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CERTIFICATION TEST REPORT

Manufacturer: Securus Technologies
4000 International Parkway
Carrollton, Texas 75007 USA

Applicant: Same As Above

Product Name: JP6S

Product Description: 7" Lithium Capacitive Touch Tablet for Inmates

Model: JP6S

FCC ID: 2AUJ4JP6S

Testing Commenced: Aug. 14, 2019

Testing Ended: Feb. 5, 2020

Summary of Test Results: **In Compliance, with Modifications**

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.

Rule(s):

- **FCC Part 15 Subpart E – Unlicensed National Information Infrastructure Devices, Section 15.407 General technical requirements**



Order Number: F2P21445A

Applicant: Securus Technologies

Model: JP6S

Evaluation Conducted by:

Julius Chiller, EMC/Wireless Engineer

Report Reviewed by:

Ken Littell, Director of EMC & Wireless Operations

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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 ANSI C63.10:2013 and recommended FCC procedure of measurement of NII operating under Section 15.407 and in KDB789033. 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	$\pm 5.07\text{dB}$	± 2.54
Radiated Emissions <1 GHz @10m	$\pm 5.09\text{dB}$	± 2.55
Radiated Emissions 1 GHz to 2.7 GHz	$\pm 3.62\text{dB}$	± 1.81
Radiated Emissions 2.7 GHz to 18 GHz	$\pm 3.10\text{dB}$	± 1.55
AC Power Line Conducted Emissions, 150kHz to 30 MHz	$\pm 2.76\text{dB}$	± 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
F2P21445A-03E	First Issue	Feb. 5, 2020	K. Littell

**2 SUMMARY OF TEST RESULTS**

Test Name	Standard(s)	Results
Radiated Spurious Emissions	CFR 47 Part 15.205 / KDB789033	Complies
Occupied Bandwidth	CFR 47 Part 15.407(e) / Part 15.209 / KDB789033	Complies
Output Power	CFR 47 Part 15.407(a)(1)(iv) / Part 15.407(a)(3) / KDB789033	Complies
Power Spectral Density	CFR 47 Part 15.407(a)(1)(iv) / Part 15.407(a)(3) / KDB789033	Complies
Conducted Spurious Emissions	CFR 47 Part 15.407(b)(1,4)	Complies
Voltage Variations	CFR 47 Part 15.31(e)	Complies

Modifications Made to the Equipment
RF Power was reduced to 15dBm setting to reduce Power Spectral Density to passing level.

**3 TABLE OF MEASURED RESULTS****Wi-Fi, 5.7 GHz**

Test			Low Channel OFDM 20M: 5745 MHz OFDM 40M: 5755	Mid Channel OFDM 20M: 5785 MHz	High Channel OFDM 20M: 5825 MHz OFDM 40M: 5795 MHz
Conducted Output Power	OFDM, 20M 54mbps		25.06mW / 13.99dBm	23.33mW / 13.68dBm	28.77mW / 14.59dBm
	OFDM 40M 54mpbs		23.66mW / 13.74dBm	--	24.21mW / 13.84dBm
Conducted Output Power Limit			1 Watt / 30dBm	1 Watt / 30dBm	1 Watt / 30dBm
E.I.R.P. with 2dBi Integral Antenna	OFDM 20M		39.72mW / 15.99dBm	36.98mW / 15.68dBm	45.60mW / 16.59dBm
	OFDM 40M		37.49mW / 15.74dBm	--	38.37mW / 15.84dBm
E.I.R.P. Limit			4000mW / 36dBm	4000mW / 36dBm	4000mW / 36dBm
Peak Power Spectral Density	OFDM 20M		2.02dBm	2.47dBm	2.62dBm
	OFDM 40M		-1.44dBm	--	-1.48dBm
Peak Power Spectral Density Limit			8 dBm	8 dBm	8 dBm
-6dB Occupied Bandwidth			16.445 MHz	16.427 MHz	16.429 MHz
			36.395	--	36.375
-6dB Occupied Bandwidth Limit			≥ 500kHz	≥ 500kHz	≥ 500kHz
Voltage Variations	OFDM 20M	93.5V	11.26dBm	11.06dBm	12.31dBm
		126.5V	12.38dBm	11.93dBm	13.15dBm
	OFDM 40M	93.5V	8.51dBm	--	8.53dBm
		126.5V	8.76dBm	--	8.83dBm
Limit			1W 30dBm	1W 30dBm	1W 30dBm



4 ENGINEERING STATEMENT

This report has been prepared on behalf of Securus Technologies to provide documentation for the testing described herein. This equipment has been tested and found to comply with Part 15.407 of the FCC Rules using ANSI C63.4 and KDB789033 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: Tablet

Model: JP6S

Serial No.: None Specified

FCC ID: **2AUJ4JP6S**

5.2 Trade Name:

Securus Technologies

5.3 Power Supply:

Charger, Securus model MX15X-0502500UX

5.4 Applicable Rules:

CFR 47, Part 15.407, subpart E

5.5 Equipment Category:

Radio Transmitter-NII

5.6 Antenna:

Integral

5.7 Accessories:

N/A

5.8 Test Item Condition:

The equipment to be tested was received in good condition.

5.9 Testing Algorithm:

The EUT was set up in a test mode to continuous transmit with the Duty Cycle equal to or greater than 98% at high, mid and low frequencies of the 5.725-5.85 GHz spectrum.

EUT was powered at 120V, 60 Hz using the manufacturer supplied AC Adaptor. The highest emissions were recorded in the data tables.

**6 LIST OF MEASUREMENT INSTRUMENTATION**

Equipment Type	Asset Number	Manufacturer	Model	Serial Number	Calibration Due Date
Shielded Chamber	CL166-E	AlbatrossProjects	B83117-DF435-T261	US140023	Mar. 31, 2020
Temp/Hum. Recorder	CL263	Extech	445814	06	Mar. 6, 2020
Temp/Hum. Recorder	CL261	Extech	445814	04	Mar. 6, 2020
Receiver	CL151	Rohde & Schwarz	ESU40	100319	Oct. 21, 2020
Receiver	CL204	Rohde & Schwarz	ESR7	101714	Oct. 16, 2020
Horn Antenna	CL098	Emco	3115	9809-5580	Jan. 31, 2021
Pre-Amplifier	0197	Hewlett Packard	8447D	1726A01006	Jan. 31, 2020
Pre-Amplifier	CL153	Agilent	83006-69007	MY39500791	Aug. 5, 2020
Amplifier w/Monopole & 18" Loop	CL163-Loop	A.H. Systems, Inc.	EHA-52B	100	July 24, 2020
Software:	Tile Version 3.4.B.3		Software Verified: Aug. 14-19, 2019; Feb. 5, 2020		
Software:	EMC 32, Version 8.53.0		Software Verified: Aug. 14-19, 2019; Feb. 5, 2020		
Antenna, JB3 Combination	CL175	Sunol Sciences	JB3	A030315	Oct. 14, 2020
Antenna, Horn	CL114	A. H. Systems, Inc.	SAS-572	237	Feb. 4, 2021
Spectrum Analyzer	CL147	Agilent	E7402	MY45101241	Jan. 6, 2021
Transient Limiter	0202	Hewlett Packard	11947A	3107A00729	July 29, 2020
LISN	CL181	Com-Power	LI-125A	191226	Sept. 6, 2020
LISN	CL182	Com-Power	LI-125A	191225	Sept. 6, 2020
Horn Antenna (26.5-40 GHz)	CL188	Com-Power	AH-640	091065	July 23, 2021
Pre-Amplifier (18 GHz-40 GHz)	CL189	Com-Power	PAM-840A	461303	July 31, 2021



7 OCCUPIED BANDWIDTH

7.1 Requirements:

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the -26dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage.

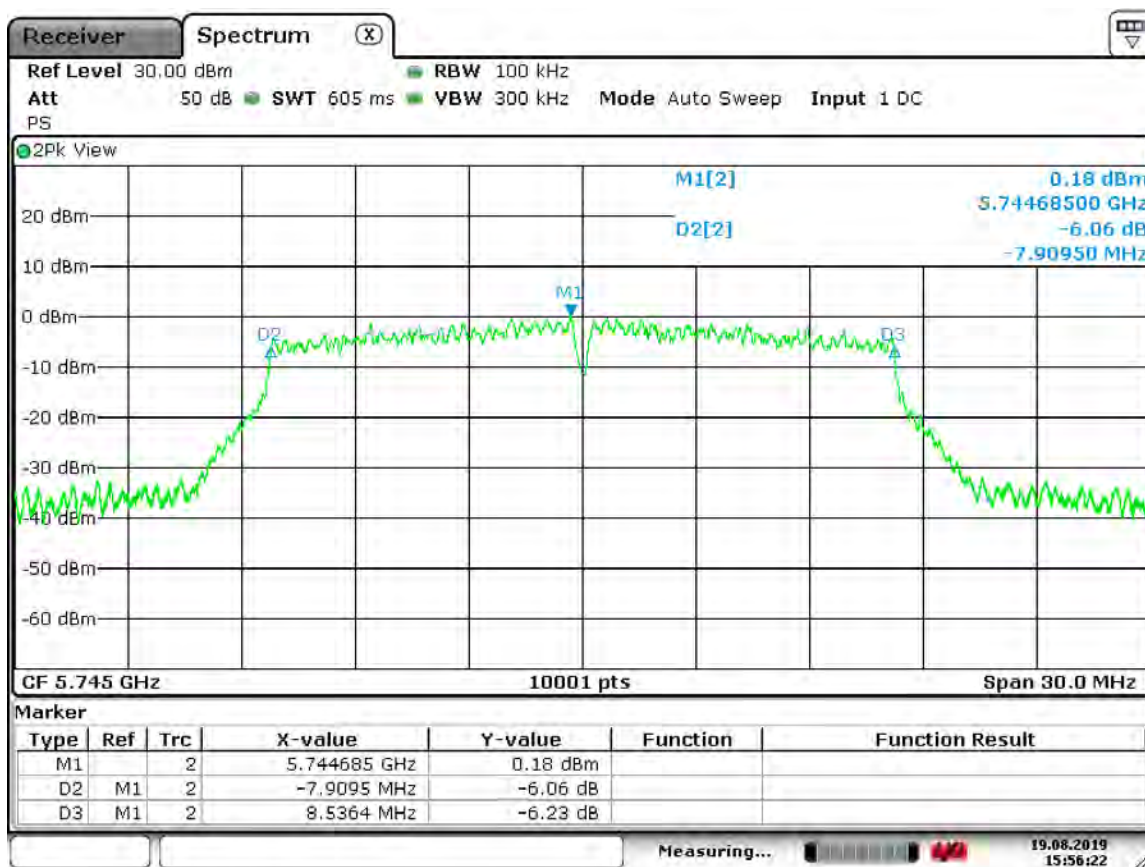
Bandwidth measurements were made at the low, mid and high frequencies. The -26dB bandwidth was measured using the marker delta method. The 99% bandwidth is included and was measured using the receiver's OBW function set for 99%.



7.2 Occupied Bandwidth Test Data

Test Date:	Aug. 14, 2019; Aug. 19, 2019	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.215(c)	Air Temperature:	20.3°C
		Relative Humidity:	68%

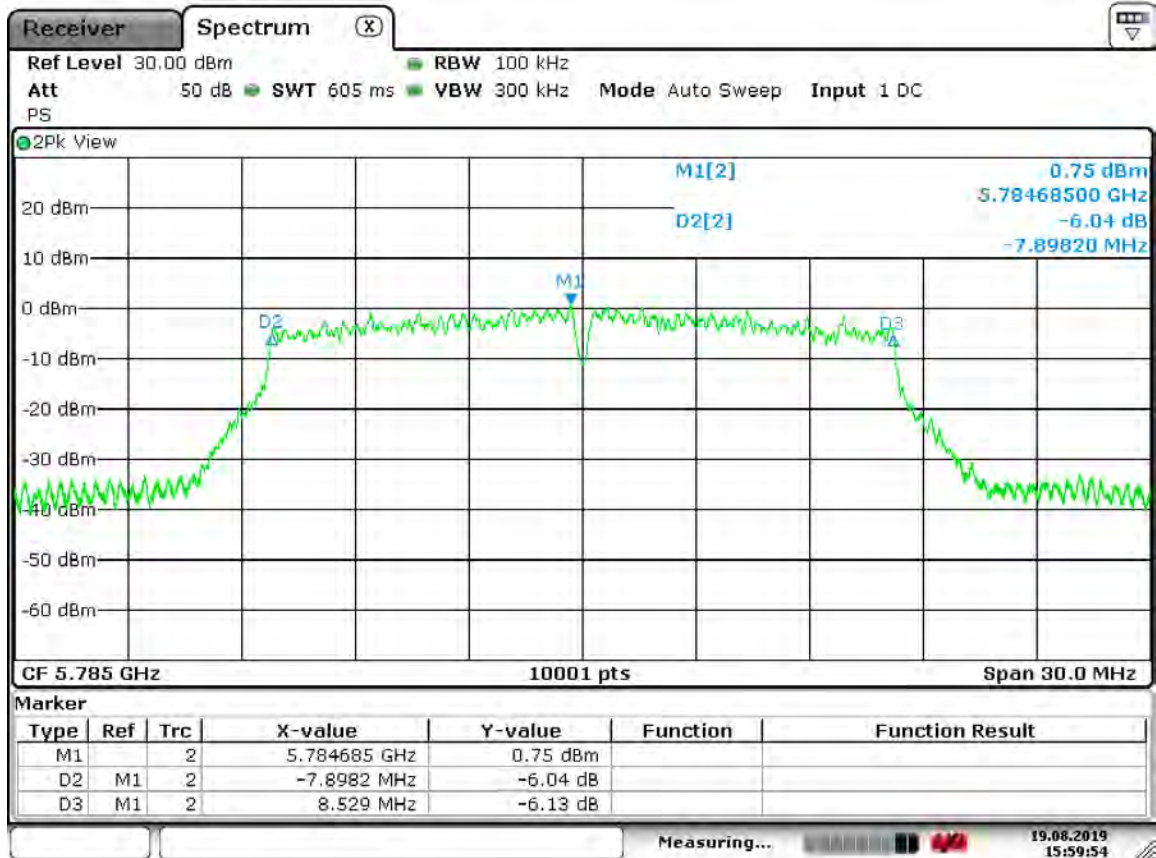
Wi-Fi, 5.7 GHz – OFDM 20M: Low Channel



Date: 19.AUG.2019 15:56:22



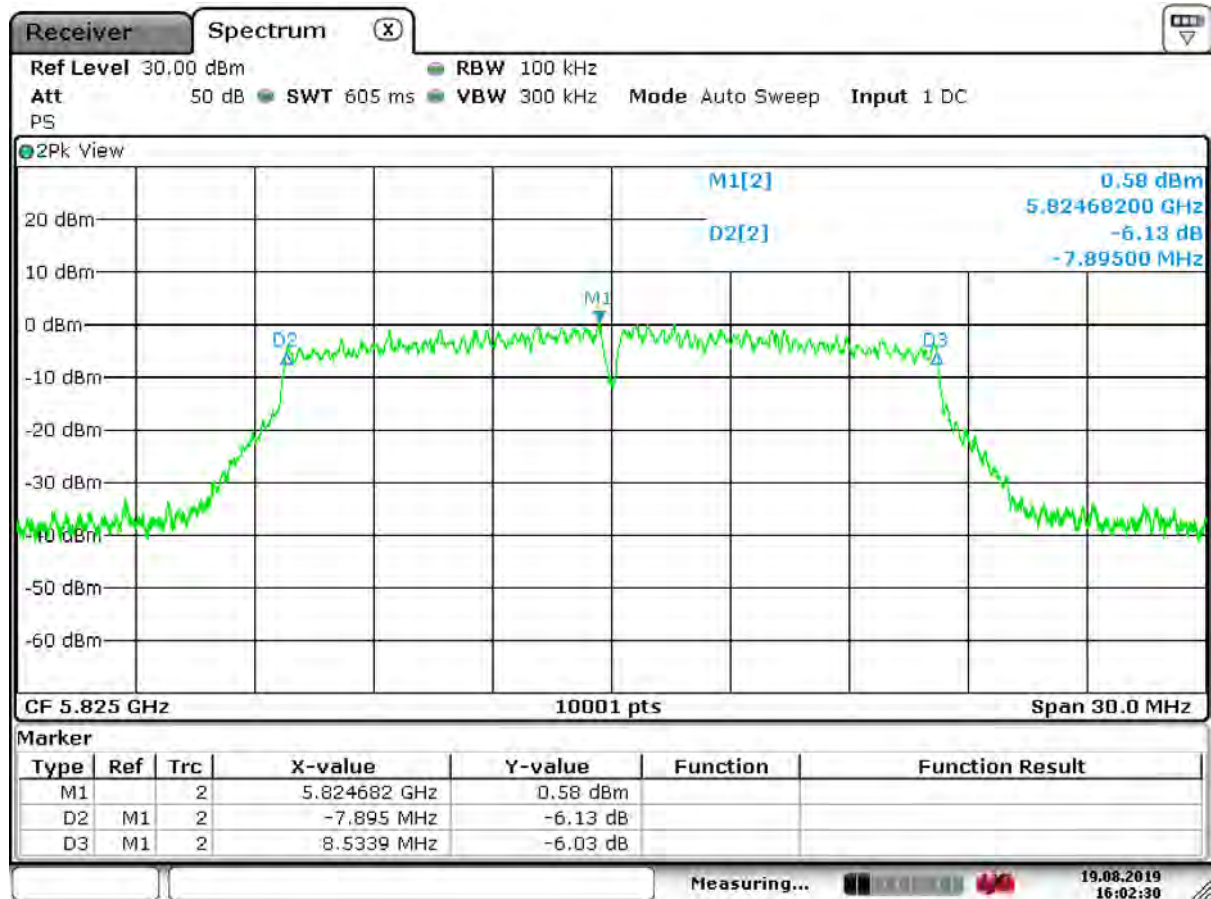
Wi-Fi, 5.7 GHz – OFDM 20M: Mid Channel



Date: 19.AUG.2019 15:59:54



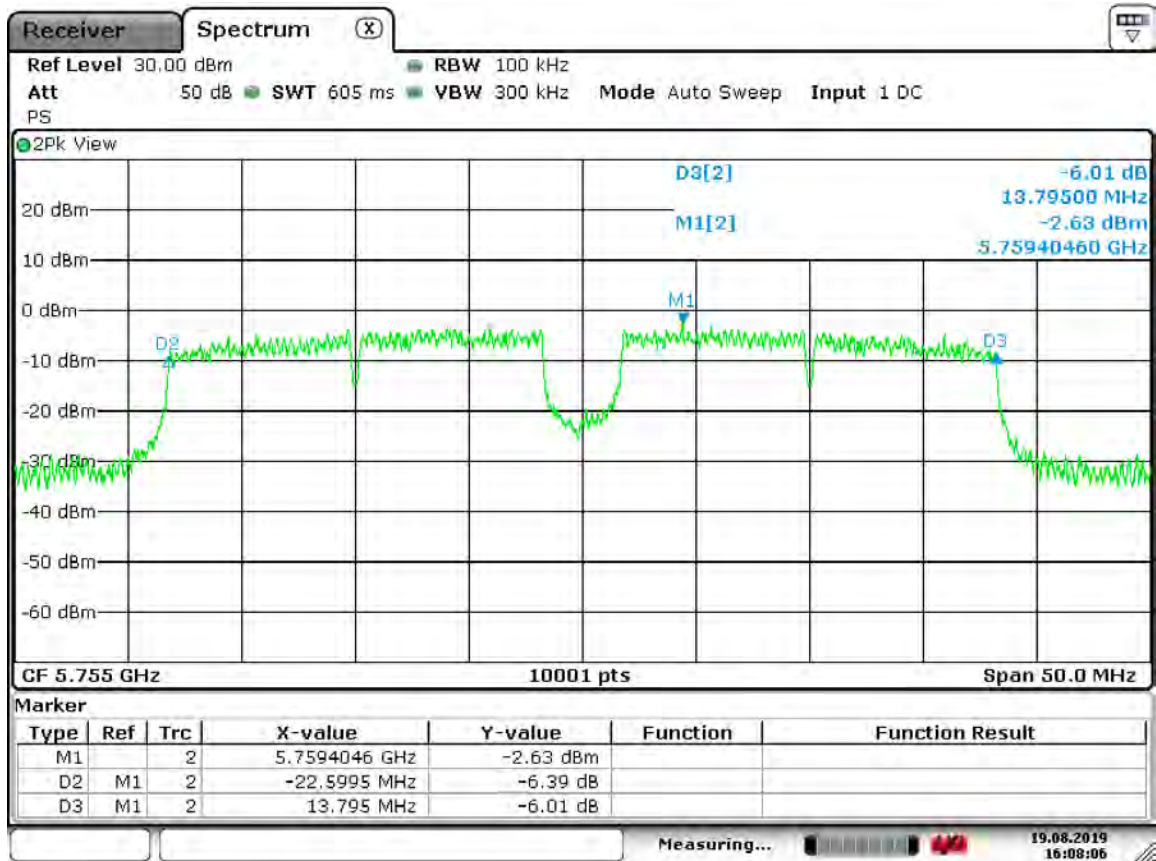
Wi-Fi, 5.7 GHz – OFDM 20M: High Channel



Date: 19.AUG.2019 16:02:30



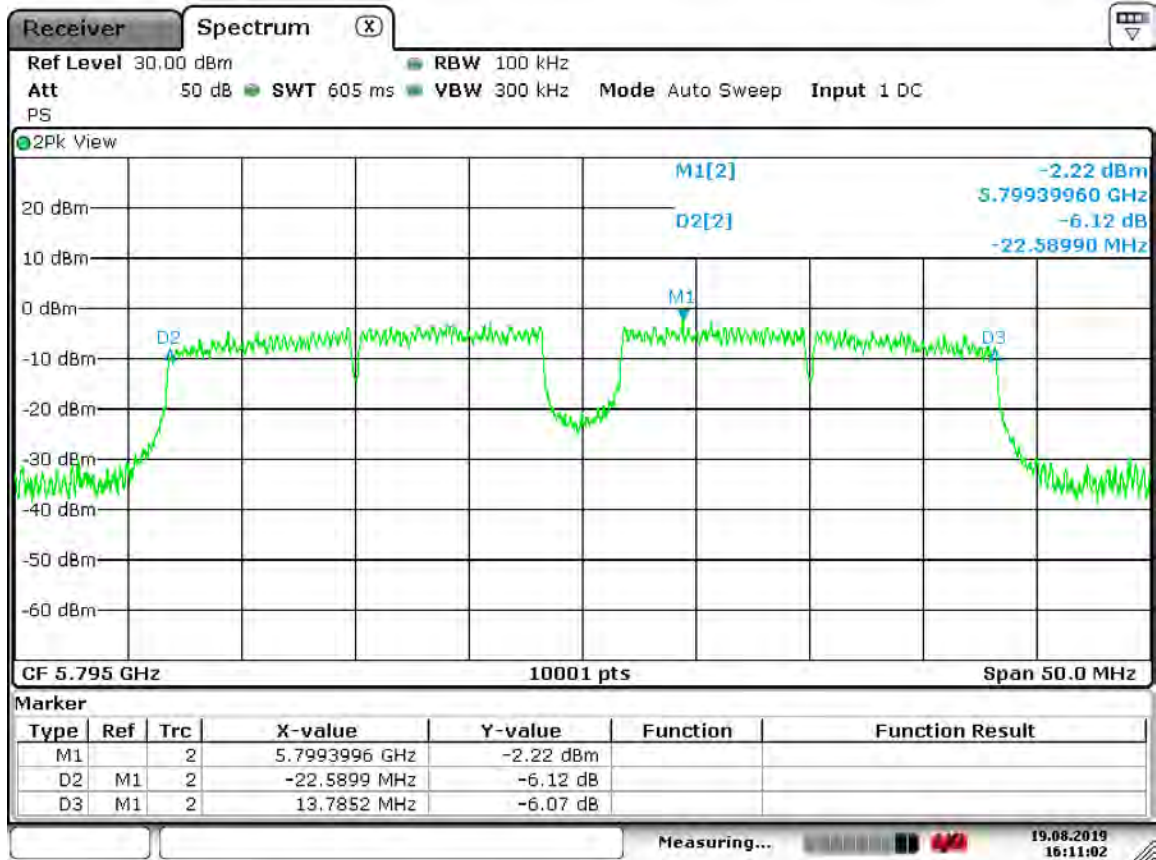
Wi-Fi, 5.7 GHz – OFDM 40M: Low Channel



Date: 19.AUG.2019 16:08:05



Wi-Fi, 5.7 GHz – OFDM 40M: High Channel



Date: 19.AUG.2019 16:11:02



8 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.

8.1 Requirements:

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W, provided the maximum antenna gain does not exceed 6 dBi.

