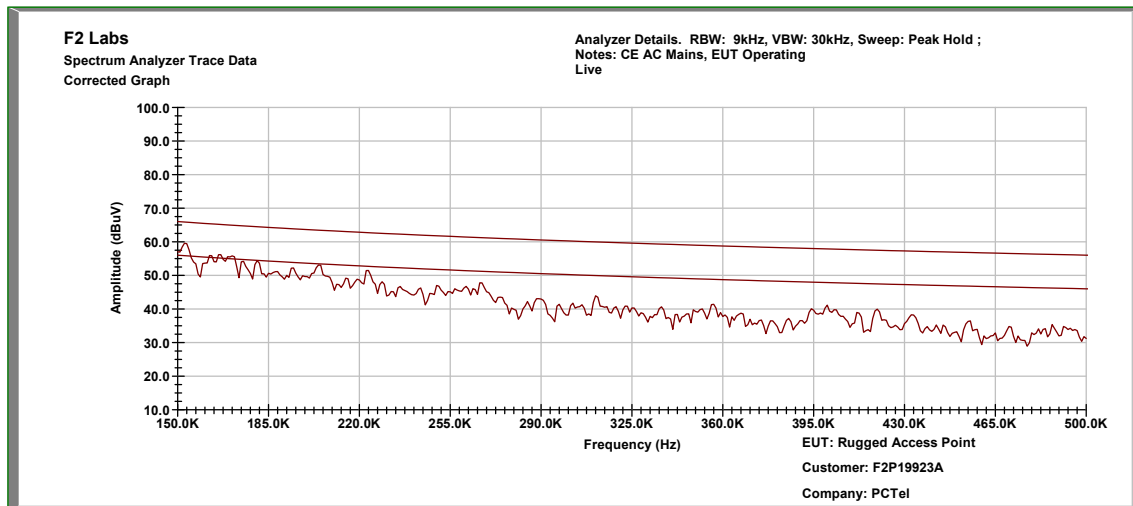
The EUT was placed on a 1.0 x 1.5 meter non-conductive table, 0.8 meter above a horizontal ground plane and 0.4 meter from a vertical ground plane. Power was provided to the EUT through a LISN bonded to a 3 x 2 meter ground plane. The LISN and peripherals were supplied power through a filtered AC power source. The output of the LISN was connected to the input of the receiver via a transient limiter, and emissions in the range 150 kHz to 30 MHz were measured. The measurements were recorded using the quasi-peak and average detectors as directed by the standard, and the resolution bandwidth during testing was 9 kHz. The raw measurements were corrected to allow for attenuation from the LISN, transient limiter and cables.