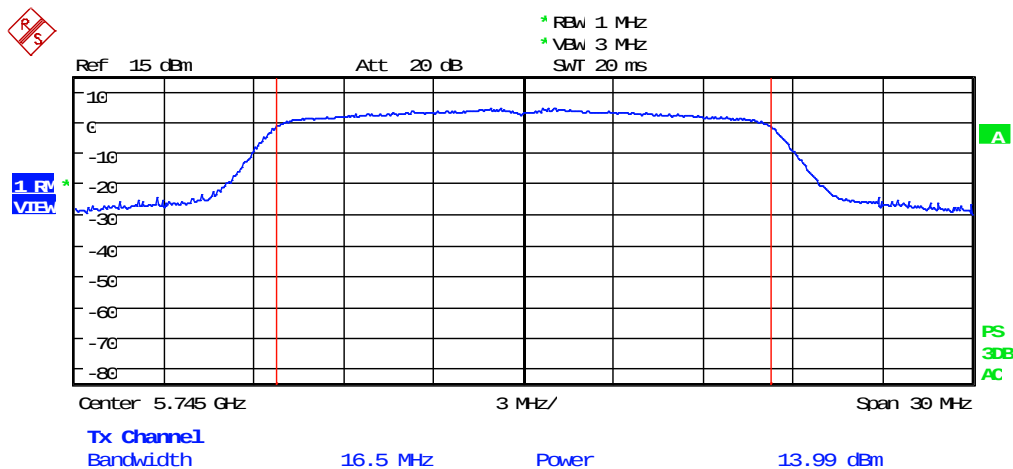
Antenna gain is 2.0dBi.



8.2 Output Power Test Data

Test Date:	Feb. 5, 2020	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.407(a)(1,3); KDB789033	Air Temperature:	22.1°C
		Relative Humidity:	40%

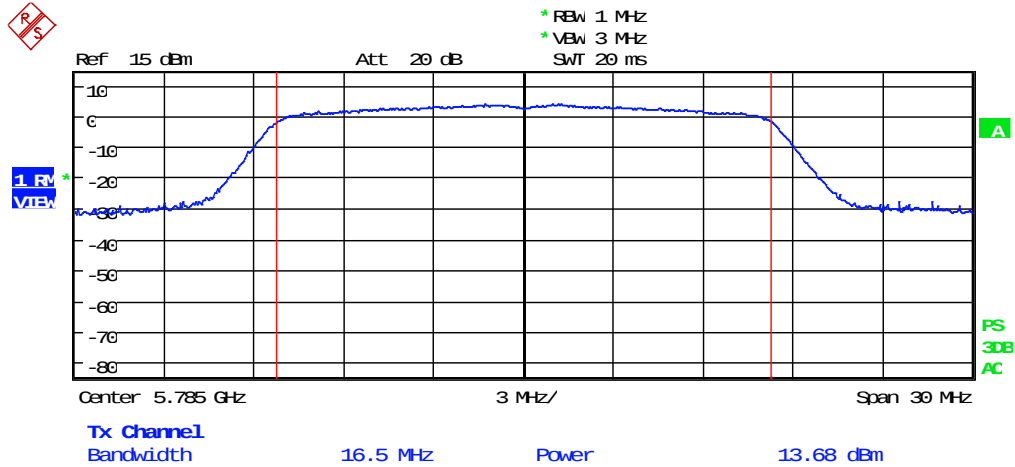
Wi-Fi, 5.7 GHz – OFDM 20M: Low Channel



Date: 5.FEB.2020 14:38:04



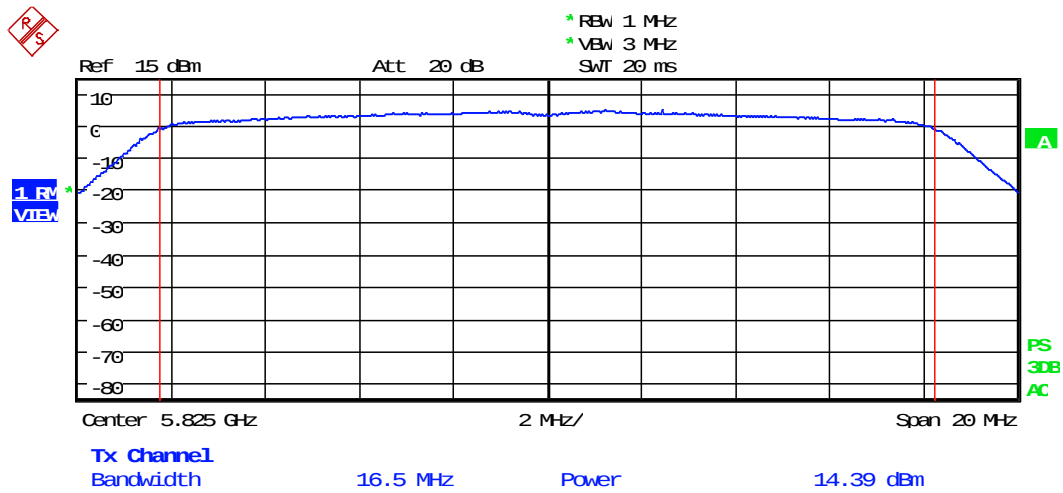
Wi-Fi, 5.7 GHz – OFDM 20M: Mid Channel



Date: 5.FEB.2020 14:38:58



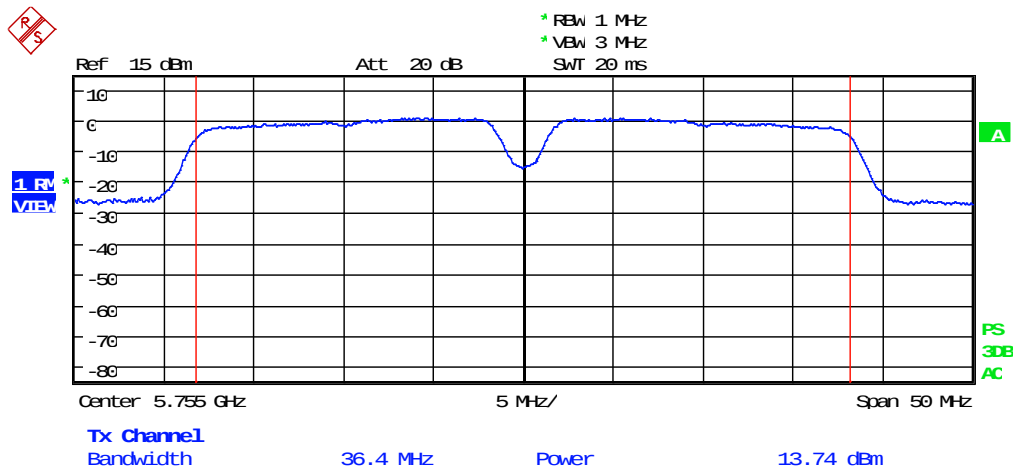
Wi-Fi, 5.7 GHz – OFDM 20M: High Channel



Date: 5.FEB.2020 15:07:33



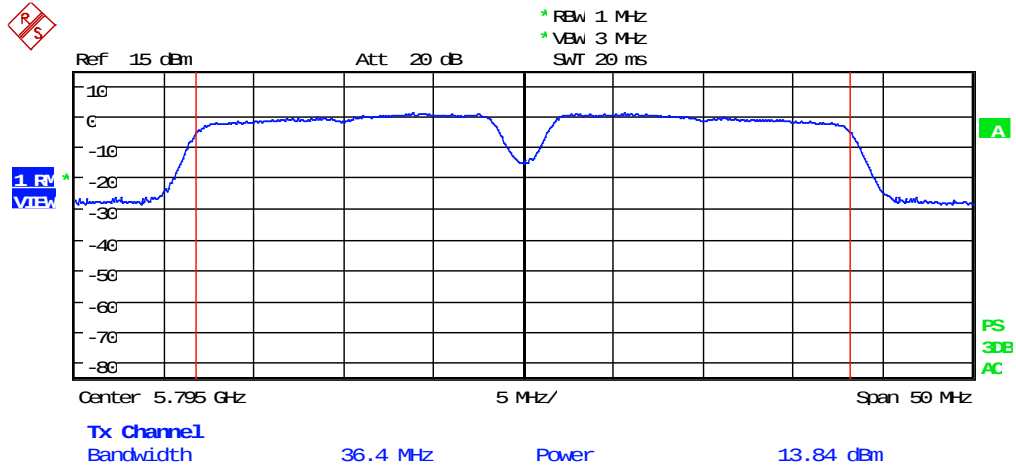
Wi-Fi, 5.7 GHz – OFDM 40M: Low Channel



Date: 5.FEB.2020 14:42:50



Wi-Fi, 5.7 GHz – OFDM 40M: High Channel



Date: 5.FEB.2020 14:44:00



9 VOLTAGE VARIATIONS

9.1 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

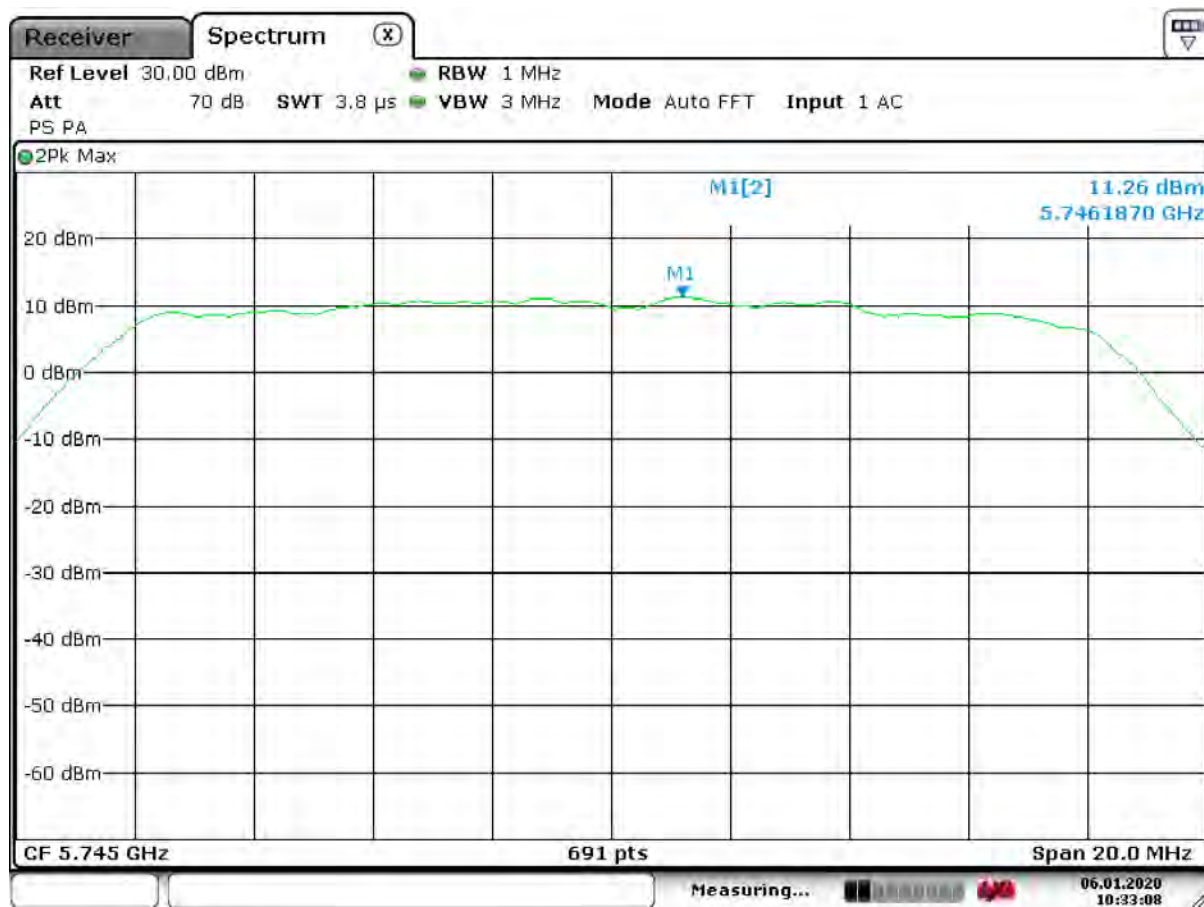
RESULTS: The results showed that the fundamental frequency did not move outside the frequency band and the output power did not increase above the limit during the variations.



9.2 Voltage Variations Test Data

Test Date(s):	Jan. 6, 2020	Test Engineer:	J. Chiller
Rule:	CFR 47 Part 15.31(e)	Air Temperature:	23.3
Test Results:	Complies	Relative Humidity:	30%

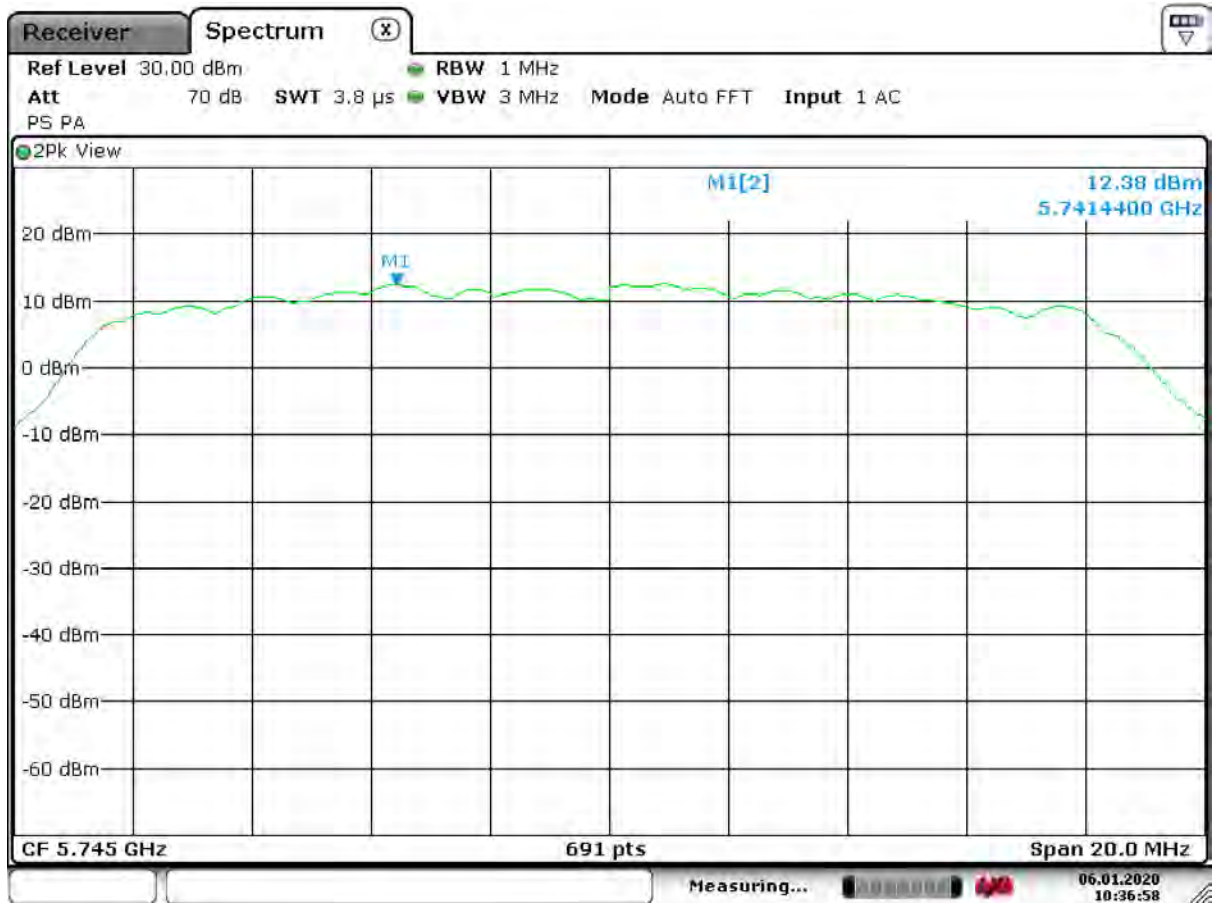
Wi-Fi, 5.7 GHz, OFDM 20M, Low Channel @ 85%



Date: 6.JAN.2020 10:33:08



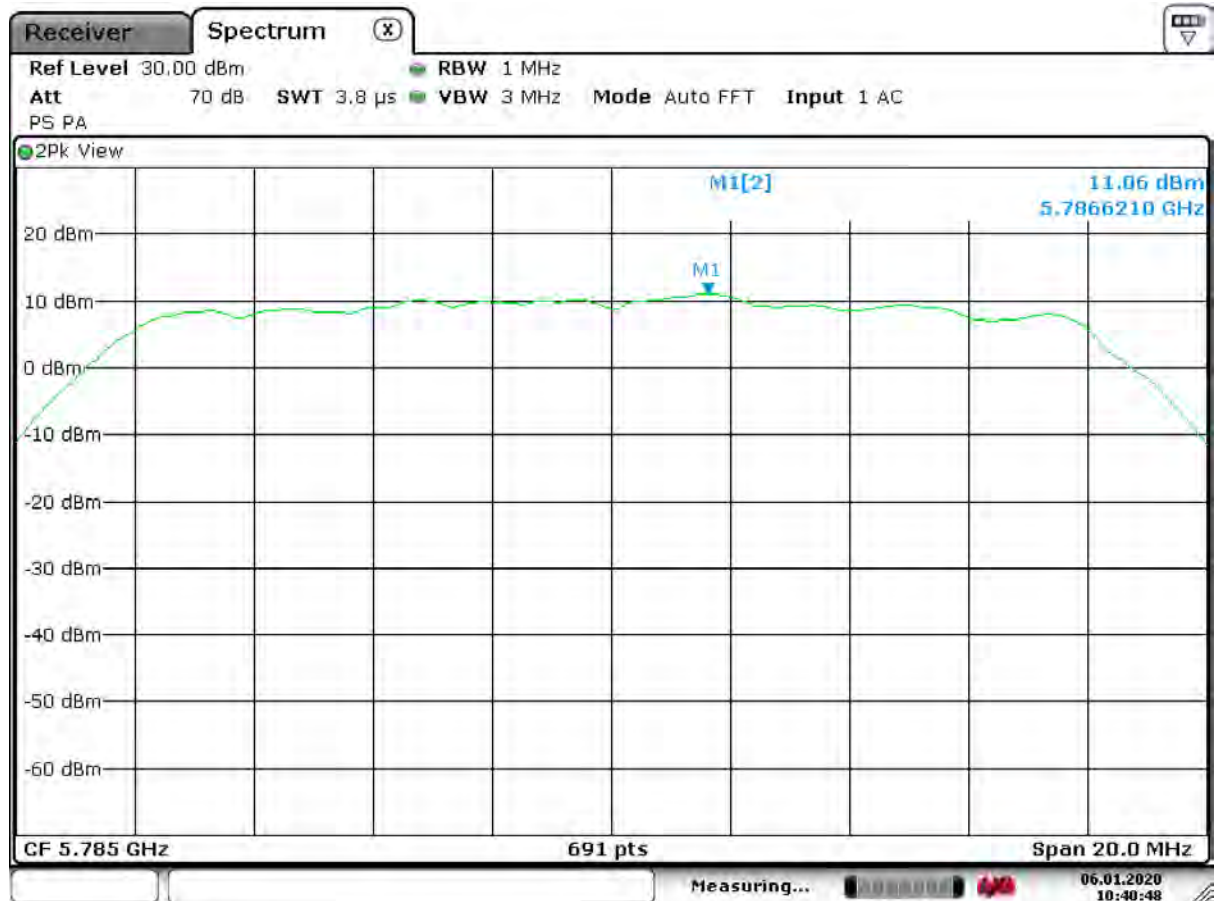
Wi-Fi, 5.7 GHz, OFDM 20M, Low Channel @ 115%



Date: 6.JAN.2020 10:36:58



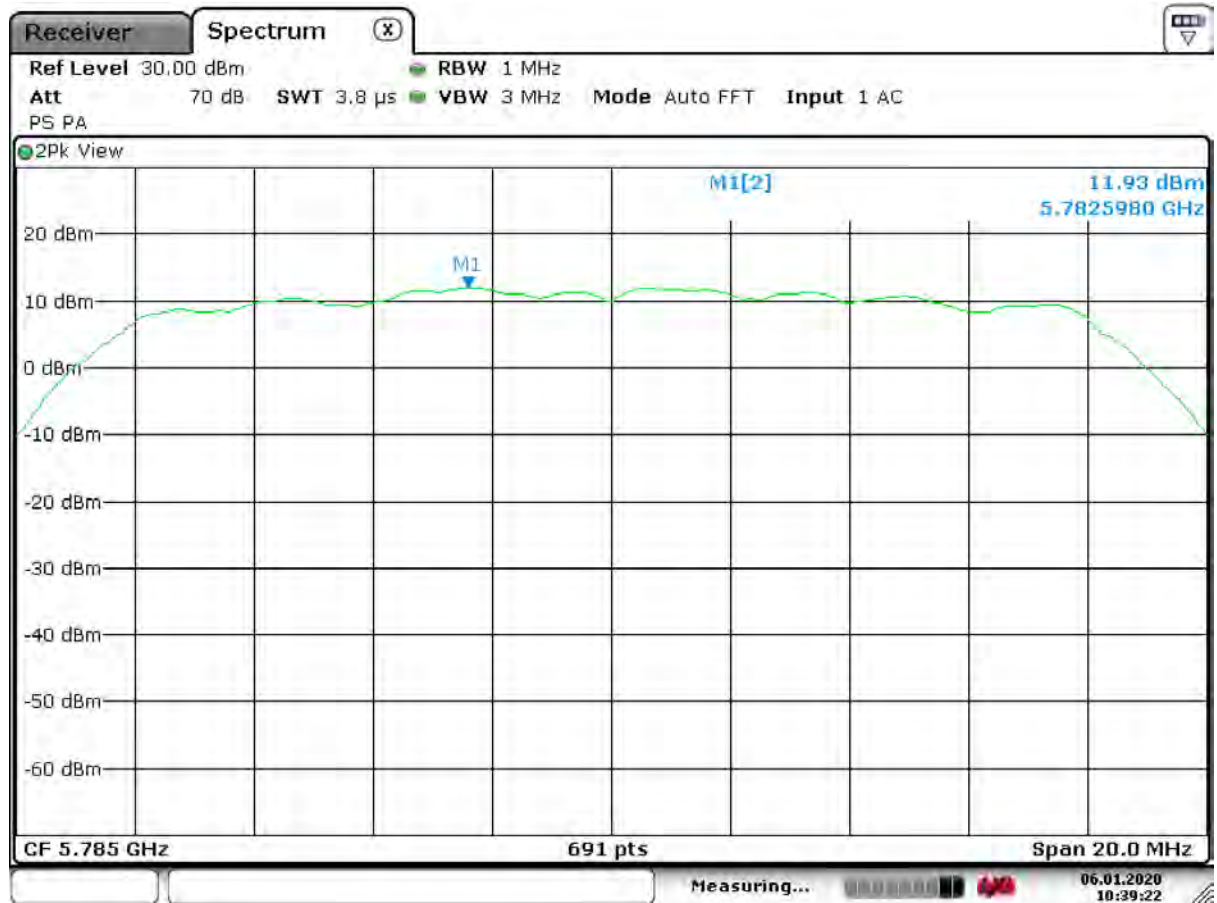
Wi-Fi, 5.7 GHz, OFDM 20M, Mid Channel @ 85%



Date: 6.JAN.2020 10:40:48



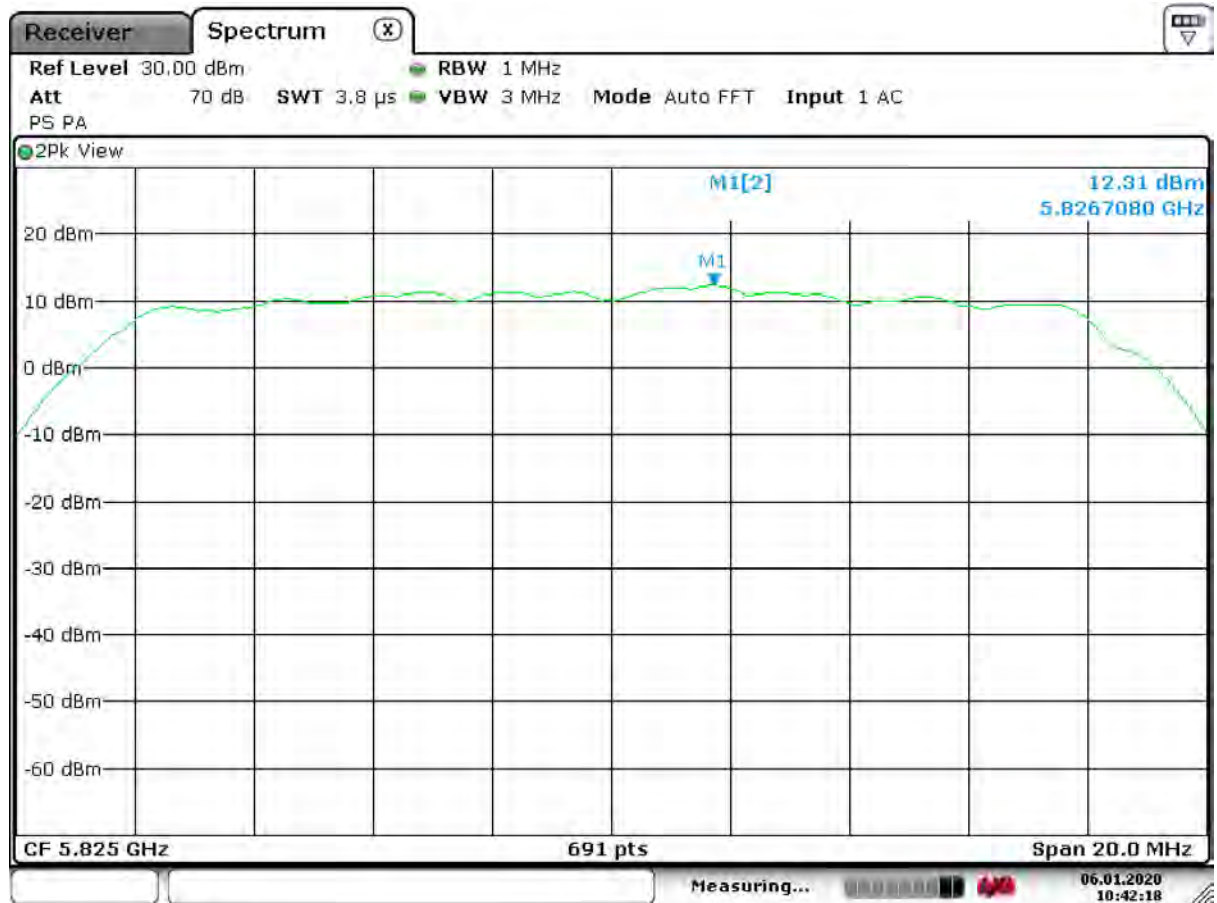
Wi-Fi, 5.7 GHz, OFDM 20M, Mid Channel @ 115%



Date: 6.JAN.2020 10:39:22



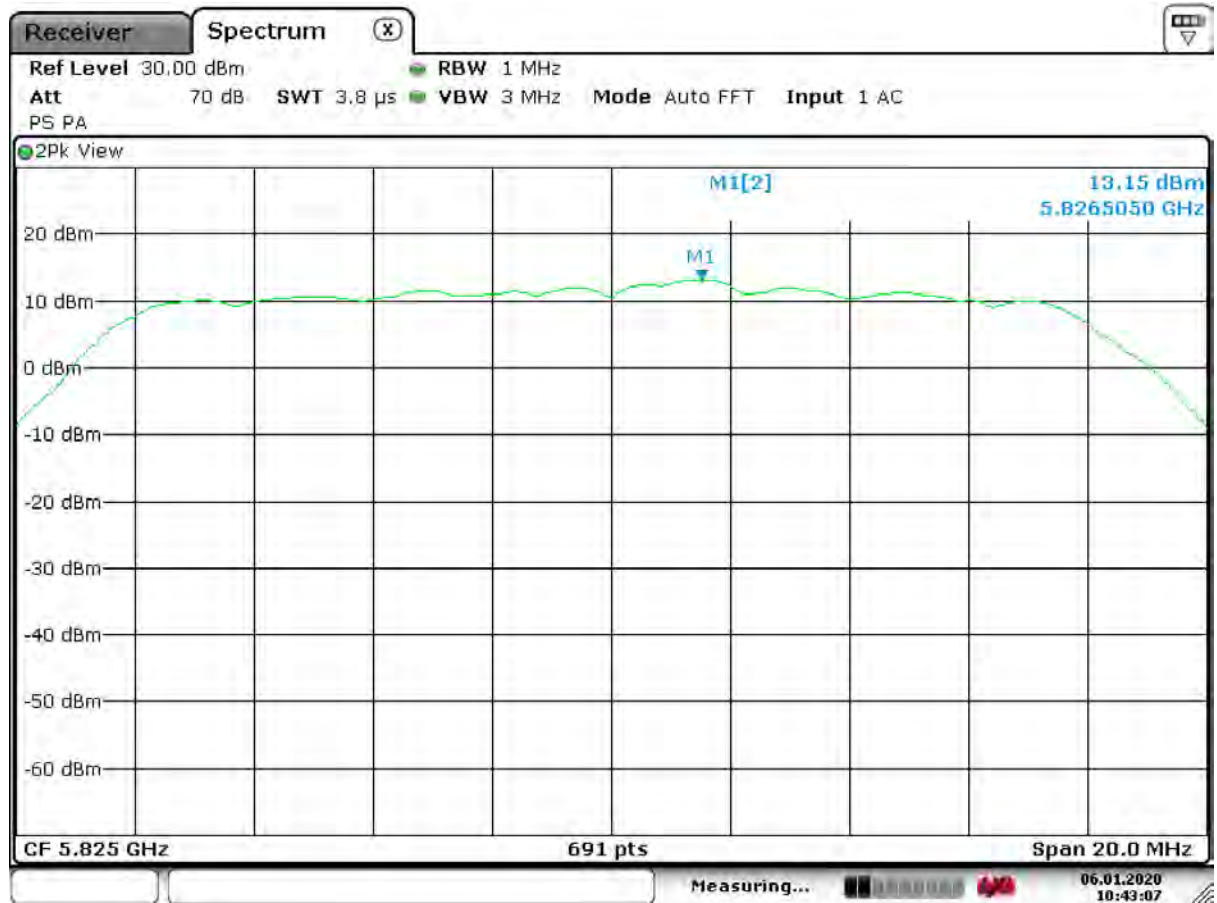
Wi-Fi, 5.7 GHz, OFDM 20M, High Channel @ 85%



Date: 6.JAN.2020 10:42:19



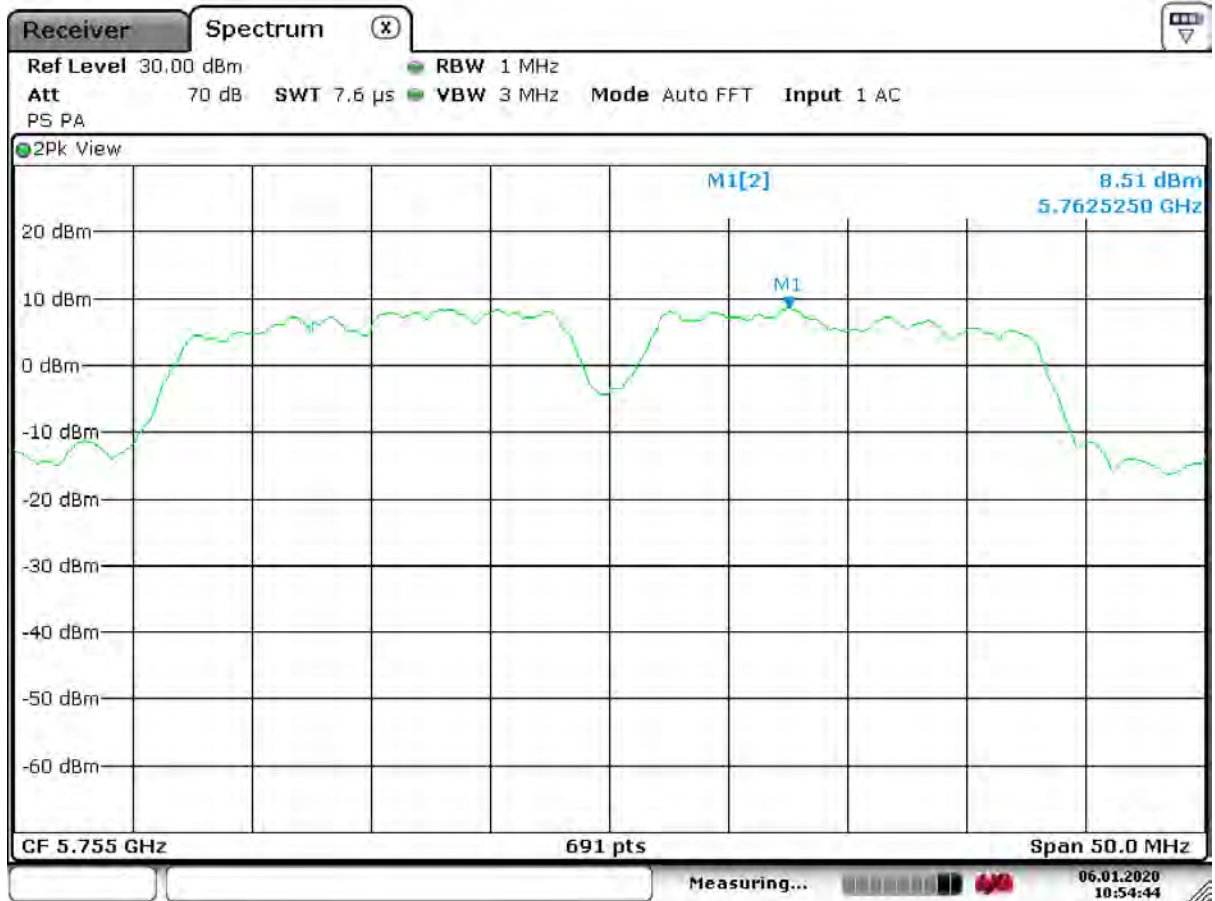
Wi-Fi, 5.7 GHz, OFDM 20M, High Channel @ 115%



Date: 6.JAN.2020 10:43:07



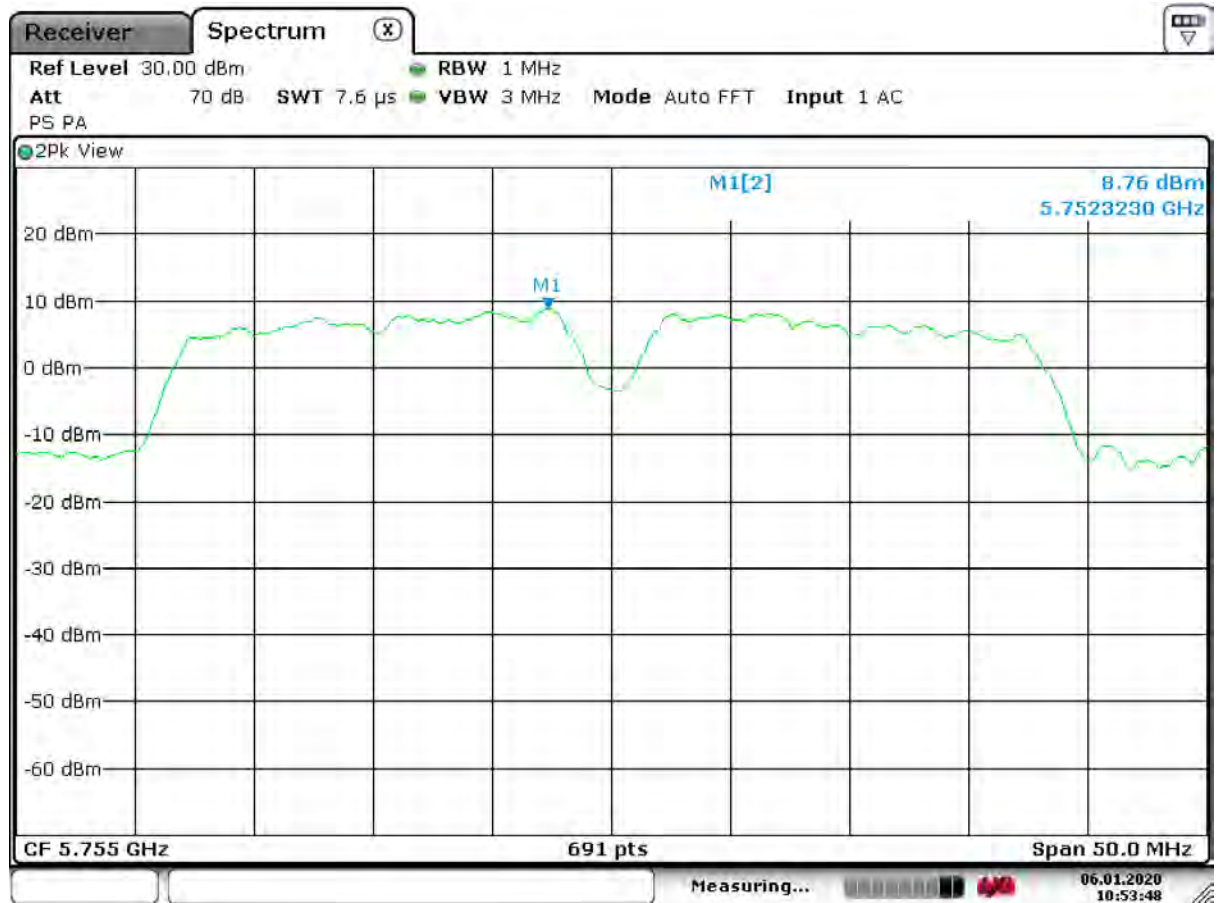
Wi-Fi, 5.7 GHz, OFDM 40M, Low Channel @ 85%



Date: 6.JAN.2020 10:54:44



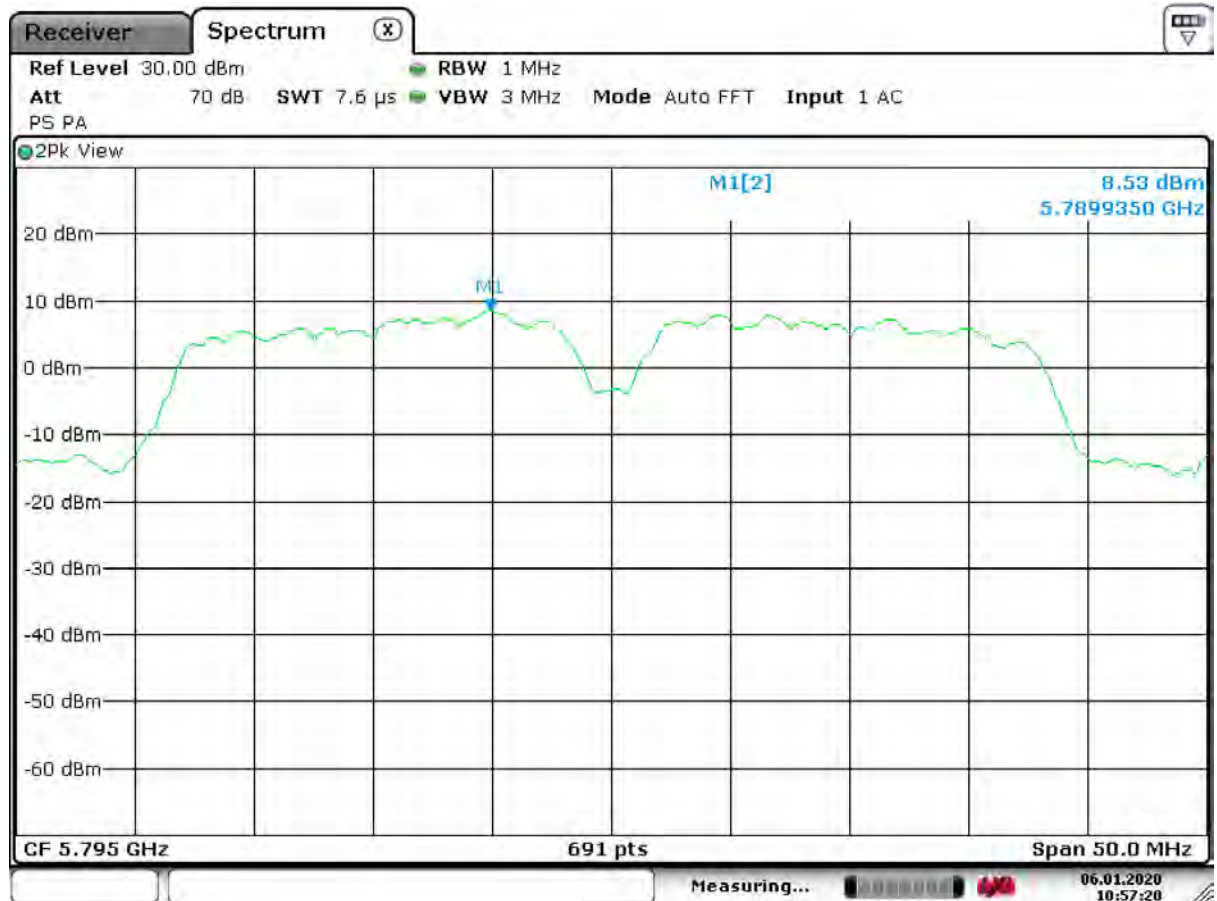
Wi-Fi, 5.7 GHz, OFDM 40M, Low Channel @ 115%



Date: 6.JAN.2020 10:53:48



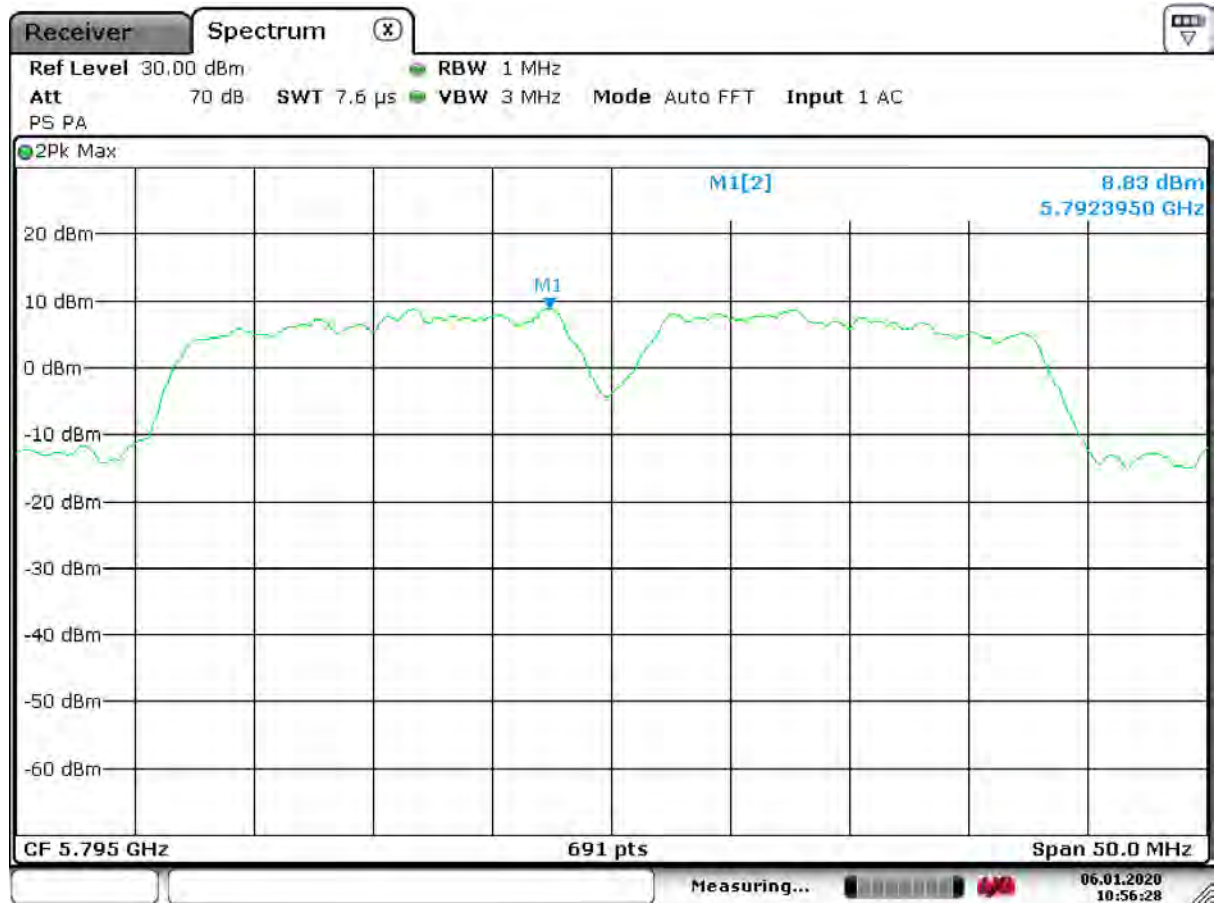
Wi-Fi, 5.7 GHz, OFDM 40M, High Channel @ 85%



Date: 6.JAN.2020 10:57:20



Wi-Fi, 5.7 GHz, OFDM 40M, High Channel @ 115%



Date: 6. JAN. 2020 10:56:28



10 CONDUCTED SPURIOUS EMISSIONS

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.

10.1 Requirements:

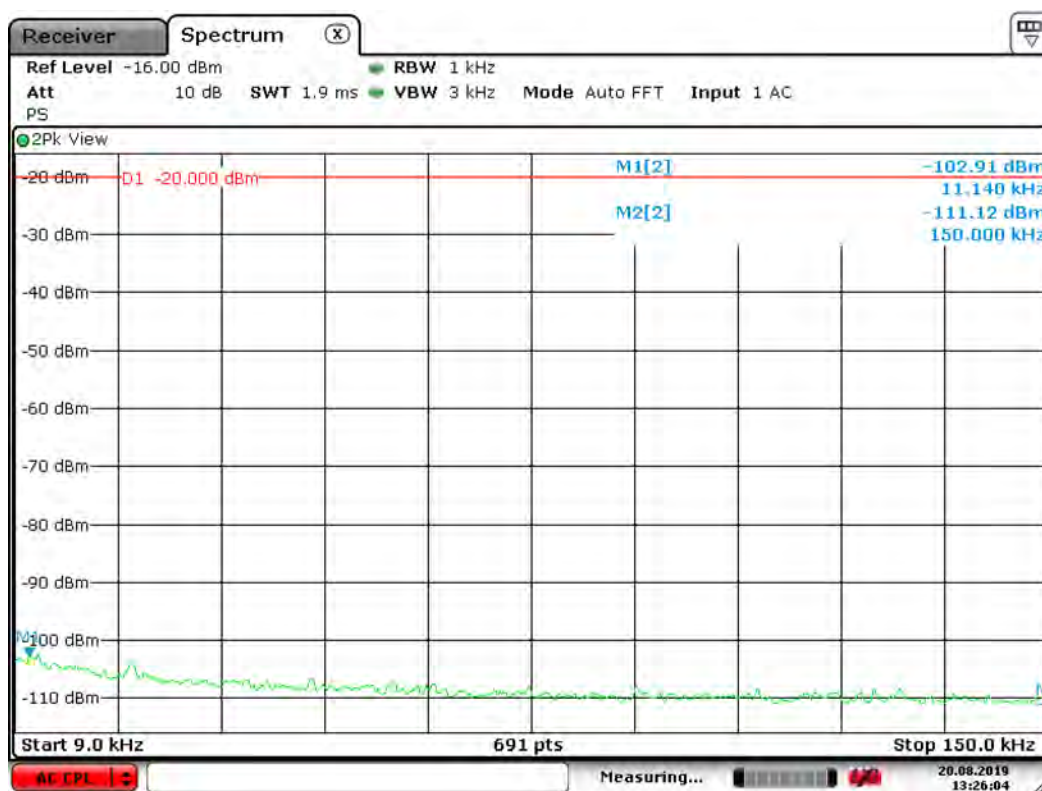
All Spurious Emissions must be at least 20dB down from the highest emission level measured within the authorized band up through the tenth harmonic.