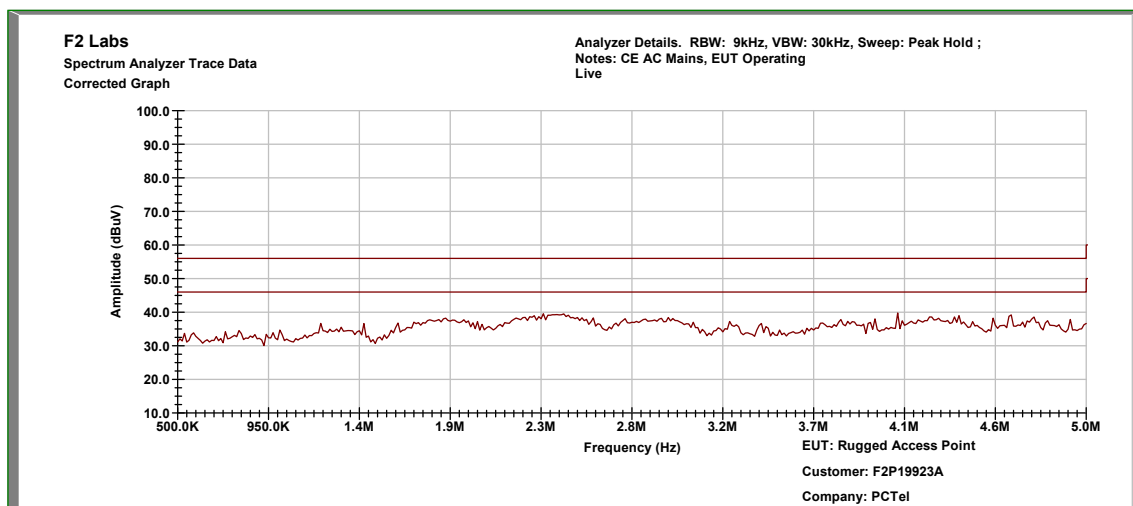
12.3 Conducted Emissions Test Data

Test Date:	2020-10-09	Test Engineer:	M. Toth
Rule:	15.207	Air Temperature:	21.9° C
Test Results:	Pass	Relative Humidity:	35%

Conducted Test – Line 1: 0.15 MHz to 0.5 MHz

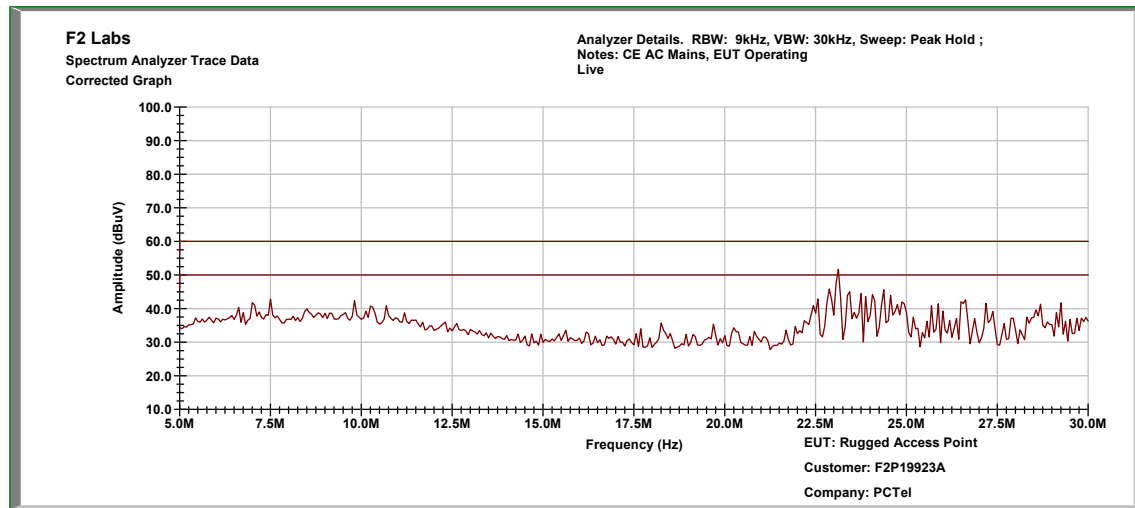


Conducted Test – Line 1: 0.5 MHz to 5.0 MHz





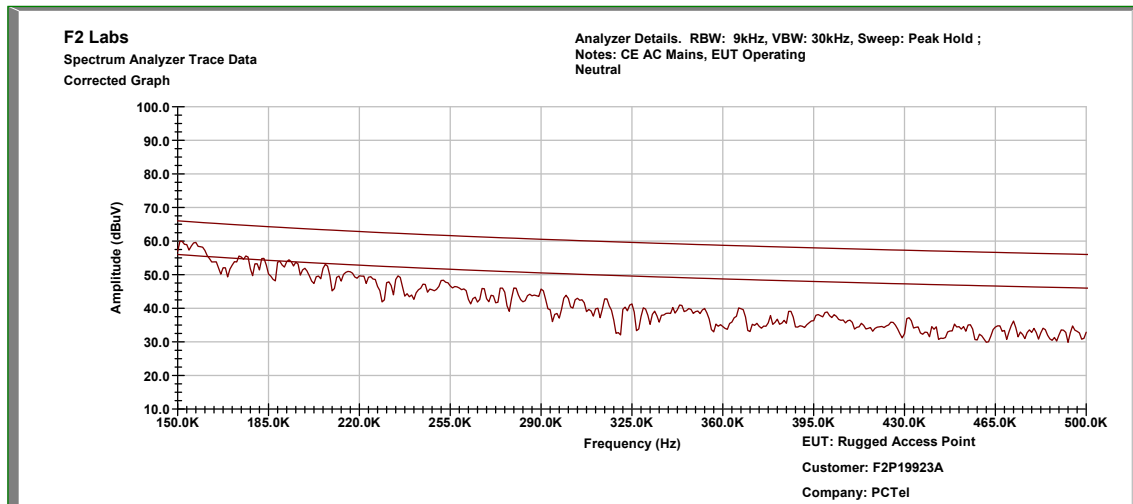
Conducted Test – Line 1: 5.0 MHz to 30.0 MHz



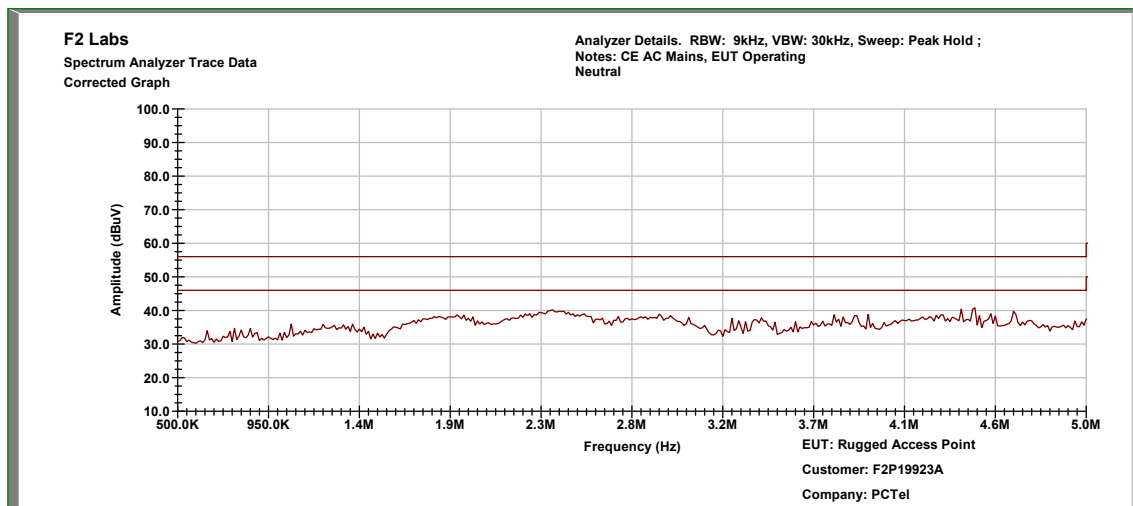
Top Discrete Measurements								
No.	Conductor	Frequency (MHz)	Detector	Level (dBμV)	Adjustment (dB)	Results (dBμV)	Limit (dBμV)	Margin (dB)
1	Line 1	0.154375	Quasi-Peak	38.50	11.0	49.50	65.72	-16.2
			Average	20.94	11.0	31.94	55.72	-23.8
2	Line 1	0.166625	Quasi-Peak	33.28	11.0	44.28	65.13	-20.9
			Average	13.72	11.0	24.72	55.13	-30.4
3	Line 1	0.180625	Quasi-Peak	35.85	11.0	46.85	64.46	-17.6
			Average	14.05	11.0	25.05	54.64	-29.6
4	Line 1	0.205	Quasi-Peak	32.71	11.0	43.71	63.41	-19.7
			Average	12.96	11.0	23.96	53.41	-29.5
5	Line 1	2.4125	Quasi-Peak	25.6	11.0	36.60	56.0	-19.4
			Average	18.99	11.0	29.99	46.0	-16.0
6	Line 1	23.125	Quasi-Peak	37.42	11.0	48.42	60.0	-11.6
			Average	36.64	11.0	47.64	50.0	-2.4