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

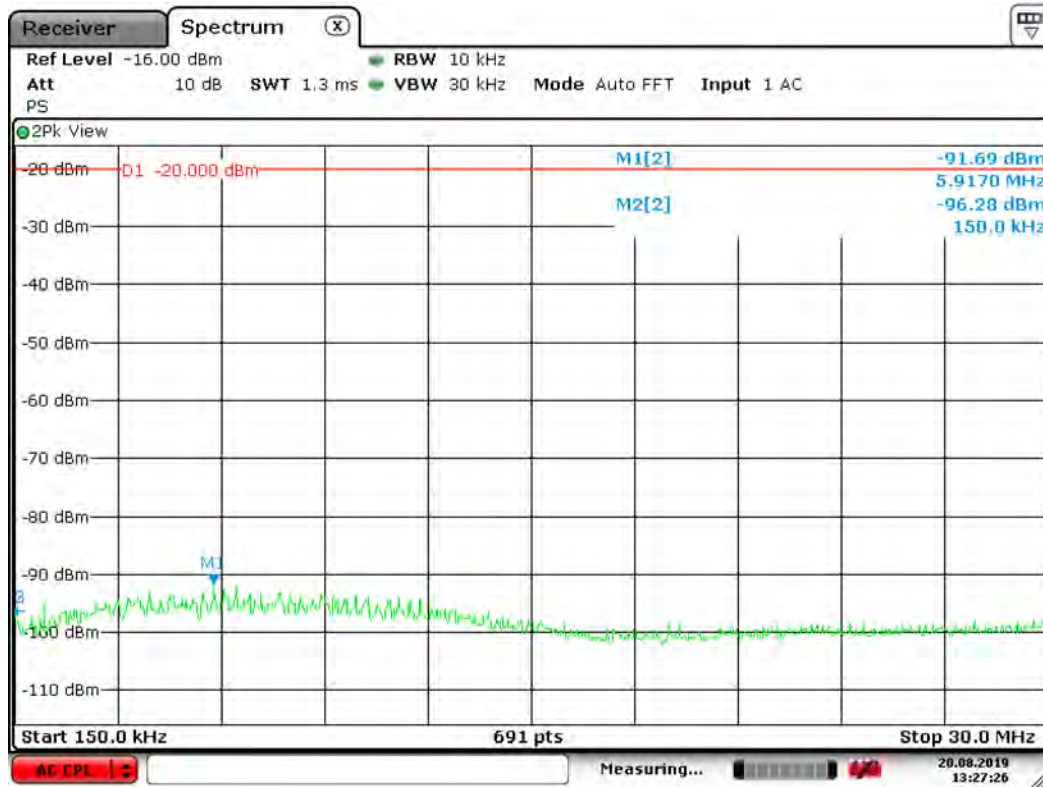
Test Date:	Aug. 20-22, 2019 / Dec. 10, 2019 / Feb. 5, 2020	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.407(b)(1,4)	Air Temperature:	22.3°C / 22.2°C / 22.1°C
		Relative Humidity:	40% / 31% / 40%

Wi-Fi, 5.7 GHz – OFDM 20M: Low Channel
0.009 MHz to 0.15 MHz

Date: 20.AUG.2019 13:26:04



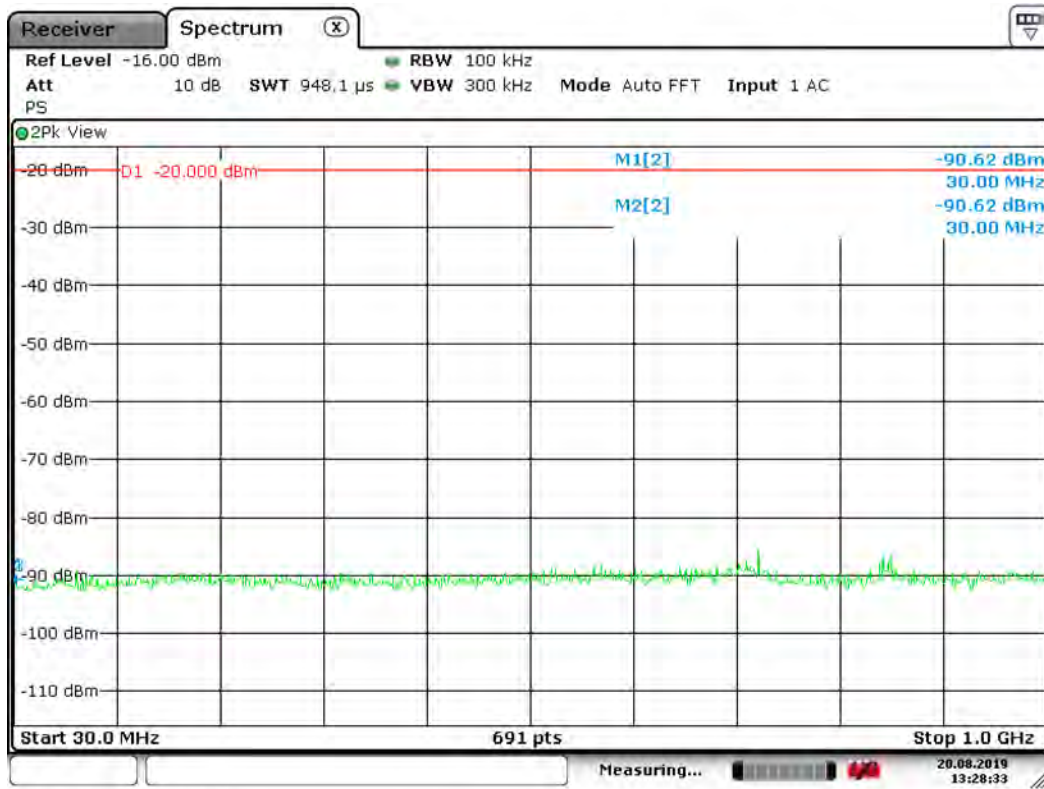
Wi-Fi, 5.7 GHz – OFDM 20M: Low Channel
0.15 MHz to 30 MHz



Date: 20.AUG.2019 13:27:26



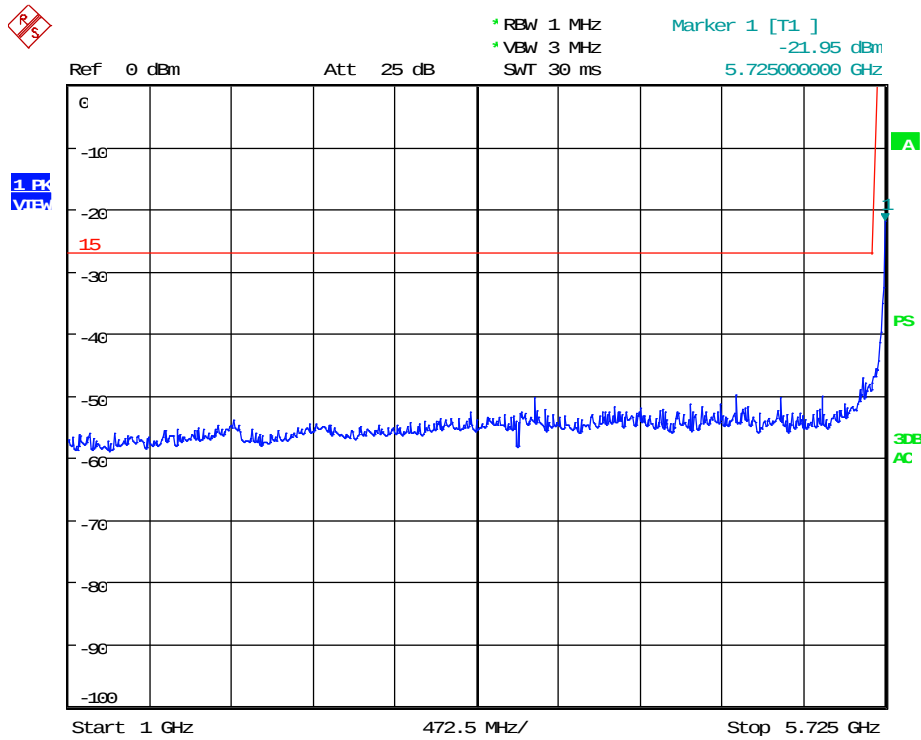
Wi-Fi, 5.7 GHz – OFDM 20M: Low Channel
30 MHz to 1000 MHz



Date: 20.AUG.2019 13:28:34



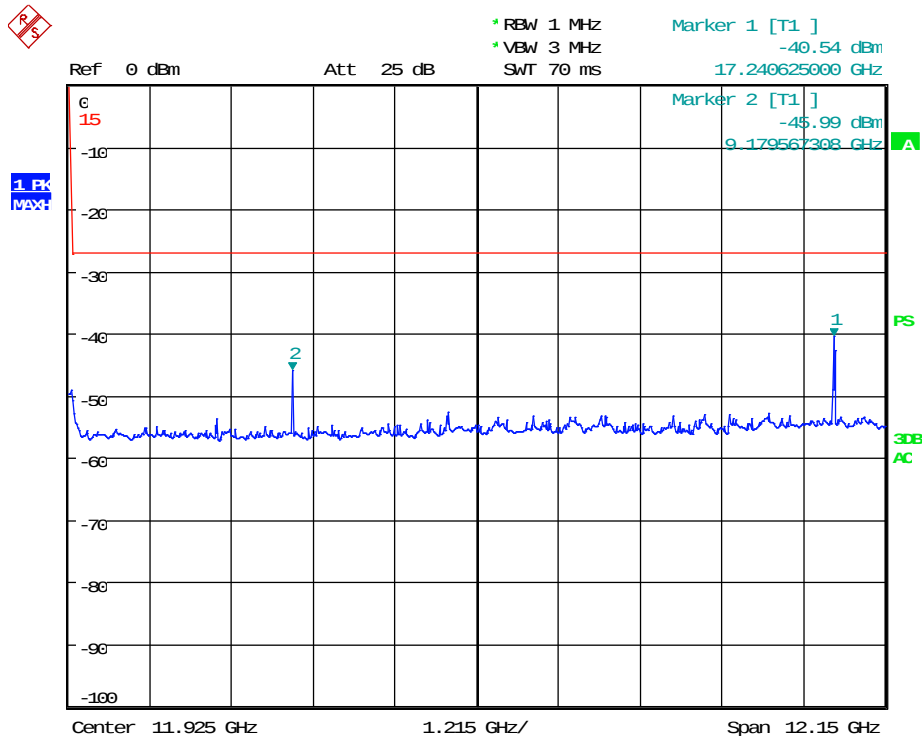
Wi-Fi, 5.7 GHz – OFDM 20M: Low Channel
1 GHz to 5725 GHz



Date: 5.FEB.2020 11:21:37



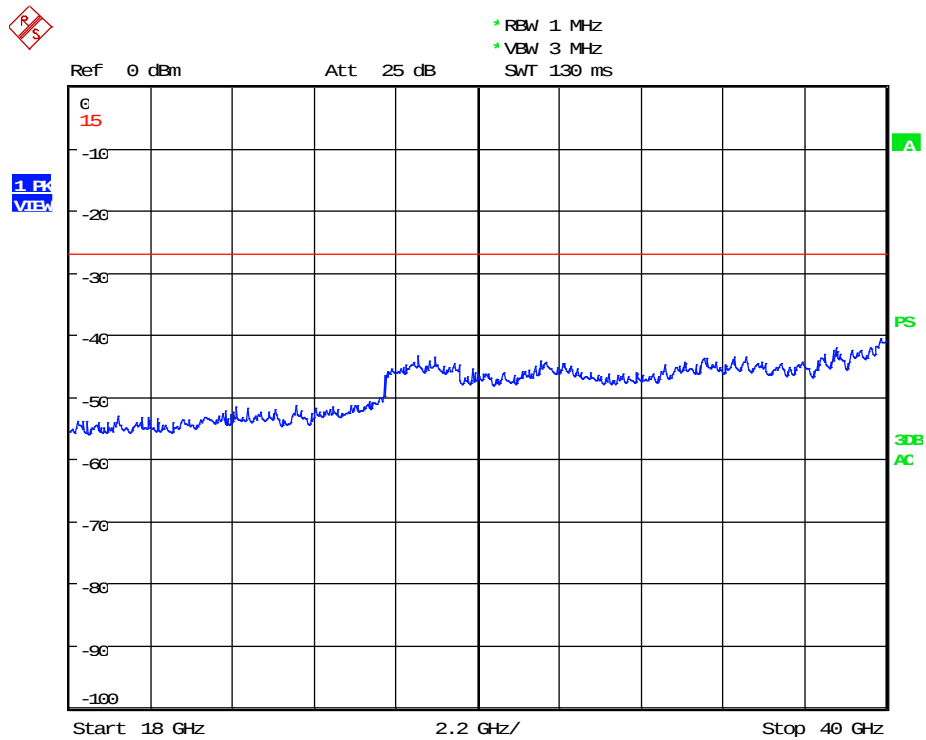
Wi-Fi, 5.7 GHz – OFDM 20M: Low Channel
1 GHz to 18 GHz



Date: 5.FEB.2020 11:34:04



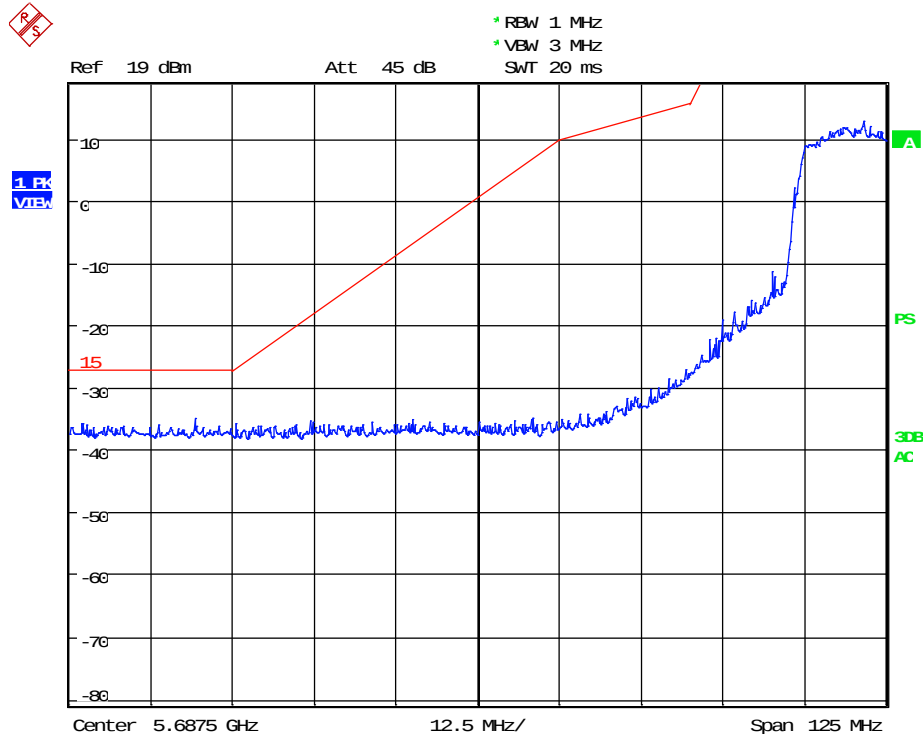
Wi-Fi, 5.7 GHz – OFDM 20M: Low Channel
18 GHz to 40 GHz



Date: 5.FEB.2020 11:35:11



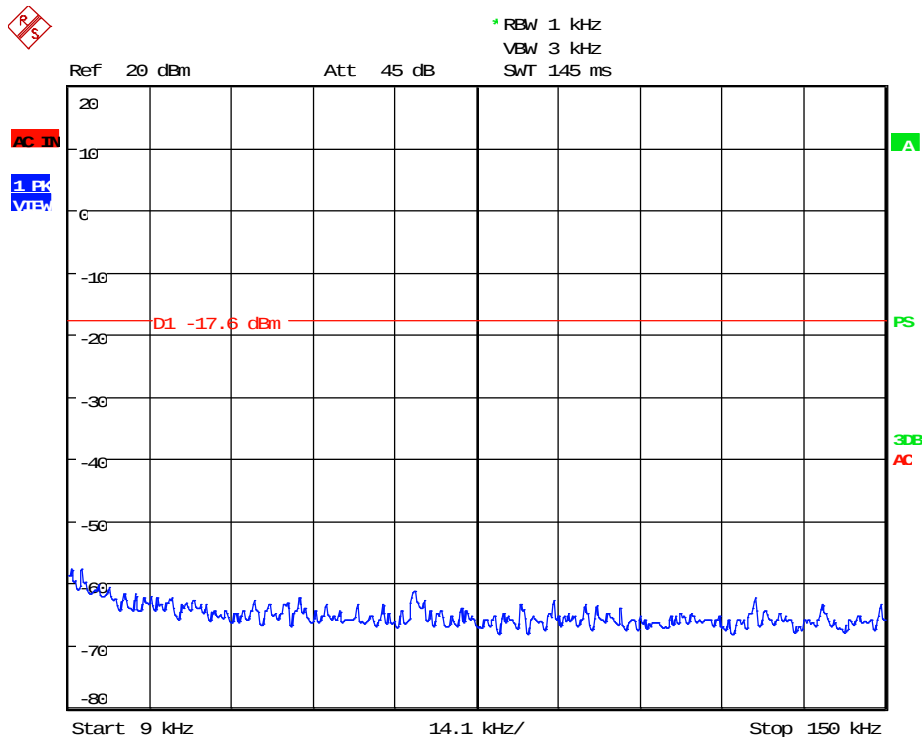
Wi-Fi, 5.7 GHz – OFDM 20M: Low Channel Spurs Mask



Date: 5.FEB.2020 11:40:08



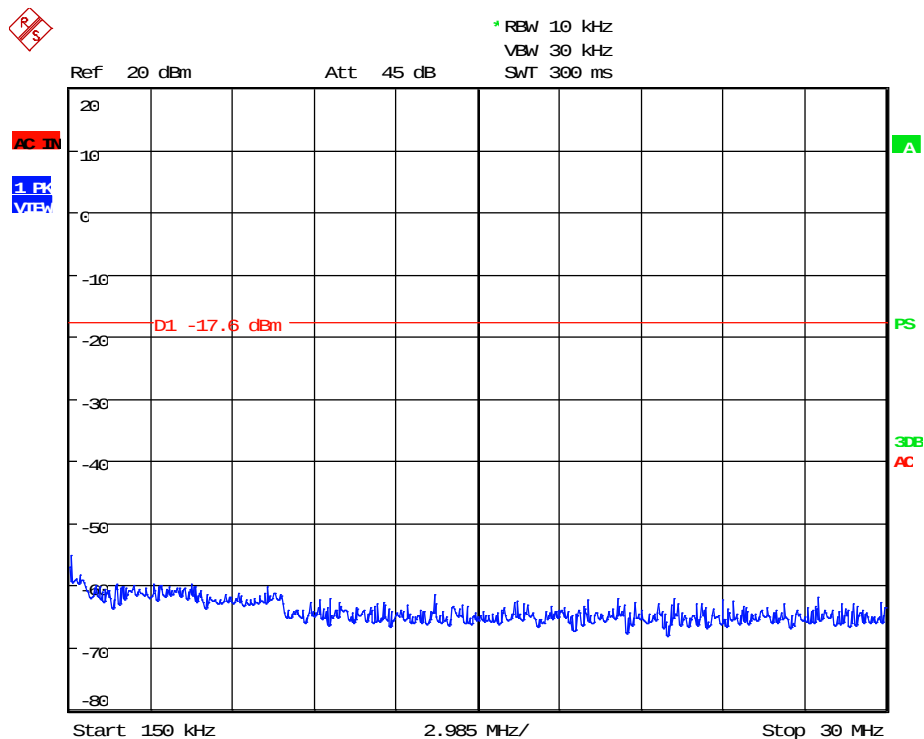
Wi-Fi, 5.7 GHz – OFDM 20M: Mid Channel
0.009 MHz to 0.15 MHz



Date: 10.DEC.2019 17:27:37



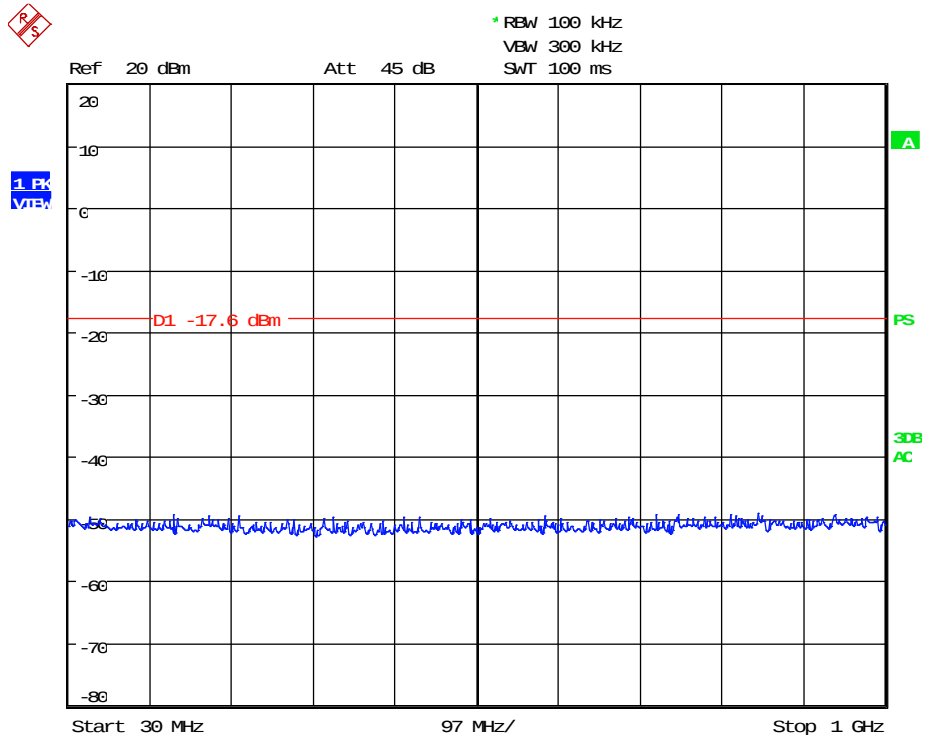
Wi-Fi, 5.7 GHz – OFDM 20M: Mid Channel
0.15 MHz to 30 MHz



Date: 10.DEC.2019 17:26:30



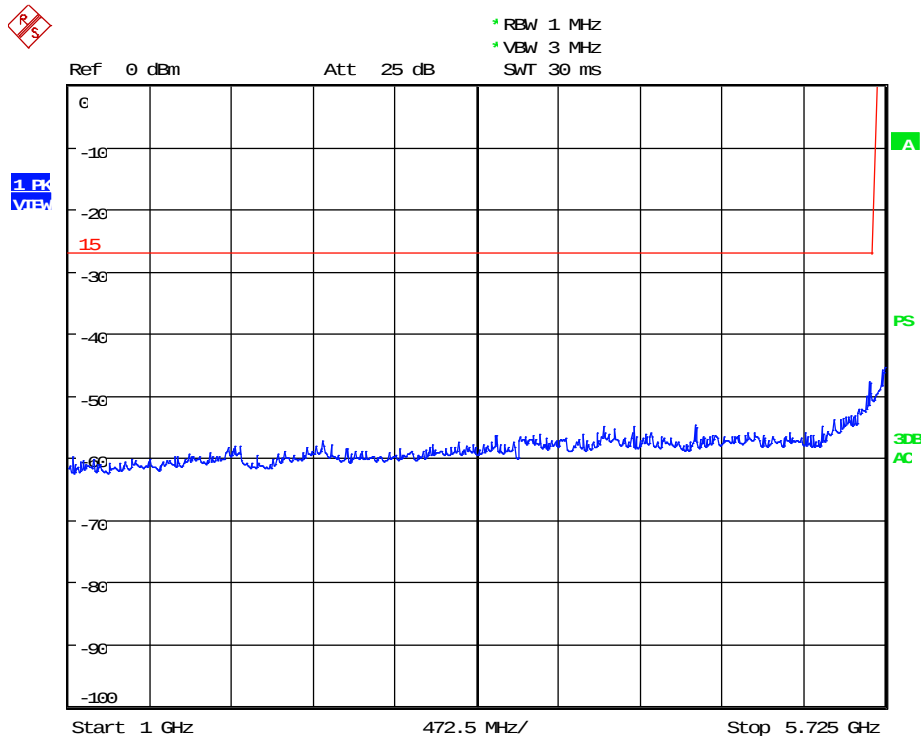
Wi-Fi, 5.7 GHz – OFDM 20M: Mid Channel
30 MHz to 1000 MHz



Date: 10.DEC.2019 17:25:32



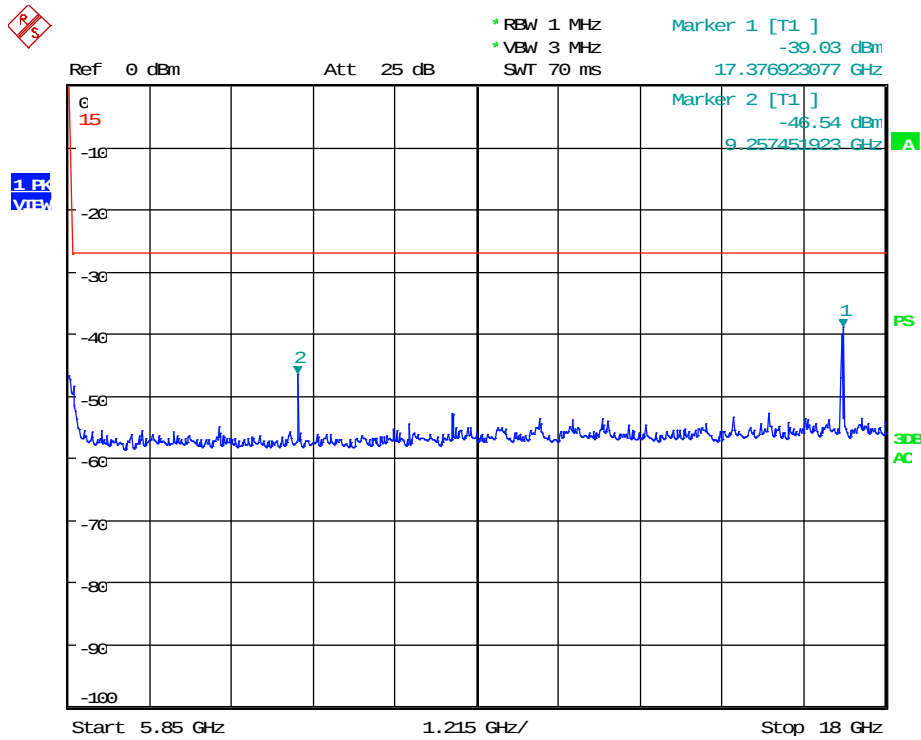
Wi-Fi, 5.7 GHz – OFDM 20M: Mid Channel
1 GHz to 5725 GHz



Date: 5.FEB.2020 11:48:06



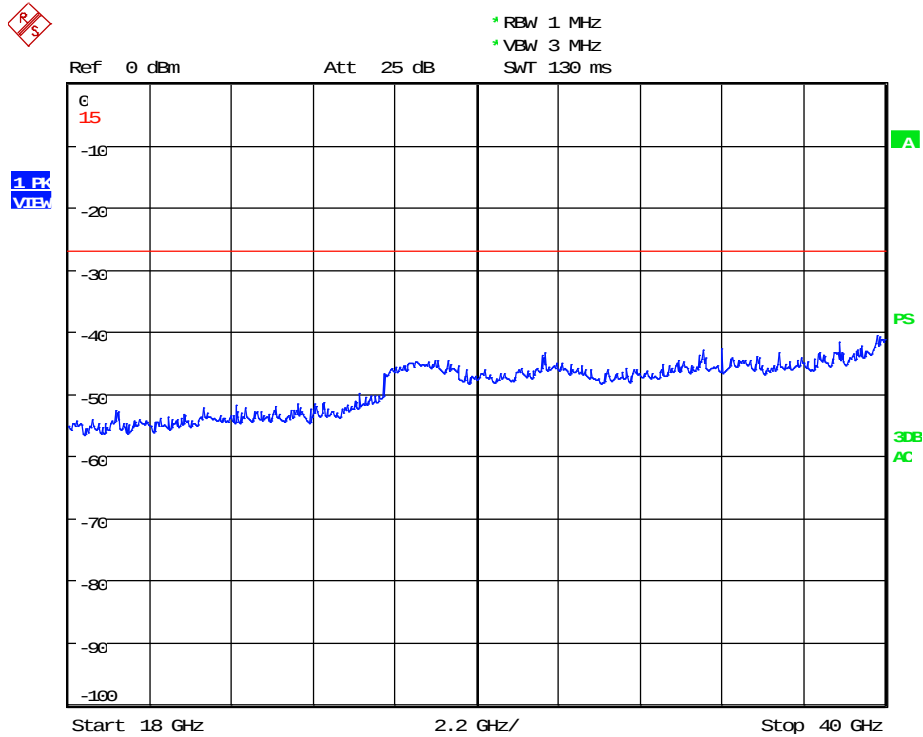
Wi-Fi, 5.7 GHz – OFDM 20M: Mid Channel
1 GHz to 18 GHz



Date: 5.FEB.2020 11:49:24



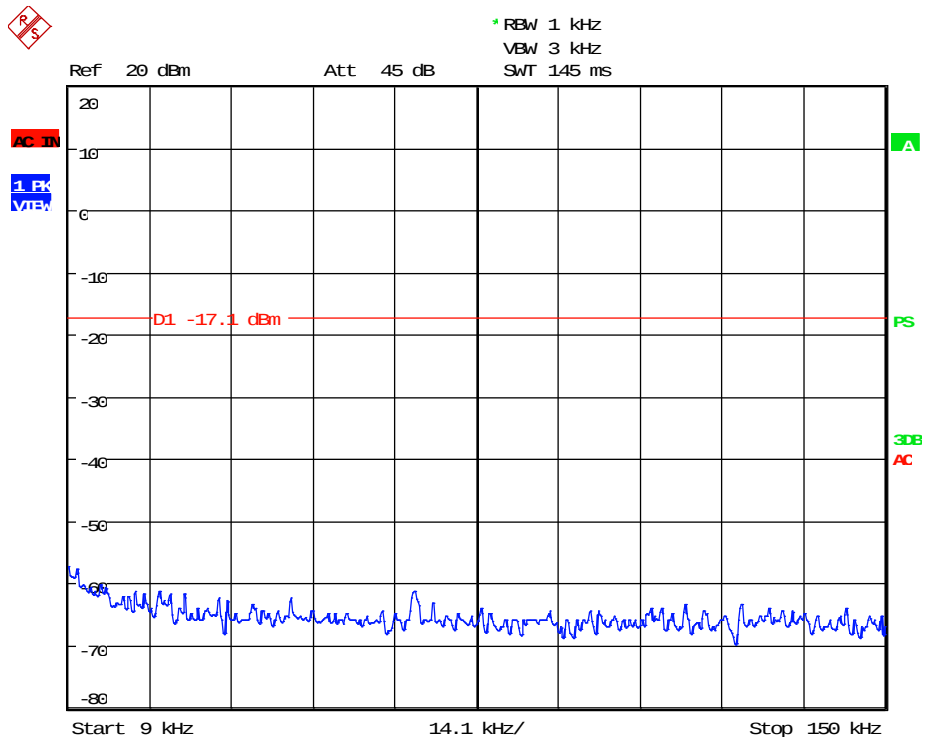
Wi-Fi, 5.7 GHz – OFDM 20M: Mid Channel
18 GHz to 40 GHz



Date: 5.FEB.2020 11:50:27



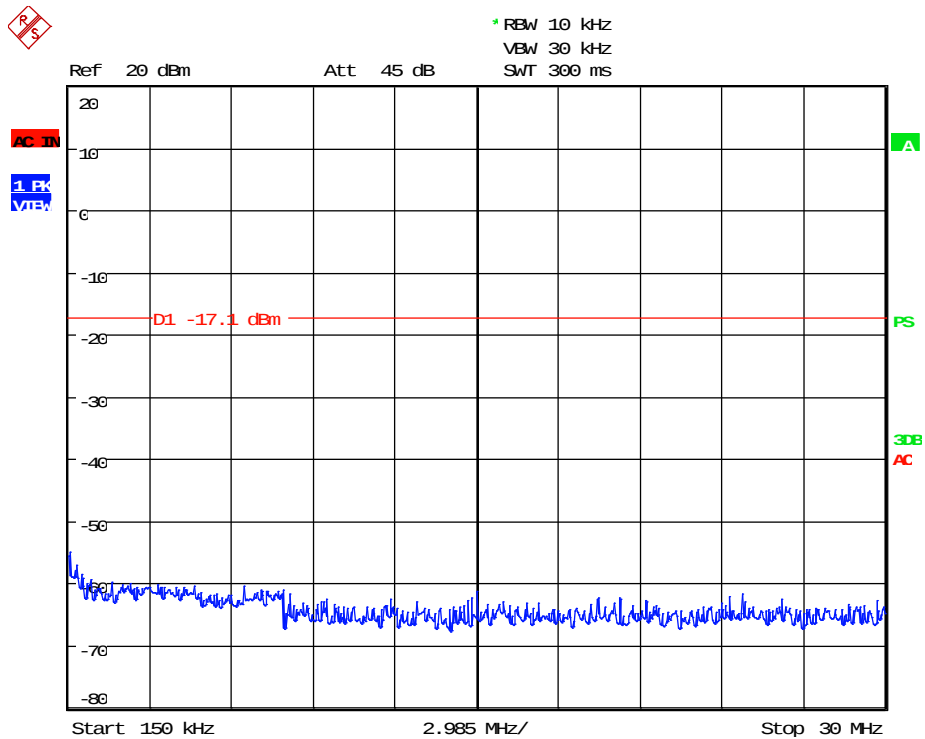
Wi-Fi, 5.7 GHz – OFDM 20M: High Channel
0.009 MHz to 0.15 MHz



Date: 10.DEC.2019 17:39:19



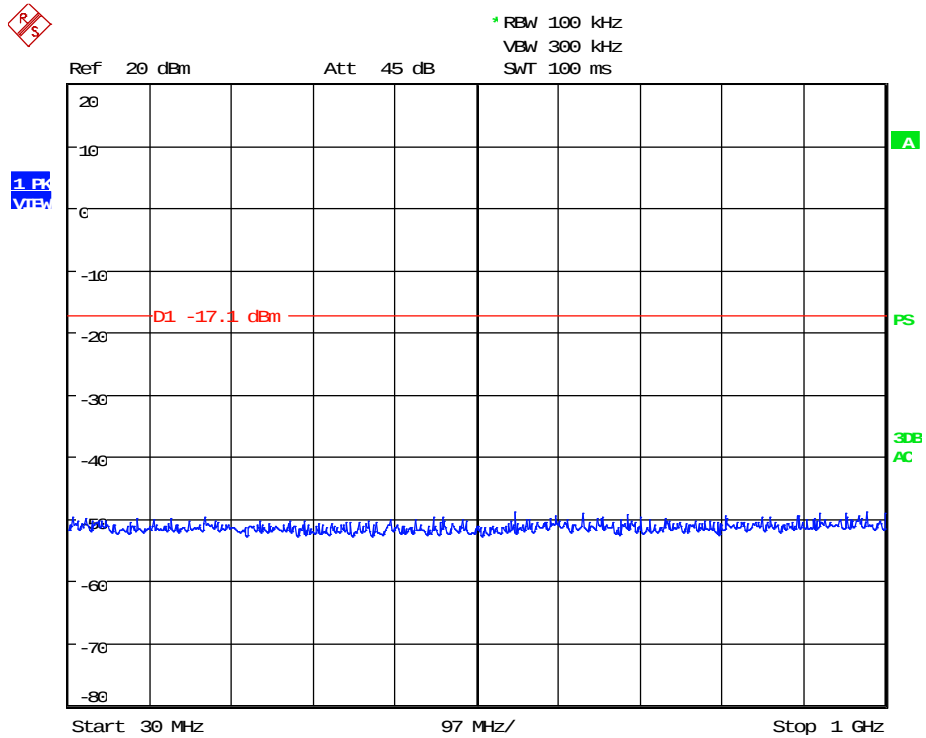
Wi-Fi, 5.7 GHz – OFDM 20M: High Channel
0.15 MHz to 30 MHz



Date: 10.DEC.2019 17:38:17



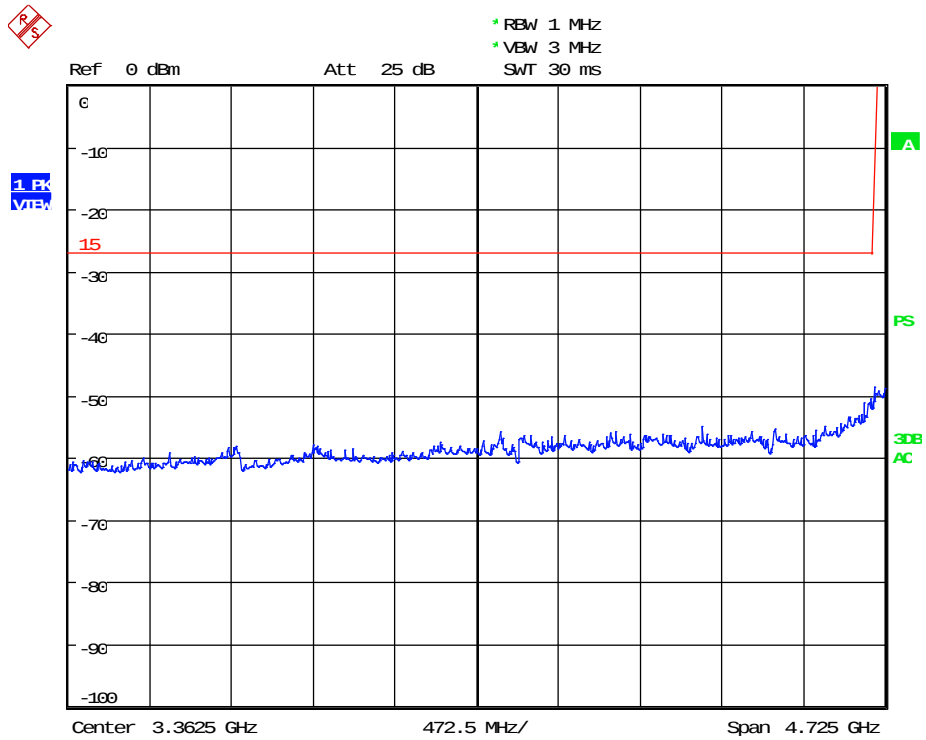
Wi-Fi, 5.7 GHz – OFDM 20M: High Channel
30 MHz to 1000 MHz



Date: 10.DEC.2019 17:37:01



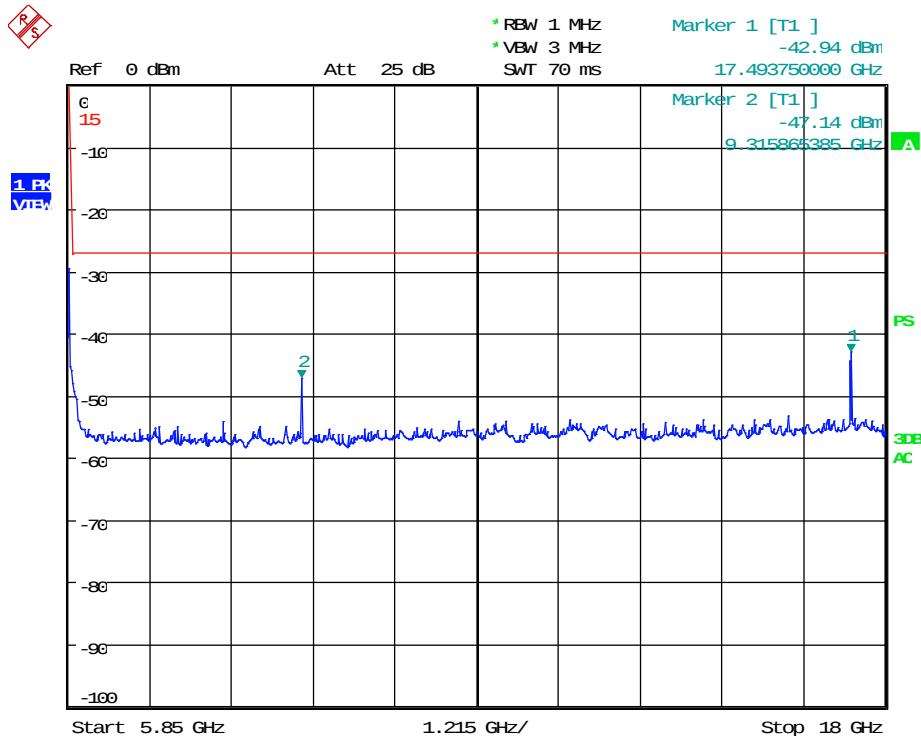
Wi-Fi, 5.7 GHz – OFDM 20M: High Channel
1 GHz to 5725 GHz



Date: 5.FEB.2020 12:08:35



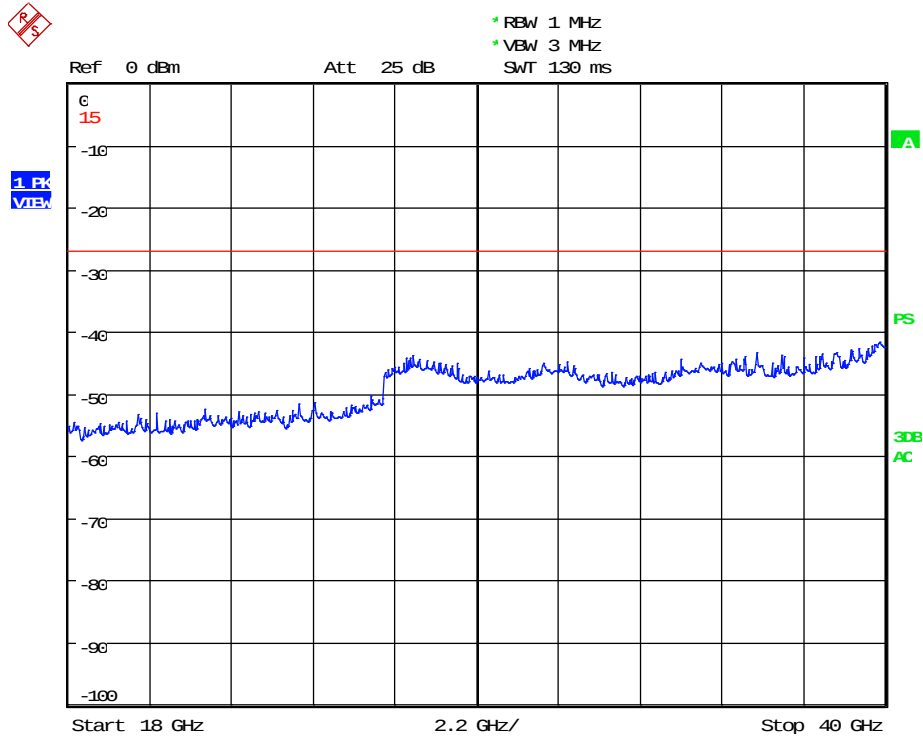
Wi-Fi, 5.7 GHz – OFDM 20M: High Channel
1 GHz to 18 GHz



Date: 5.FEB.2020 11:52:58



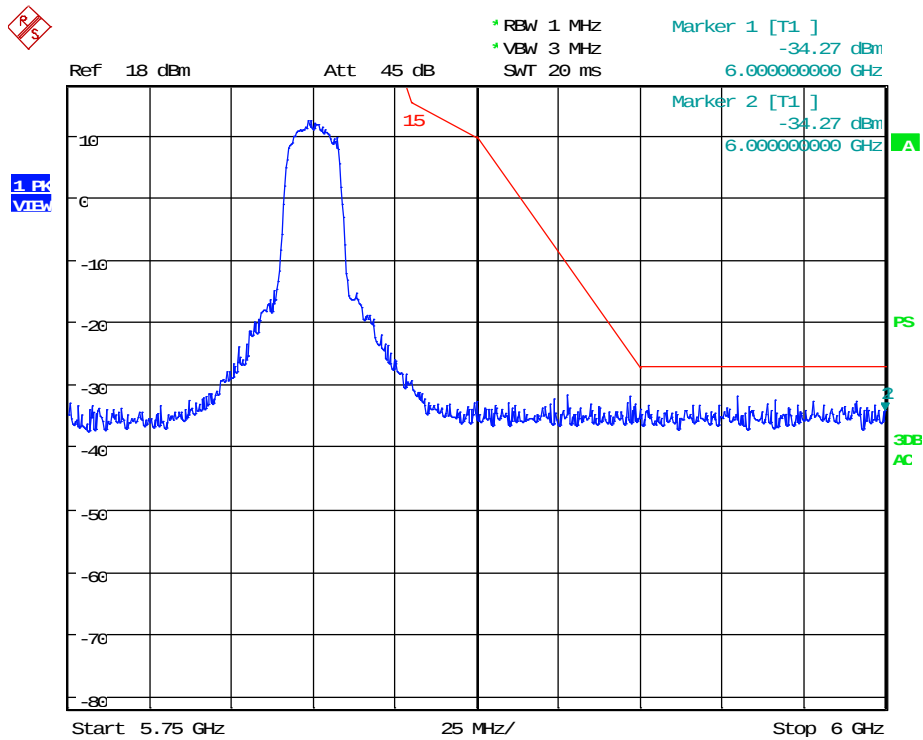
Wi-Fi, 5.7 GHz – OFDM 20M: High Channel
18 GHz to 40 GHz



Date: 5.FEB.2020 11:51:12



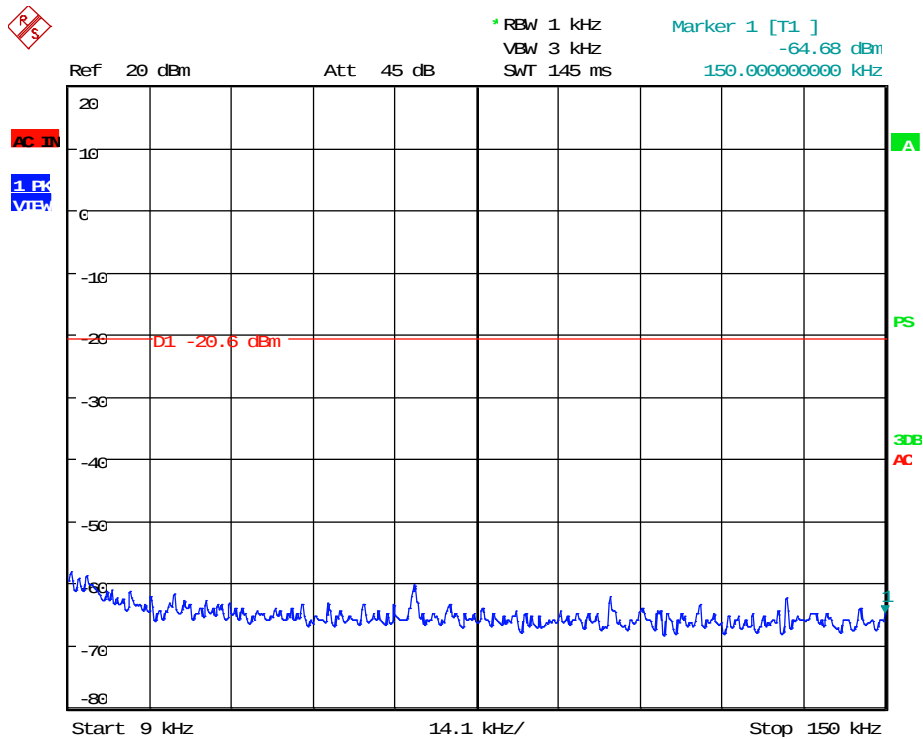
Wi-Fi, 5.7 GHz – OFDM 20M: High Channel Spurs Mask



Date: 5.FEB.2020 11:54:42



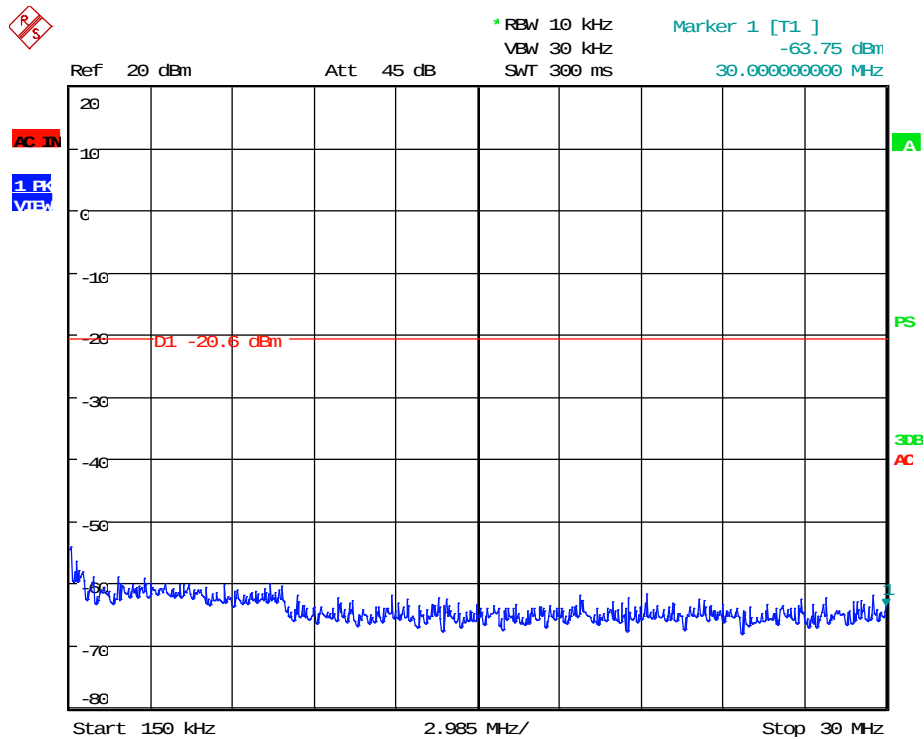
Wi-Fi, 5.7 GHz – OFDM 40M: Low Channel
0.009 MHz to 0.15 MHz