Conducted Test – Line 2: 0.15 MHz to 0.5 MHz

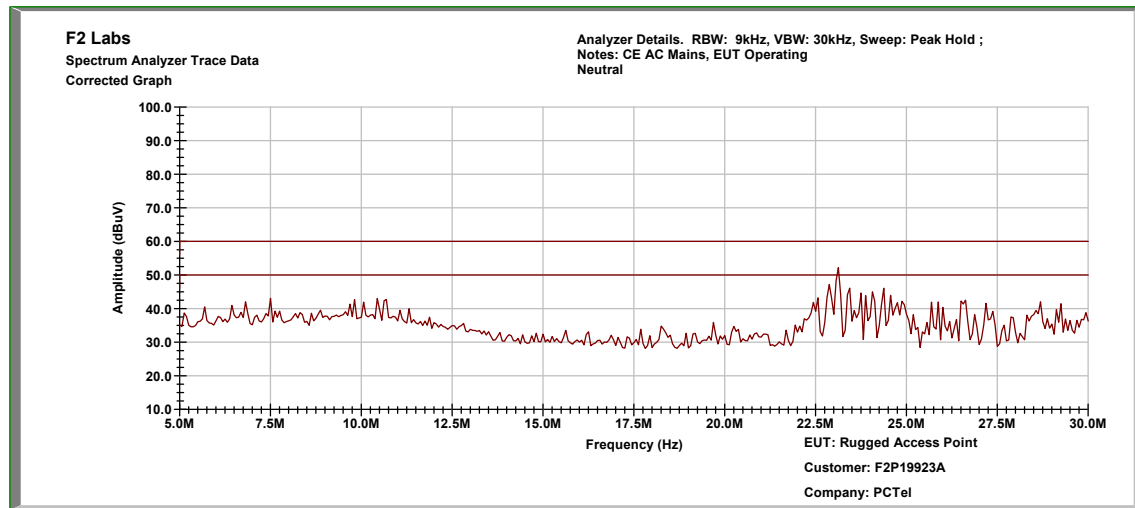


Conducted Test – Line 2: 0.5 MHz to 5.0 MHz





Conducted Test – Line 2: 5.0 MHz to 30.0 MHz



Top Discrete Measurements								
No.	Conductor	Frequency (MHz)	Detector	Level (dBμV)	Adjustment (dB)	Results (dBμV)	Limit (dBμV)	Margin (dB)
1	Line 2	0.157	Quasi-Peak	39.81	11.0	50.81	65.62	-14.8
			Average	22.85	11.0	33.85	55.62	-21.8
2	Line 2	153.5	Quasi-Peak	38.16	11.0	49.16	65.81	-16.7
			Average	19.76	11.0	30.76	55.81	-25.1
3	Line 2	176.25	Quasi-Peak	35.56	11.0	46.56	64.66	-18.1
			Average	14.74	11.0	25.74	54.66	-28.9
4	Line 2	193.75	Quasi-Peak	33.36	11.0	44.36	63.88	-19.5
			Average	13.93	11.0	24.93	53.88	-29.0
5	Line 2	4.145	Quasi-Peak	22.92	11.0	33.92	56.0	-22.1
			Average	16.00	11.0	27.00	46.0	-19.0
6	Line 2	10.8125	Quasi-Peak	21.31	11.0	32.31	60.0	-27.7
			Average	15.09	11.0	26.09	50.0	-23.9