Date: 10.DEC.2019 17:56:57



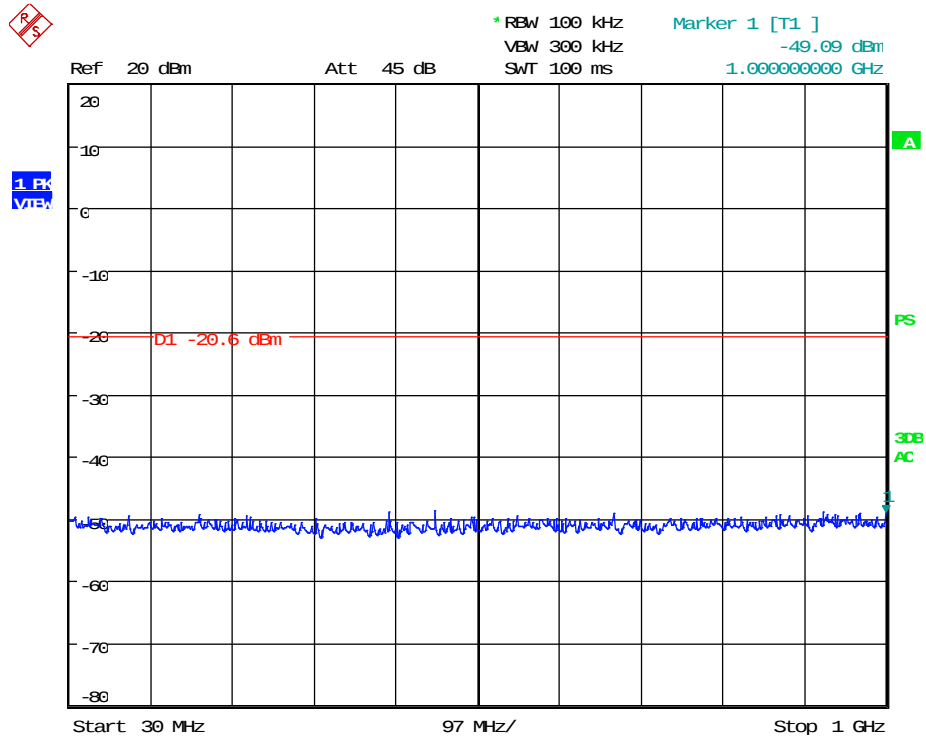
Wi-Fi, 5.7 GHz – OFDM 40M: Low Channel
0.15 MHz to 30 MHz



Date: 10.DEC.2019 17:56:11



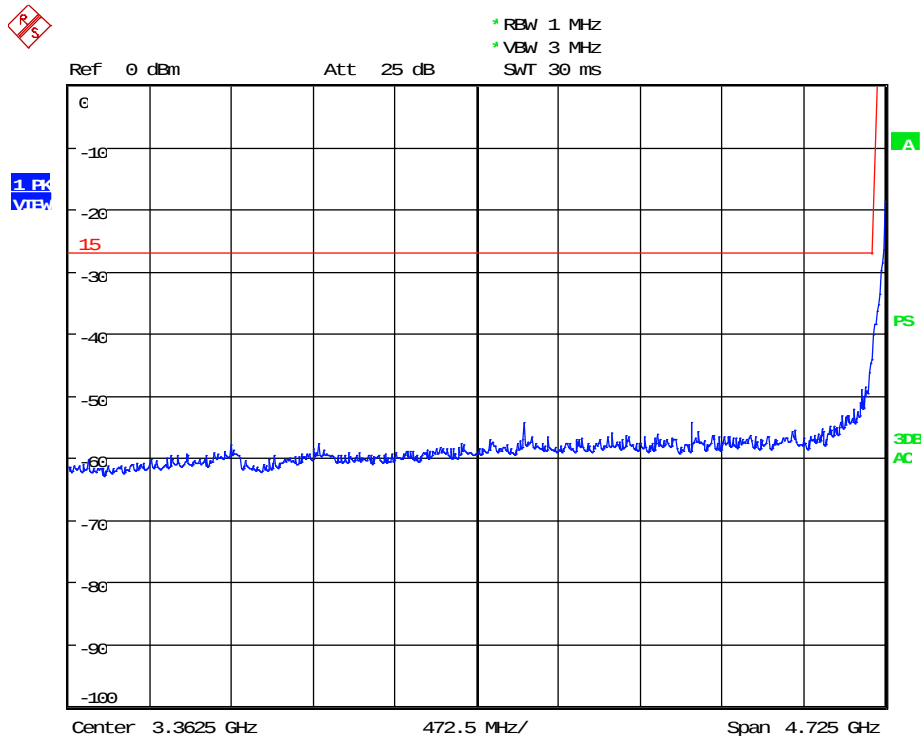
Wi-Fi, 5.7 GHz – OFDM 40M: Low Channel
30 MHz to 1000 MHz



Date: 10.DEC.2019 17:55:20



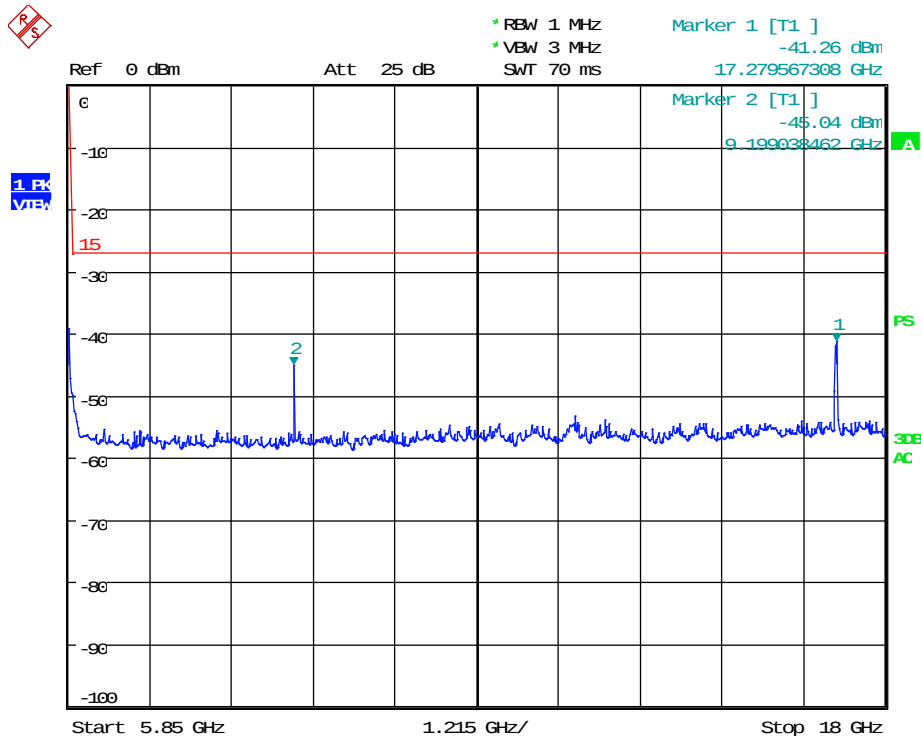
Wi-Fi, 5.7 GHz – OFDM 40M: Low Channel
1 GHz to 5725 GHz



Date: 5.FEB.2020 12:11:52



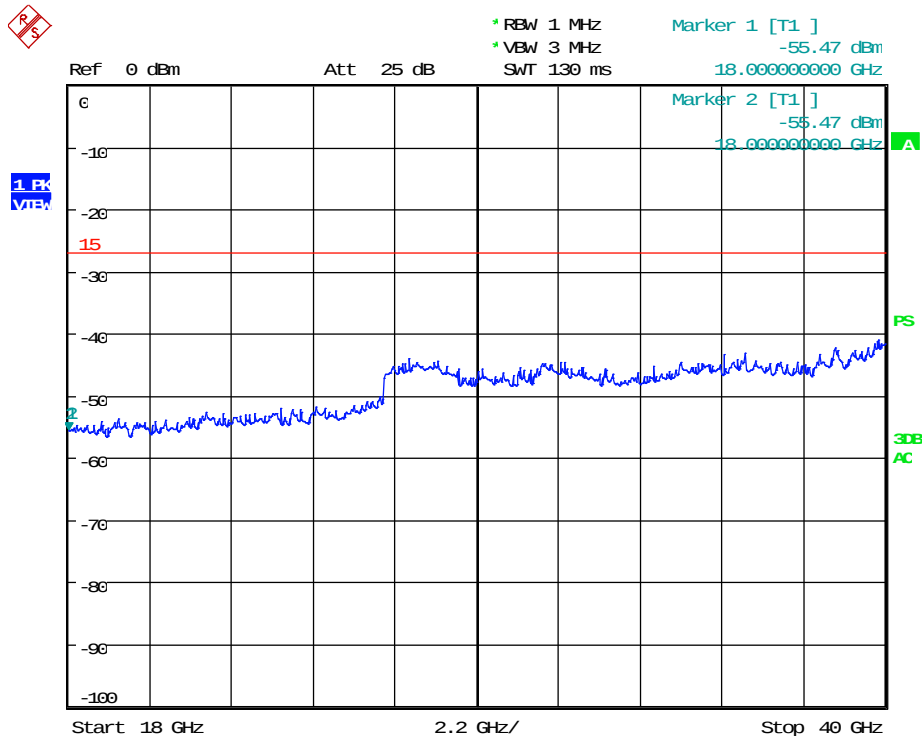
Wi-Fi, 5.7 GHz – OFDM 40M: Low Channel
1 GHz to 18 GHz



Date: 5.FEB.2020 12:15:17



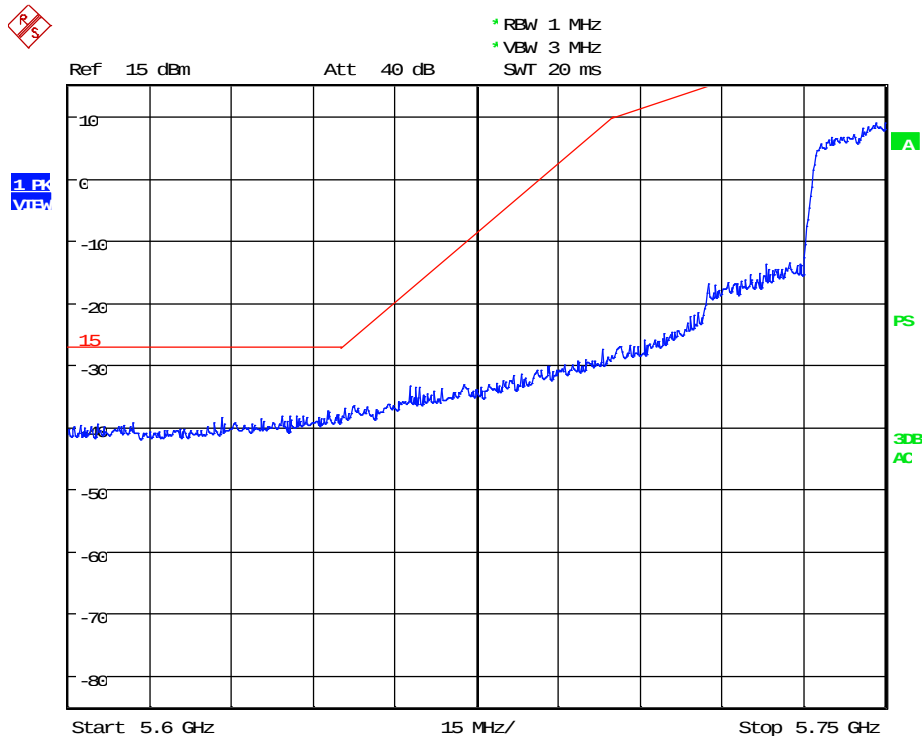
Wi-Fi, 5.7 GHz – OFDM 40M: Low Channel
18 GHz to 40 GHz



Date: 5.FEB.2020 12:16:01



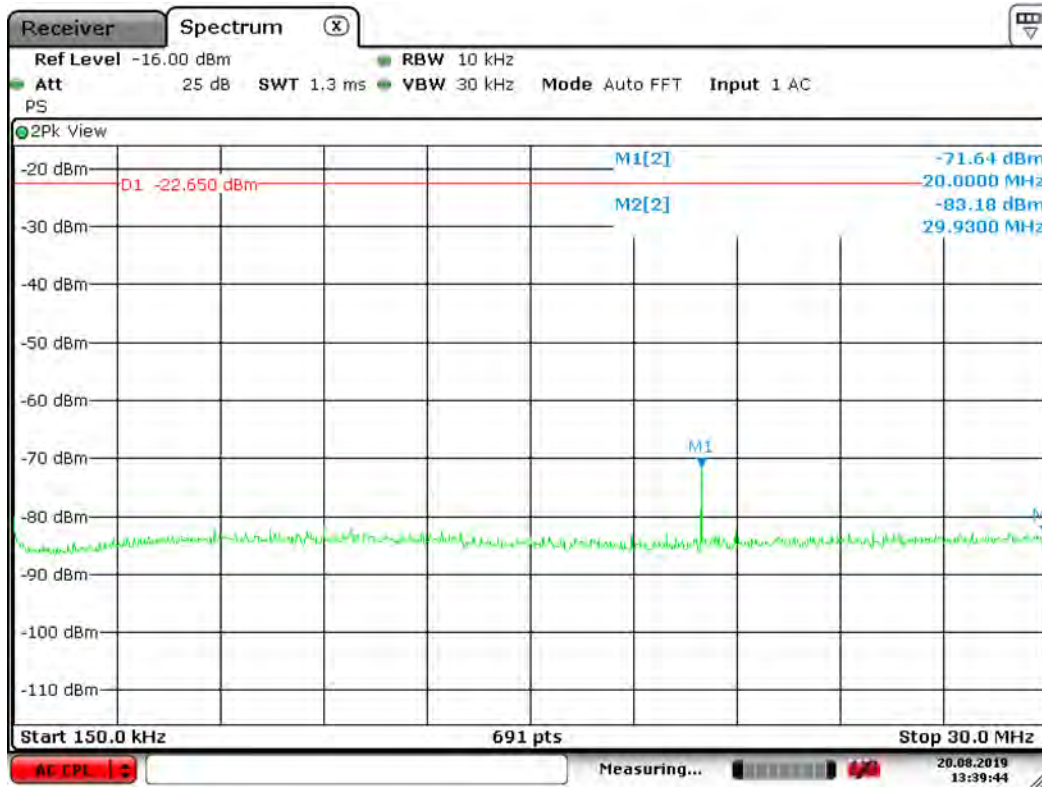
Wi-Fi, 5.7 GHz – OFDM 40M: Low Channel Spur Mask



Date: 5.FEB.2020 12:13:13



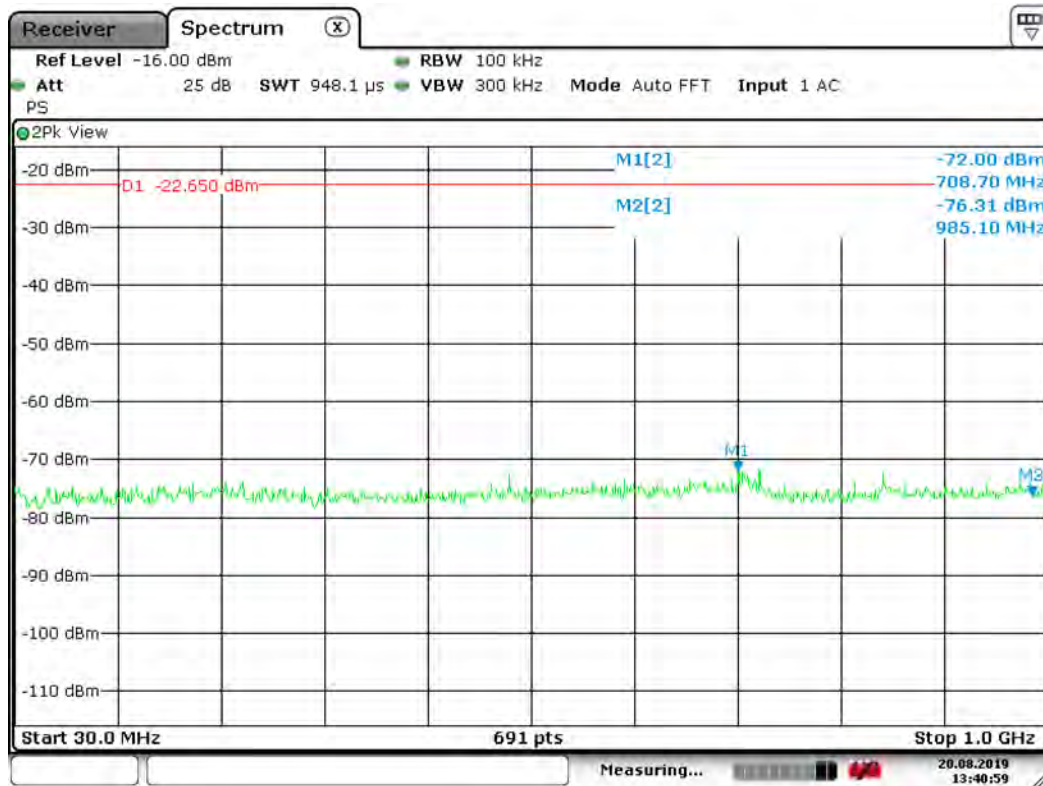
Wi-Fi, 5.7 GHz – OFDM 40M: High Channel
0.15 MHz to 30 MHz



Date: 20.AUG.2019 13:39:43



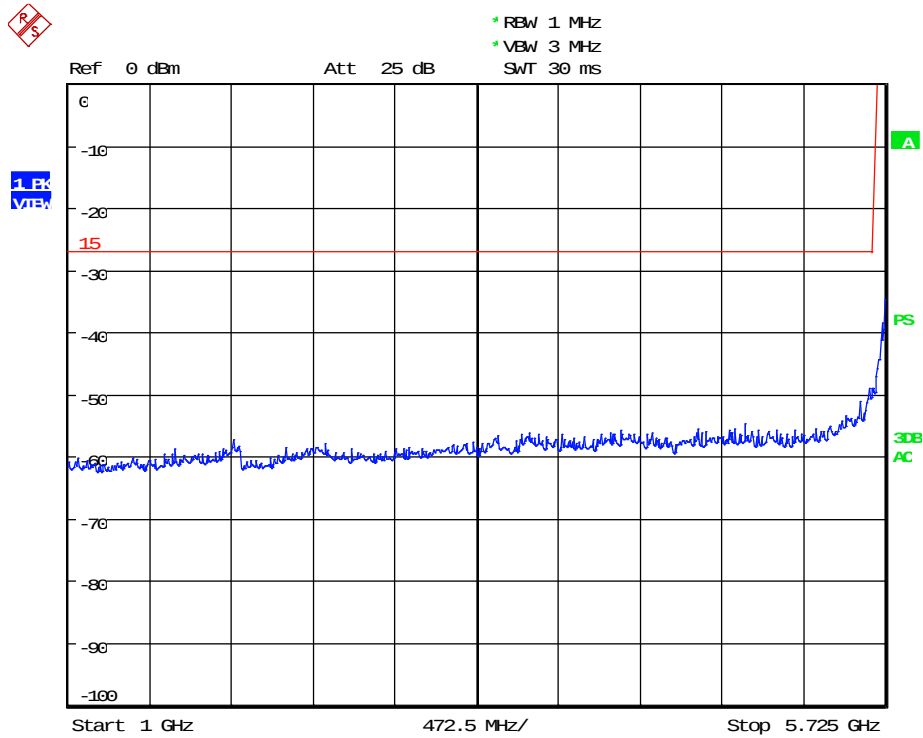
Wi-Fi, 5.7 GHz – OFDM 40M: High Channel
30 MHz to 1000 MHz



Date: 20.AUG.2019 13:40:58



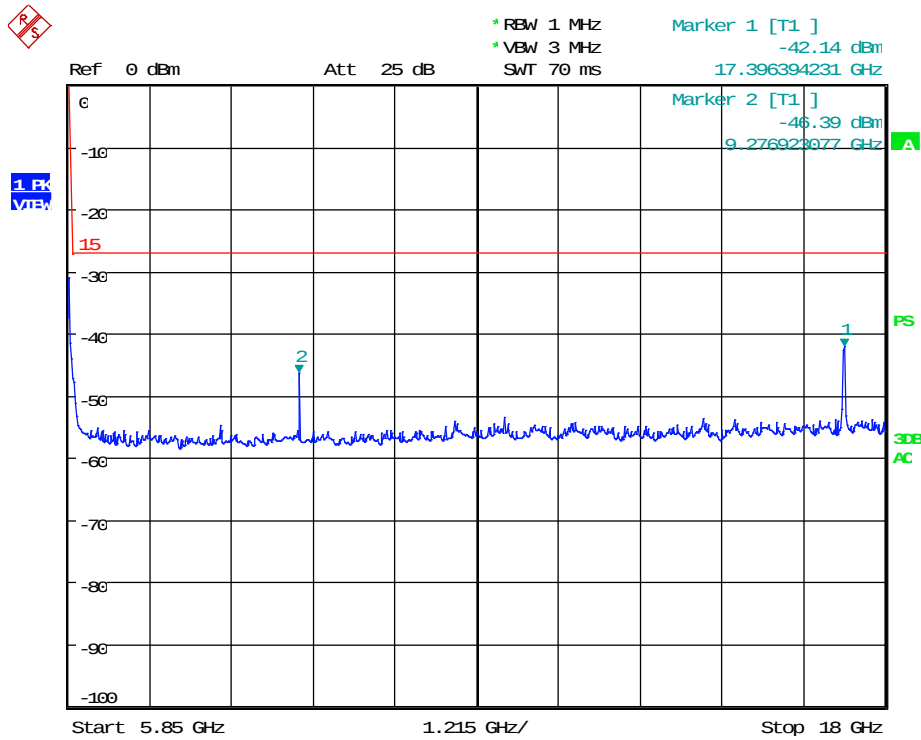
Wi-Fi, 5.7 GHz – OFDM 40M: High Channel
1 GHz to 5725 GHz



Date: 5.FEB.2020 12:20:58



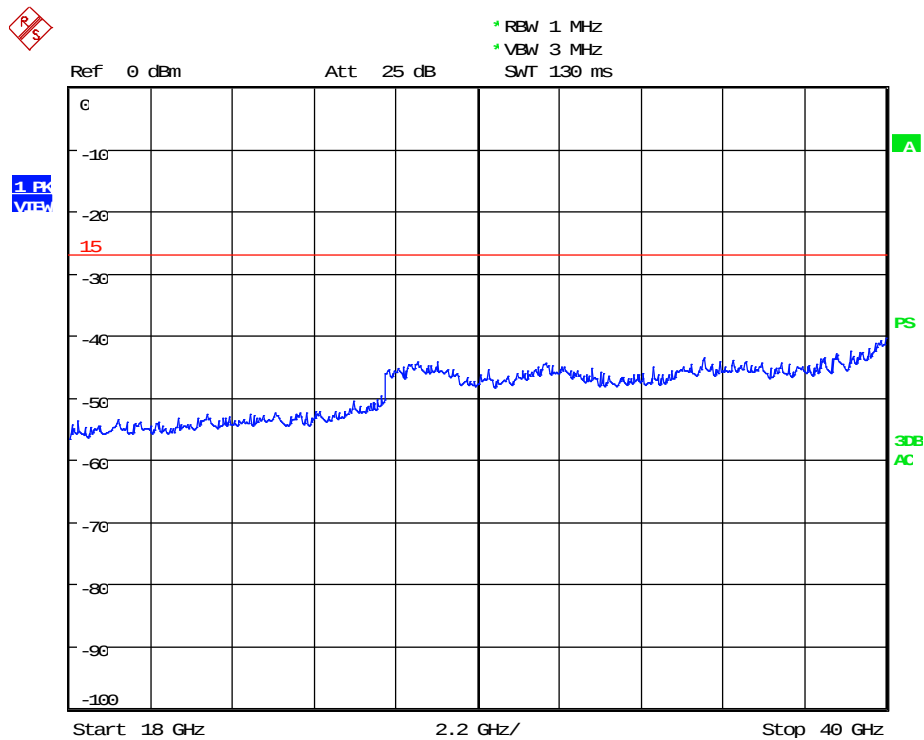
Wi-Fi, 5.7 GHz – OFDM 40M: High Channel
1 GHz to 18 GHz



Date: 5.FEB.2020 12:18:22



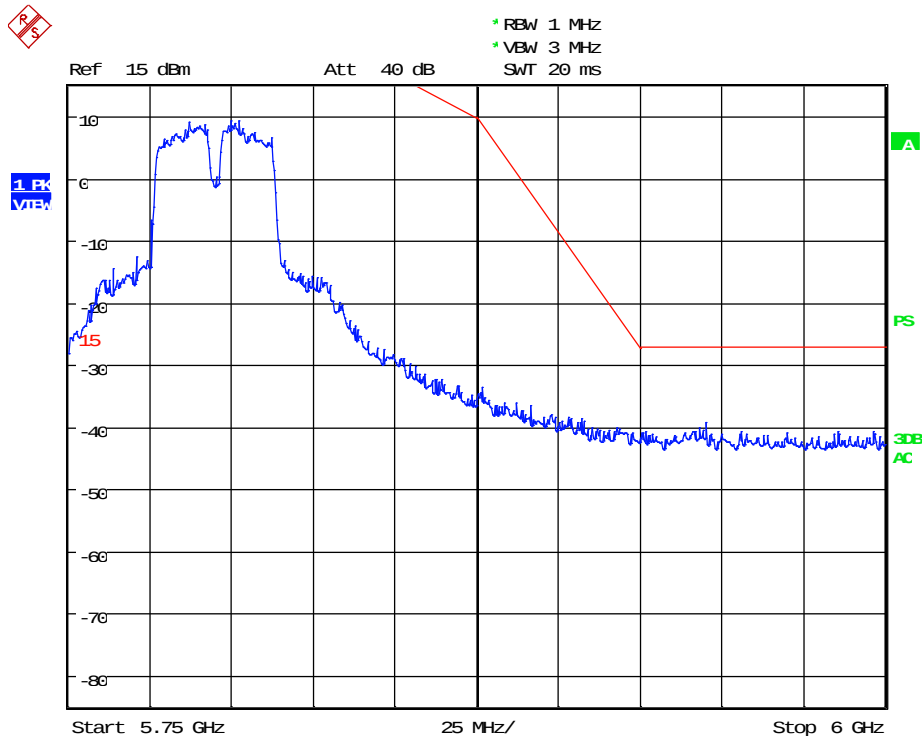
Wi-Fi, 5.7 GHz – OFDM 40M: High Channel
18 GHz to 40 GHz



Date: 5.FEB.2020 12:17:02



Wi-Fi, 5.7 GHz – OFDM 40M: High Channel Spur Mask



Date: 5.FEB.2020 12:19:52



11 RADIATED SPURIOUS EMISSION

The EUT antenna port was fitted with its integral/internal chip antenna. 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.

11.1 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).

All other undesirable emission that do not fall under the provisions of Part 15.205, shall meet the following limits:

(1) For transmitters operating in the 5.725-5.85 GHz band: All emissions outside of the 5.725-5.85 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.



11.1 Radiated Spurious Emission Test

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. The orthogonal position that showed the highest emissions was used. 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 in a semi-anechoic chamber for maximum emissions. 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, emissions to be found by the EUT were measured and listed in tables. The black lines are active scans while the green lines are the max peak scan of the unit during rotations. The plots are prescan plots for reference only. The limit lines are not actual limits as these are prescans only and just a reference. The plots are for the mid channel which was determined worst-case. The table of results includes results for all channels.



Test Data

Test Date(s):	Aug. 14, 2019	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.407; Part 15.209 / KDB789033	Air Temperature:	20.8°C
		Relative Humidity:	61%

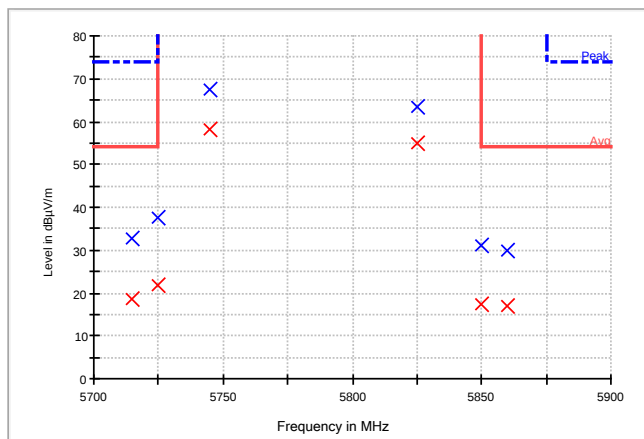
Wi-Fi, 5.7 GHz - OFDM 20M: Band Edges

MaxPeak

Frequency (MHz)	Antenna Polarization	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Final Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5715.000000	H	49.2	-16.6	32.60	68.2	-35.6
5725.000000	H	54.2	-16.6	37.60	68.2	-30.6
5850.000000	H	47.5	-16.3	31.20	68.2	-37.0
5860.000000	H	46.2	-16.2	30.00	68.2	-38.2

AVG

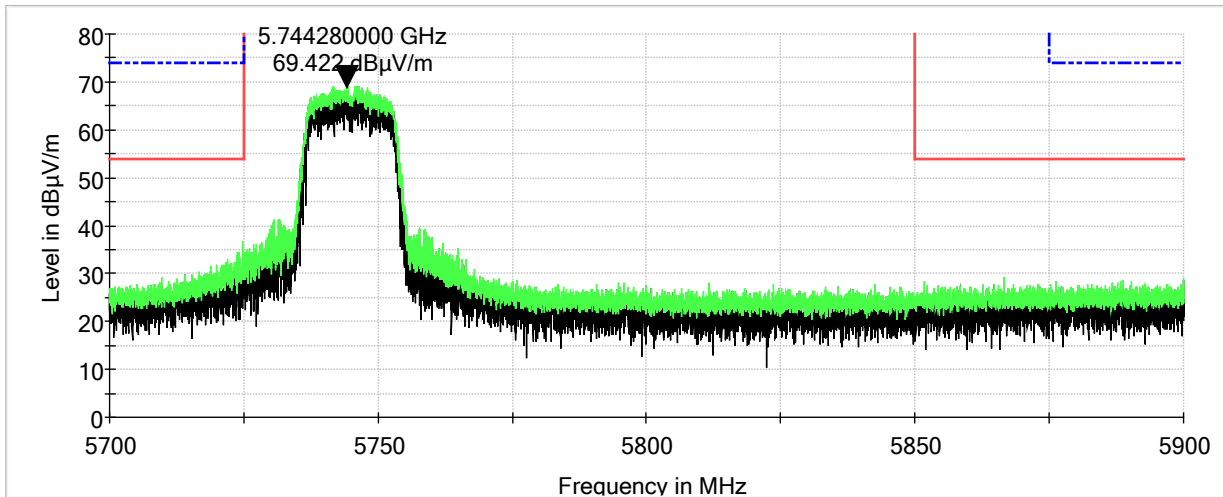
Frequency (MHz)	Antenna Polarization	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Final Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5715.000000	H	35.3	-16.6	18.70	54.0	-35.3
5725.000000	H	38.6	-16.6	22.00	54.0	-32.0
5850.000000	H	33.6	-16.3	17.30	54.0	-36.7
5860.000000	H	33.3	-16.2	17.10	54.0	-36.9



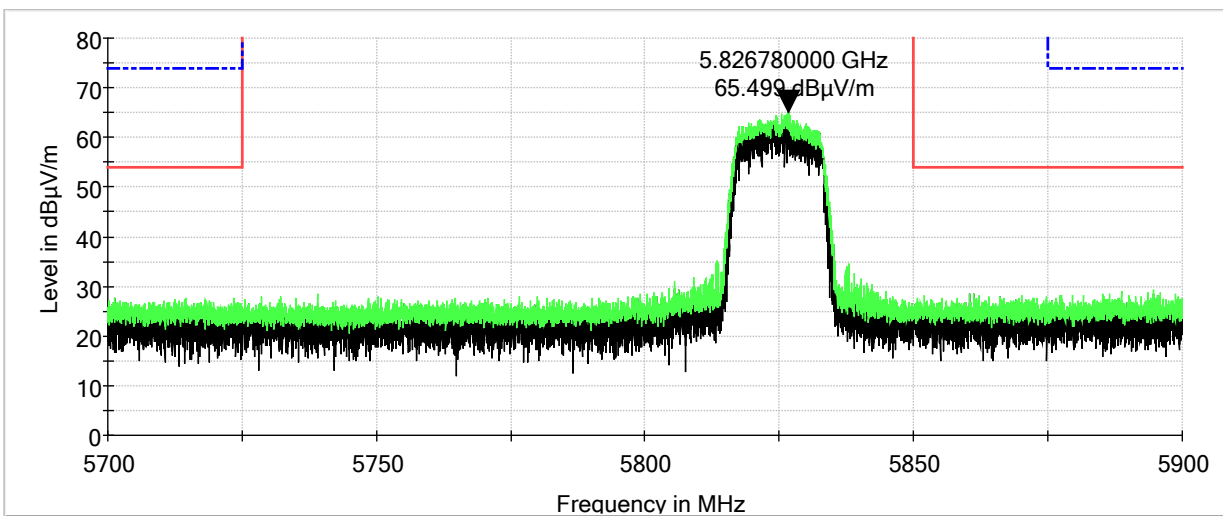
NOTE: The above table and graph are in dBuV/m. The -27dBm limited converted would be +68.2 dBuV/m. The results in the table show that the peak emissions are below the Average Limit. The above graph displays limit lines are just for reference. The plots below are prescan plots for reference only. The limit lines are not actual limits as these are prescans only and just a reference.