13 PHOTOGRAPHS

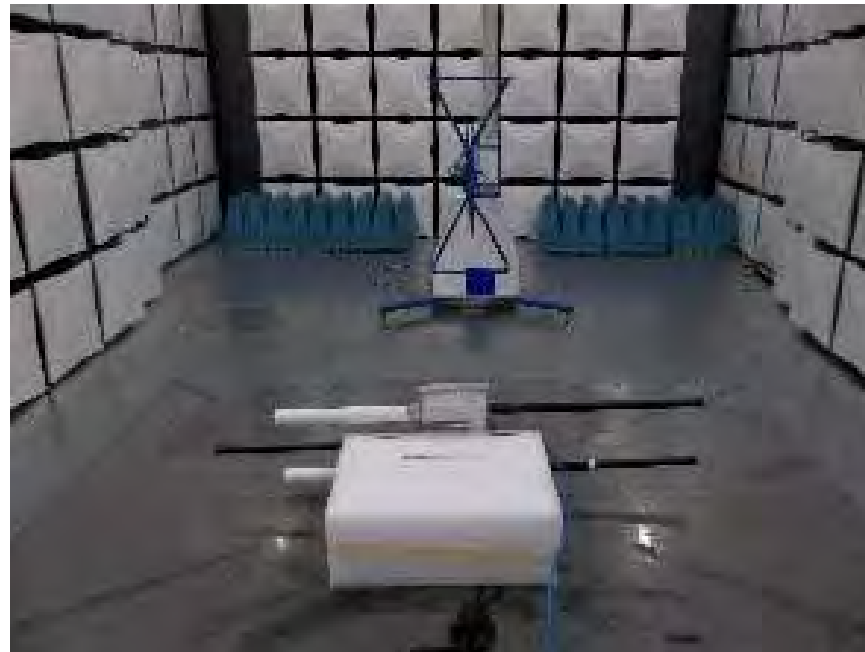
**Conducted Output Power, Peak Power Spectral Density,
Occupied Bandwidth, and Conducted Spurious Emissions**



Radiated Spurious Emissions, Less than 30 MHz

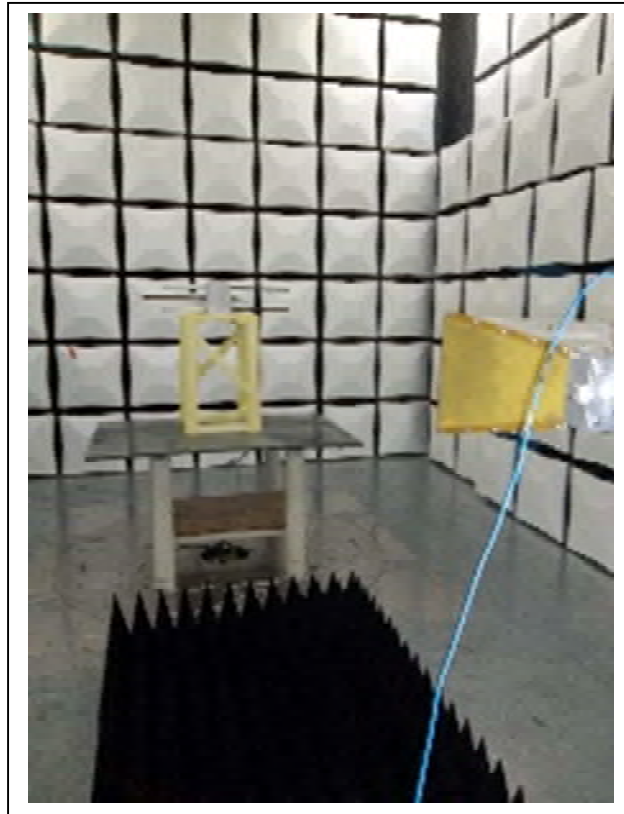


Radiated Spurious Emissions, 30 MHz to 1000 MHz





Radiated Spurious Emissions Greater than 1GHz





Conducted Emissions