Wi-Fi, 5.7 GHz-OFDM 20M: Lower Band Edge, Horizontal

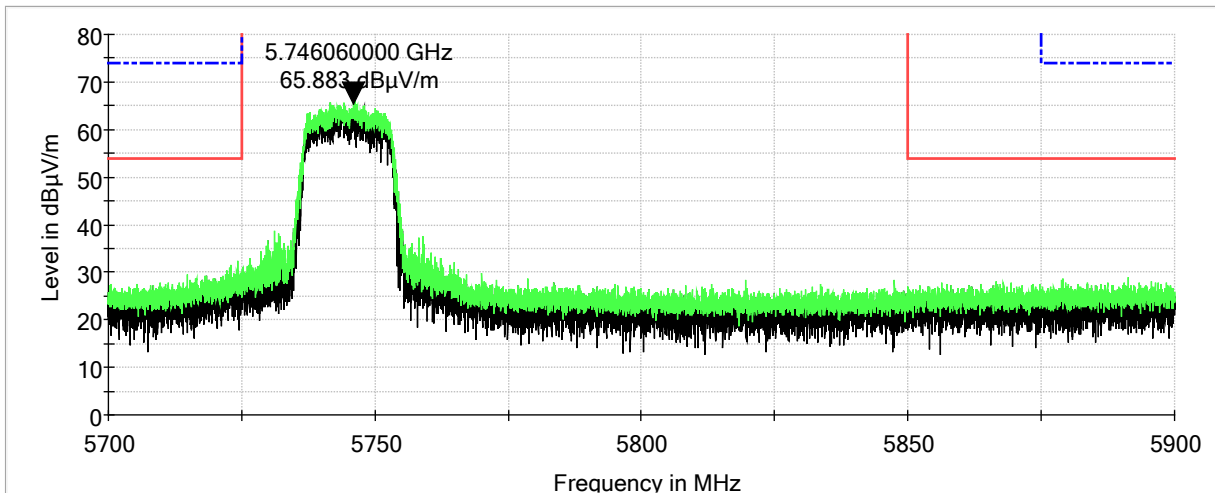


Wi-Fi, 5.7 GHz - OFDM 20M: Upper Band Edge, Horizontal

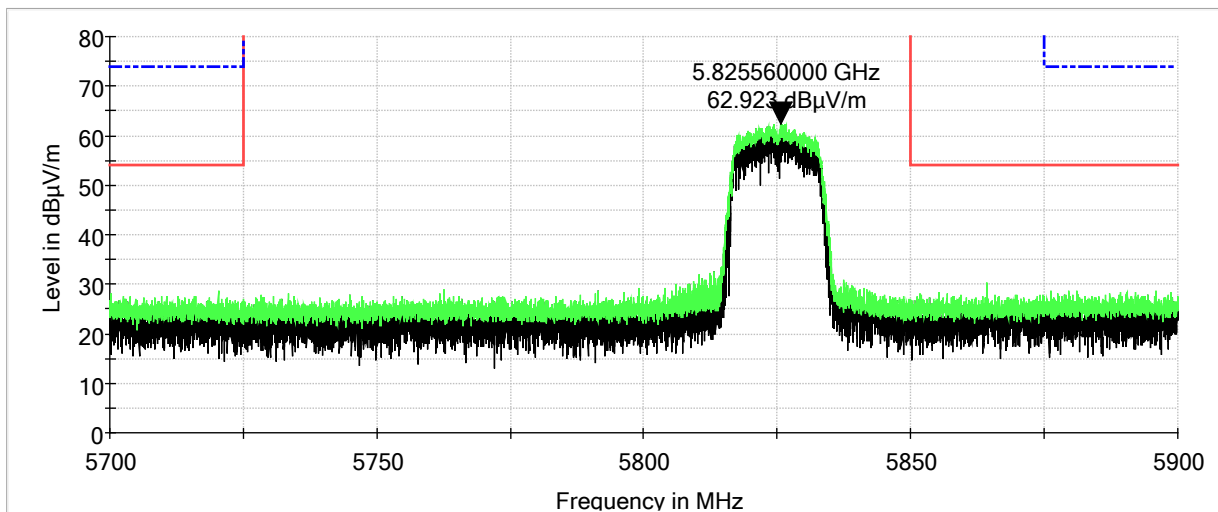




Wi-Fi, 5.7 GHz - OFDM 20M: Lower Band Edge, Vertical

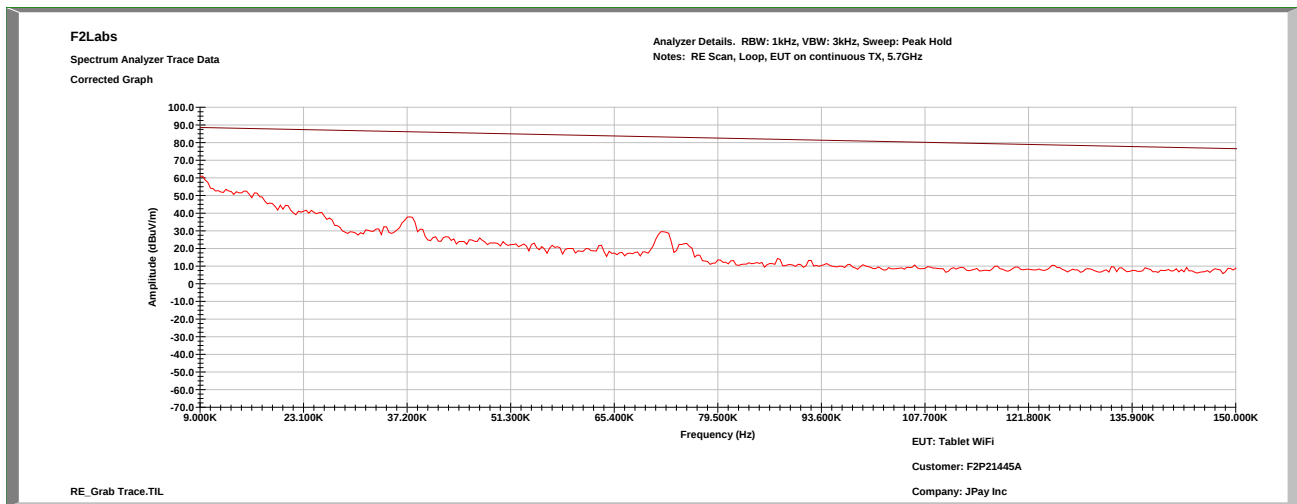


Wi-Fi, 5.7 GHz - OFDM 20M: Upper Band Edge, Vertical

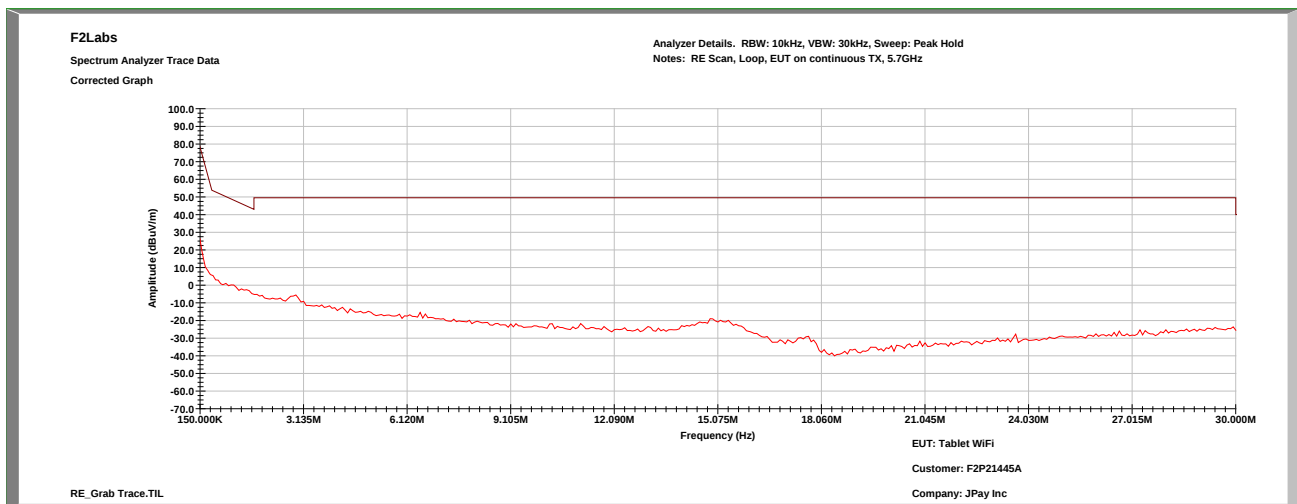




Wi-Fi, 5.7 GHz – OFDM 20M: 0.009 MHz to 0.15 MHz

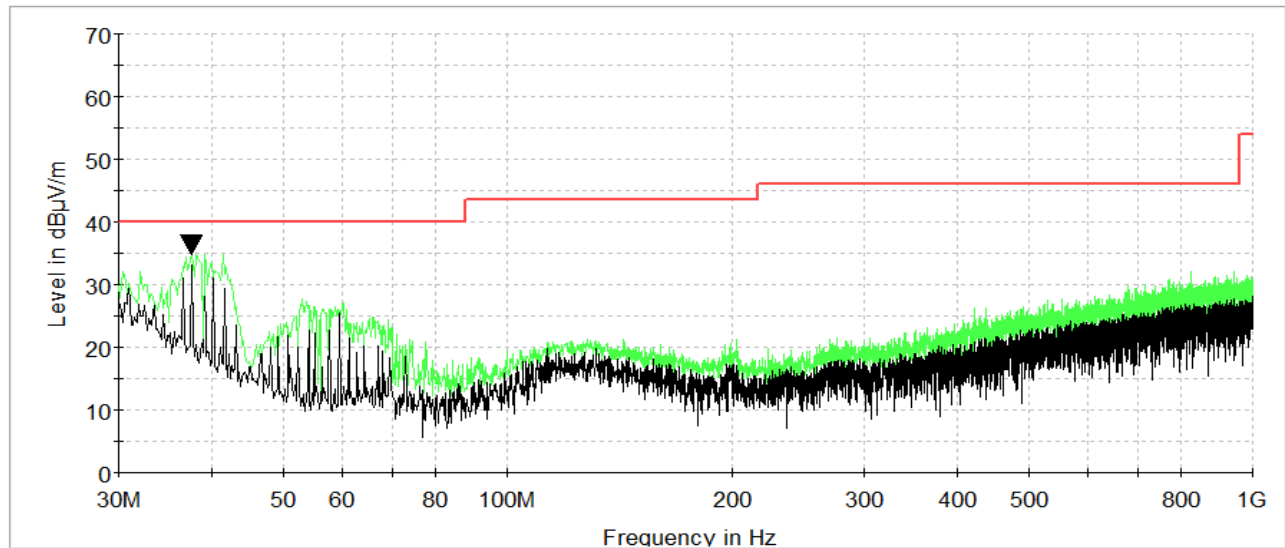


Wi-Fi, 5.7 GHz – OFDM 20M: 0.15 MHz to 30.0 MHz

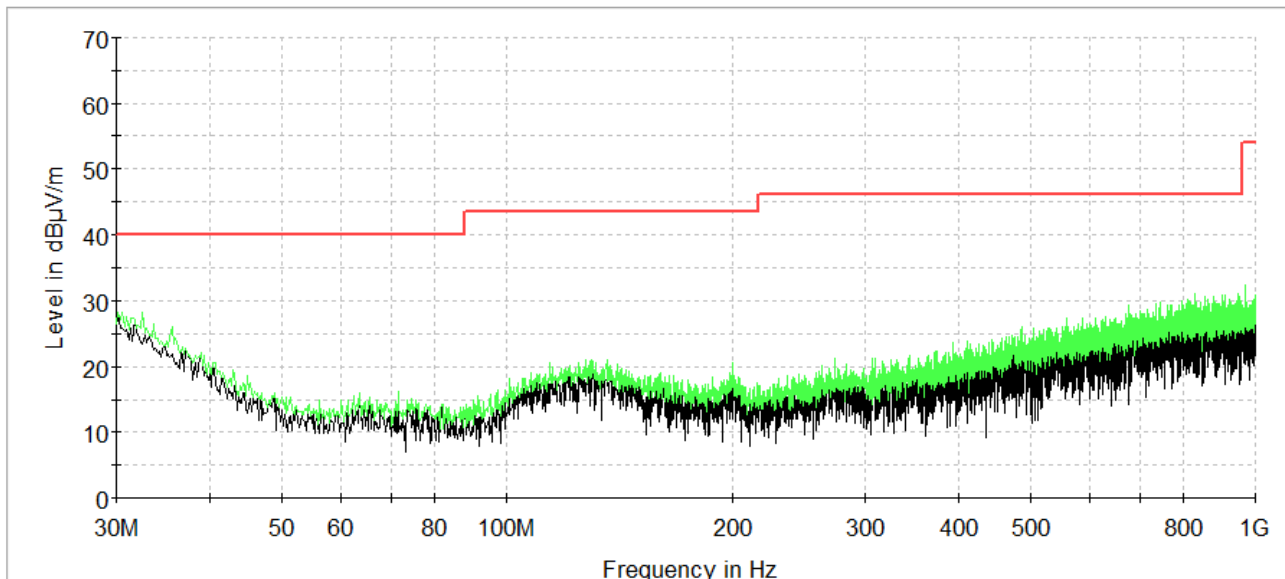




Wi-Fi, 5.7 GHz, OFDM 20M: 30 MHz to 1000 MHz, Vertical

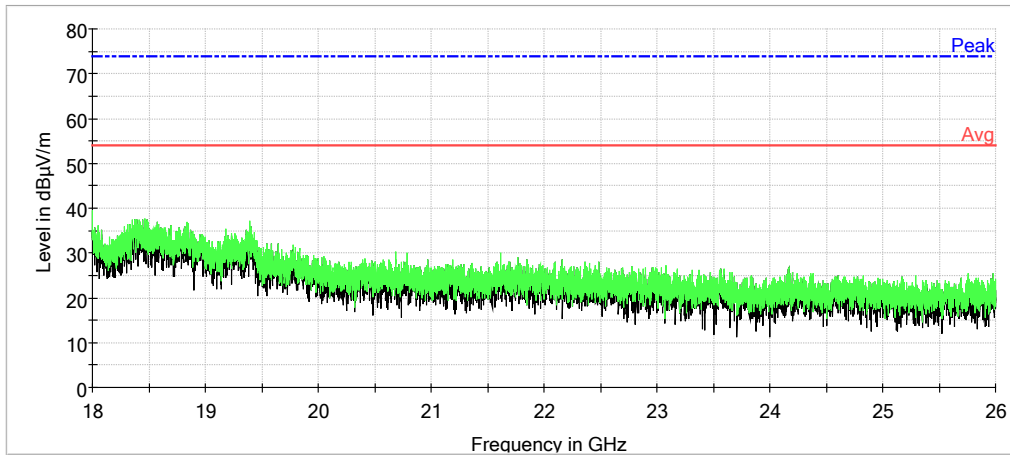


Wi-Fi, 5.7 GHz, OFDM 20M: 30 MHz to 1000 MHz, Horizontal

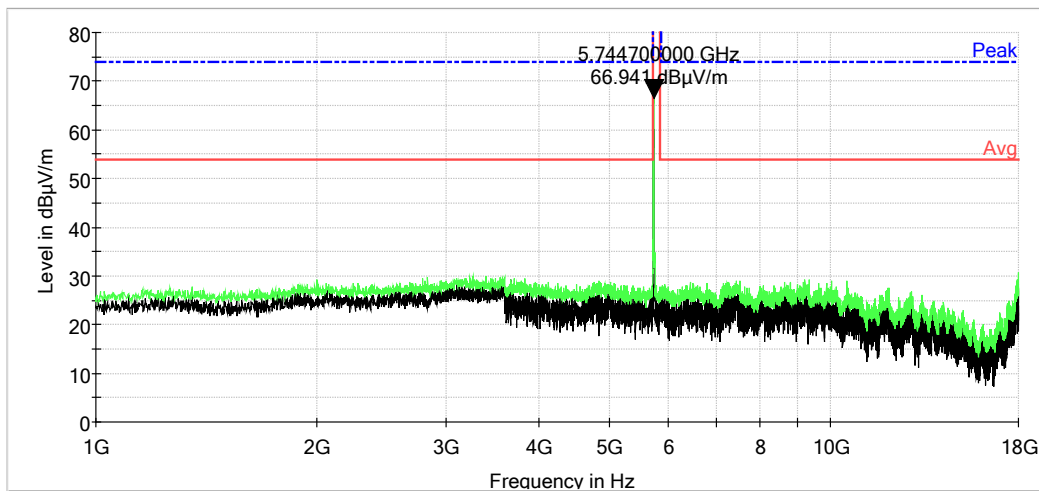




Wi-Fi, 5.7 GHz, OFDM 20M: 1 GHz to 18 GHz, Vertical

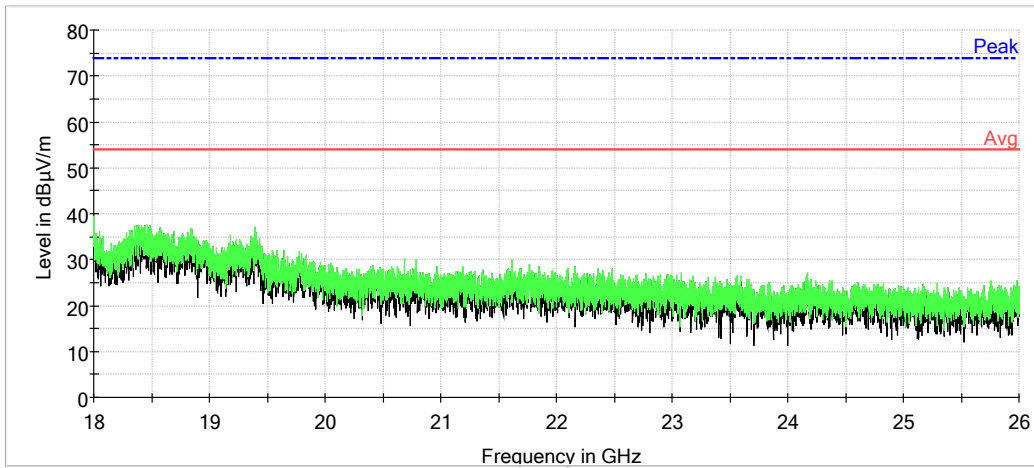


Wi-Fi, 5.7 GHz, OFDM 20M: 1 GHz to 18 GHz, Horizontal

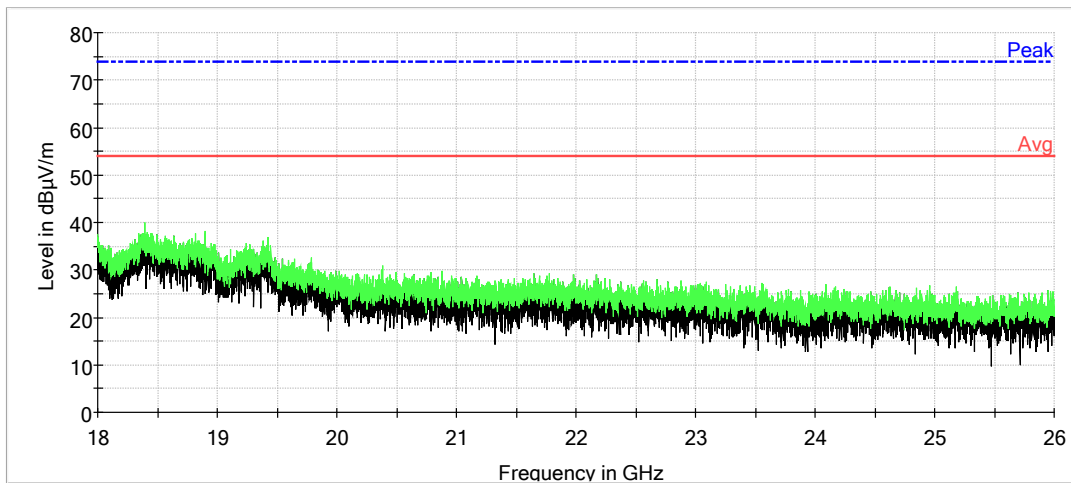




Wi-Fi, 5.7 GHz, OFDM 20M: 18 GHz to 26 GHz, Vertical

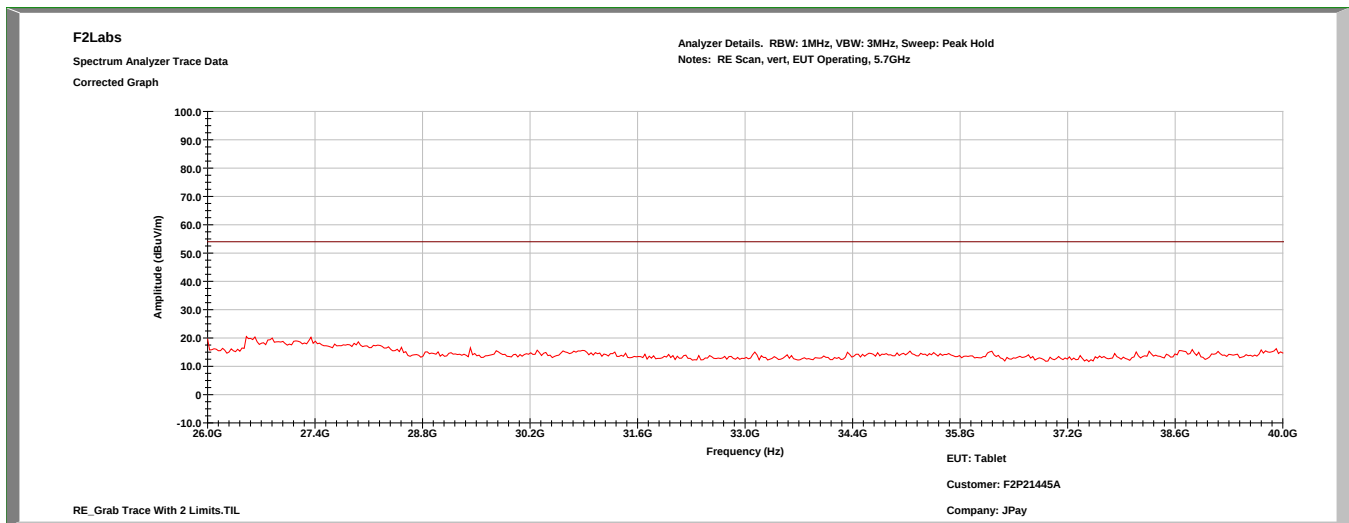


Wi-Fi, 5.7 GHz, OFDM 20M: 18 GHz to 26 GHz, Horizontal

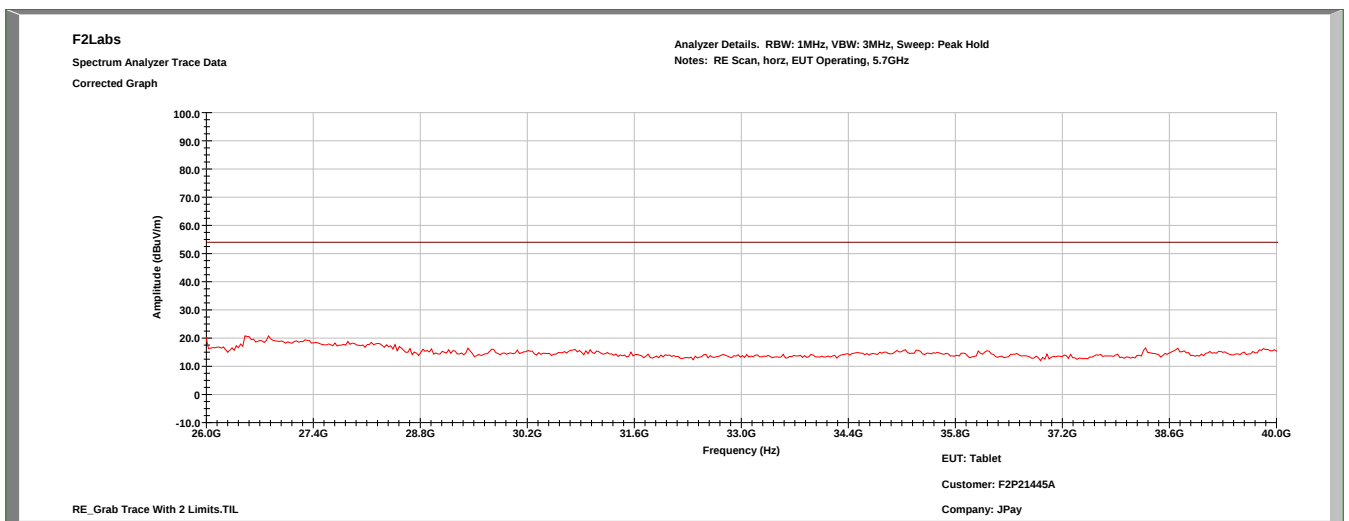




Wi-Fi, 5.7 GHz, OFDM 20M: 26 GHz to 40 GHz, Vertical



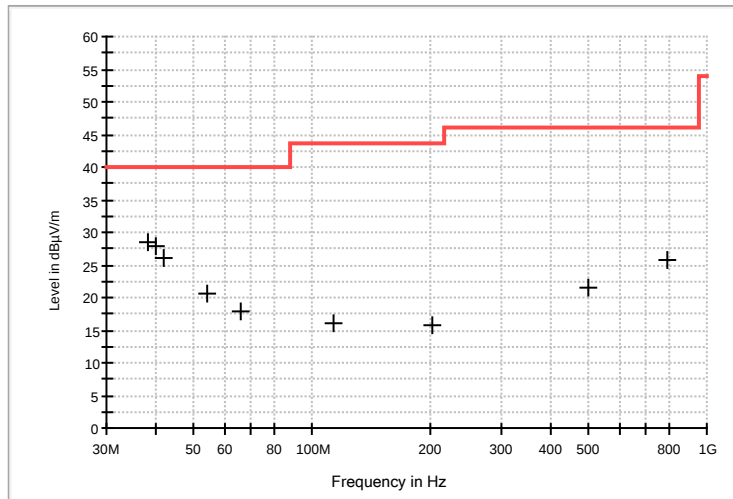
Wi-Fi, 5.7 GHz, OFDM 20M: 26 GHz to 40 GHz, Horizontal





Wi-Fi, 5.7 GHz, OFDM 20M

Frequency (MHz)	Antenna Polarization	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
38.160000	V	30.9	-2.3	28.60	40.0	-11.4
40.080000	V	31.4	-3.7	27.70	40.0	-12.3
42.040000	V	31.1	-5.2	25.90	40.0	-14.1
54.040000	V	30.8	-10.3	20.50	40.0	-19.5
65.680000	V	27.9	-9.9	18.00	40.0	-22.0
112.640000	V	20.9	-4.8	16.10	43.5	-27.4
200.920000	V	20.4	-4.8	15.60	43.5	-27.9
499.080000	V	21.3	0.2	21.50	46.0	-24.5
795.920000	V	21.8	4.0	25.80	46.0	-20.2





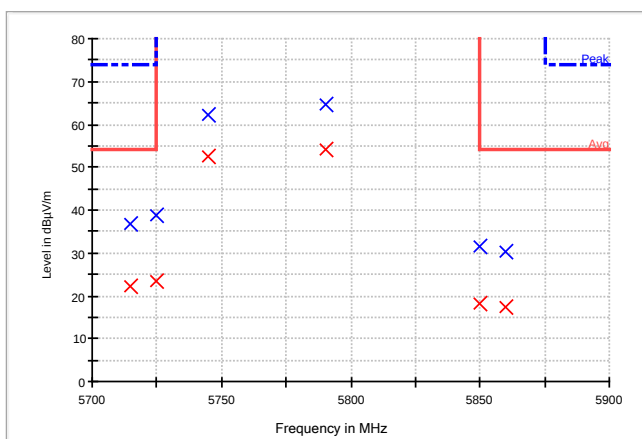
Wi-Fi, 5.7 GHz - OFDM 40M: Band Edges

MaxPeak

Frequency (MHz)	Antenna Polarization	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Final Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5715.000000	H	53.3	-16.6	36.70	68.2	-31.5
5725.000000	H	55.5	-16.6	38.90	68.2	-29.3
5850.000000	H	47.8	-16.3	31.50	68.2	-36.7
5860.000000	H	46.5	-16.2	30.30	68.2	-37.9

AVG

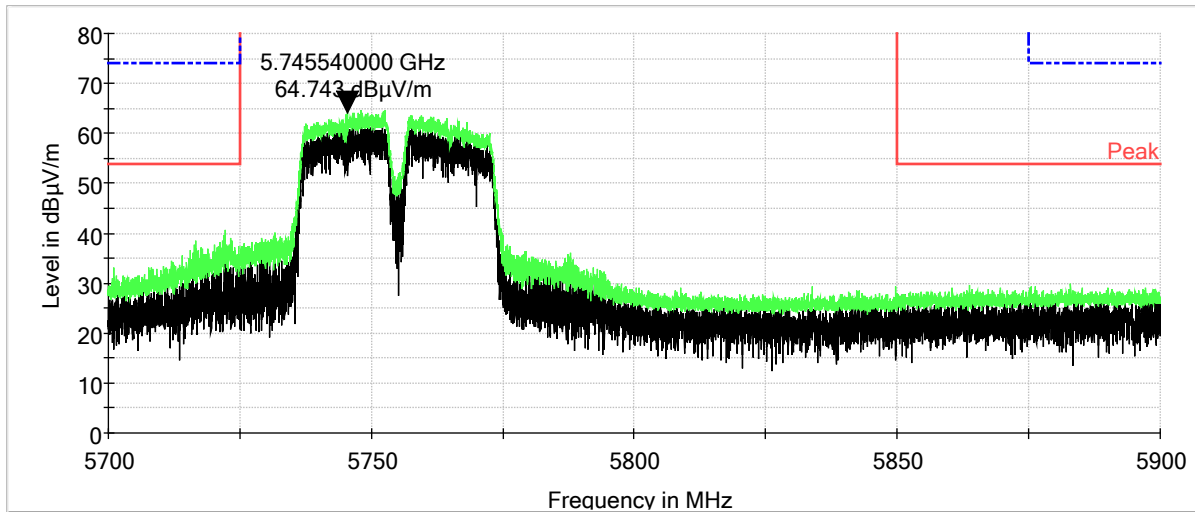
Frequency (MHz)	Antenna Polarization	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Final Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5715.000000	H	53.3	-16.6	36.70	54.0	-17.3
5725.000000	H	55.5	-16.6	38.90	54.0	-15.1
5850.000000	H	47.8	-16.3	31.50	54.0	-22.5
5860.000000	H	46.5	-16.2	30.30	54.0	-23.7



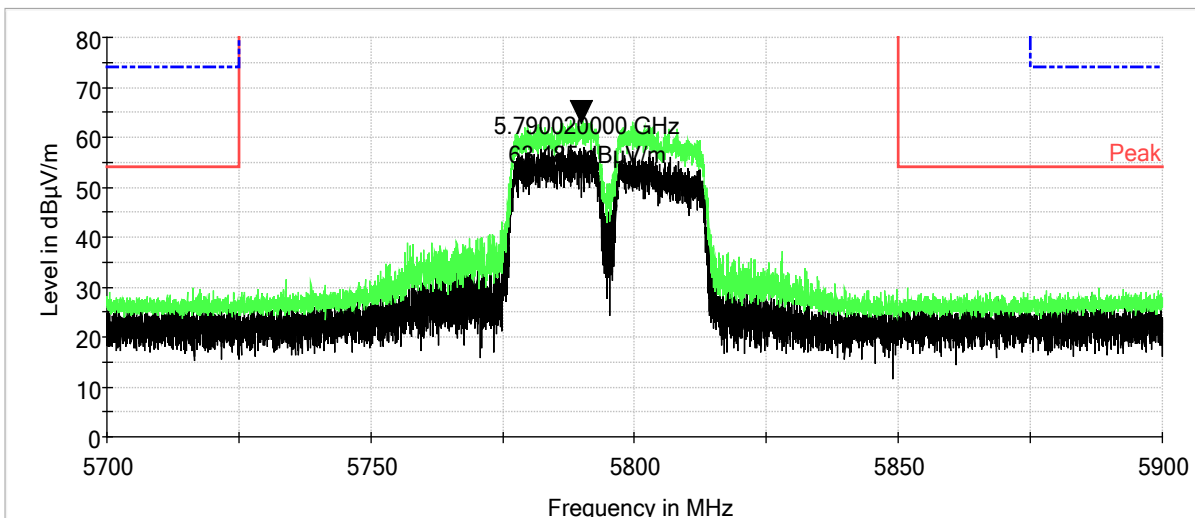
NOTE: The above table and graph are in dBuV/m. The -27dBm limited converted would be +68.2 dBuV/m. The results in the table show that the peak emissions are below the Average Limit. The above graph displays limit lines are just for reference. The plots are prescan plots for reference only. The limit lines are not actual limits as these are prescans only and just a reference.



Wi-Fi, 5.7 GHz – OFDM 40M: Lower Band Edge, Horizontal

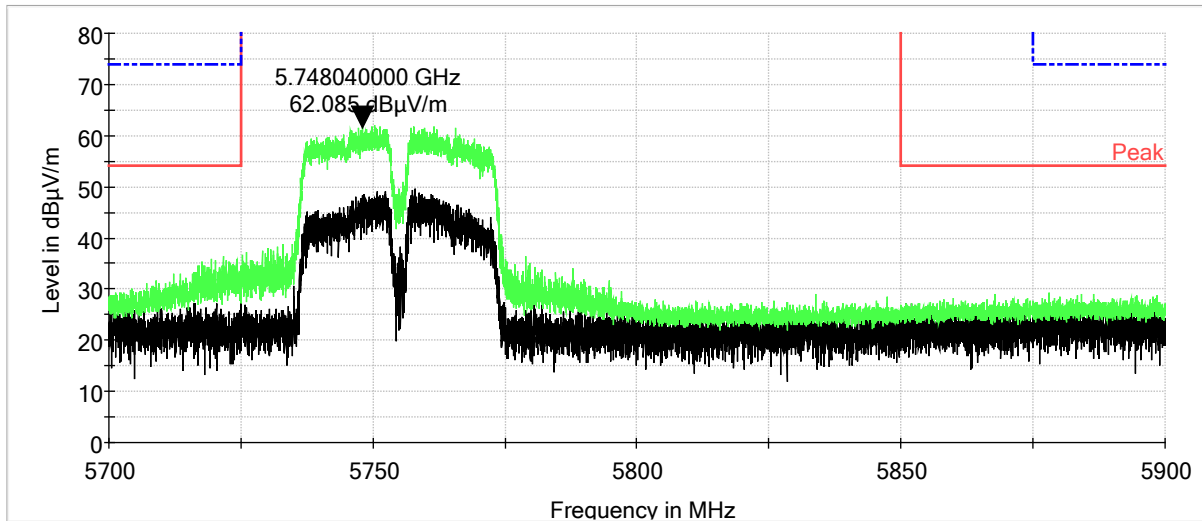


Wi-Fi, 5.7 GHz – OFDM 40M: Upper Band Edge, Horizontal

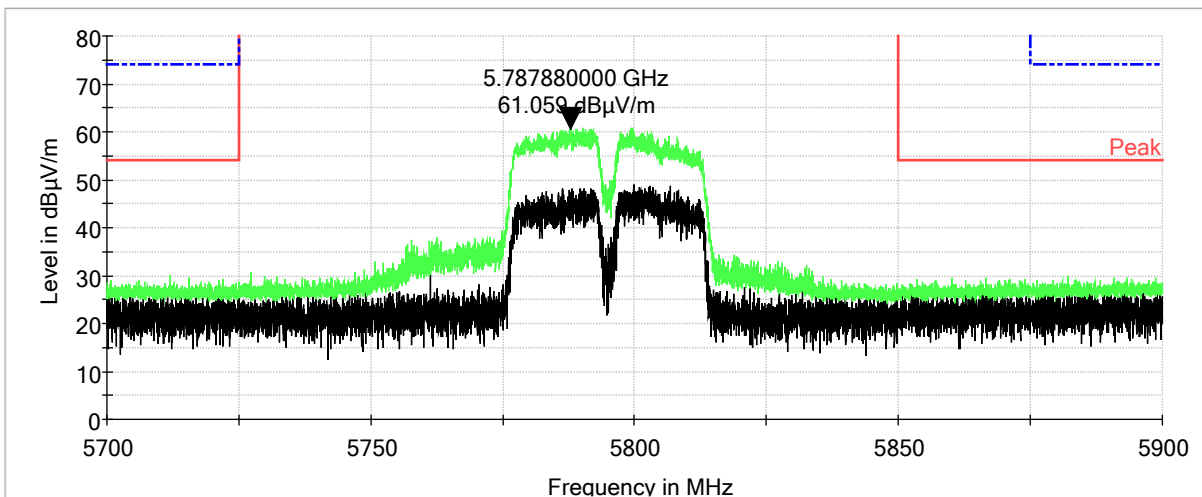




Wi-Fi, 5.7 GHz – OFDM 40M: Lower Band Edge, Vertical



Wi-Fi, 5.7 GHz – OFDM 40M: Upper Band Edge, Vertical





Wi-Fi, 5.7 GHz – OFDM 40M: 0.009 MHz to 0.15 MHz

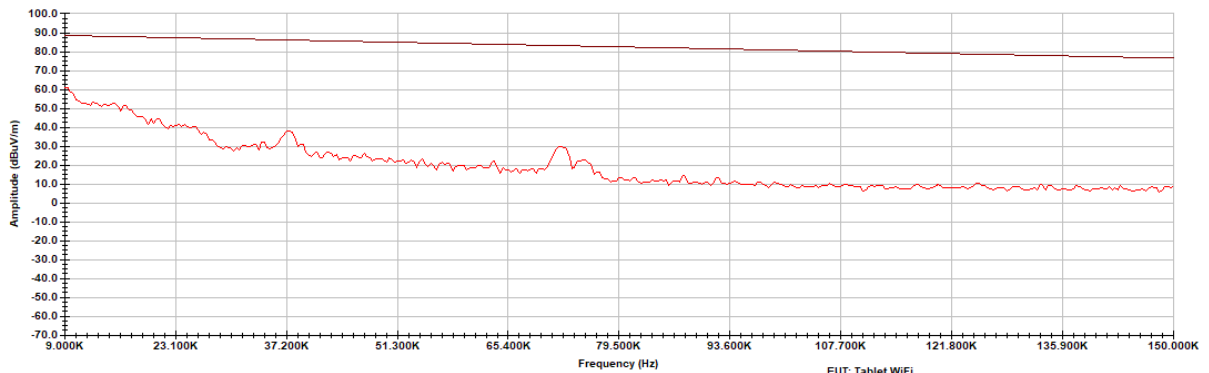
F2Labs

Spectrum Analyzer Trace Data

Corrected Graph

Analyzer Details: RBW: 1kHz, VBW: 3kHz, Sweep: Peak Hold

Notes: RE Scan, Loop, EUT on continuous TX, 5.7GHz



RE_Grab Trace.TIL

Wi-Fi, 5.7 GHz – OFDM 40M: 0.15 MHz to 30.0 MHz

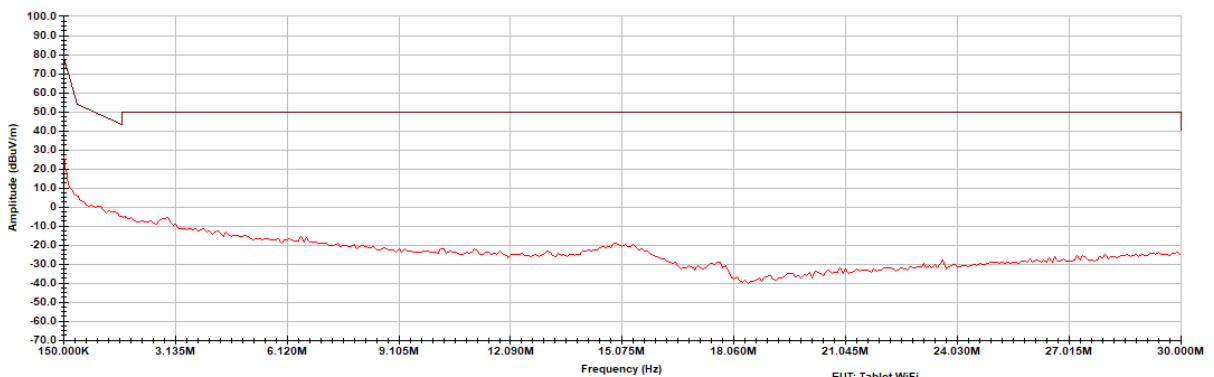
F2Labs

Spectrum Analyzer Trace Data

Corrected Graph

Analyzer Details: RBW: 10kHz, VBW: 30kHz, Sweep: Peak Hold

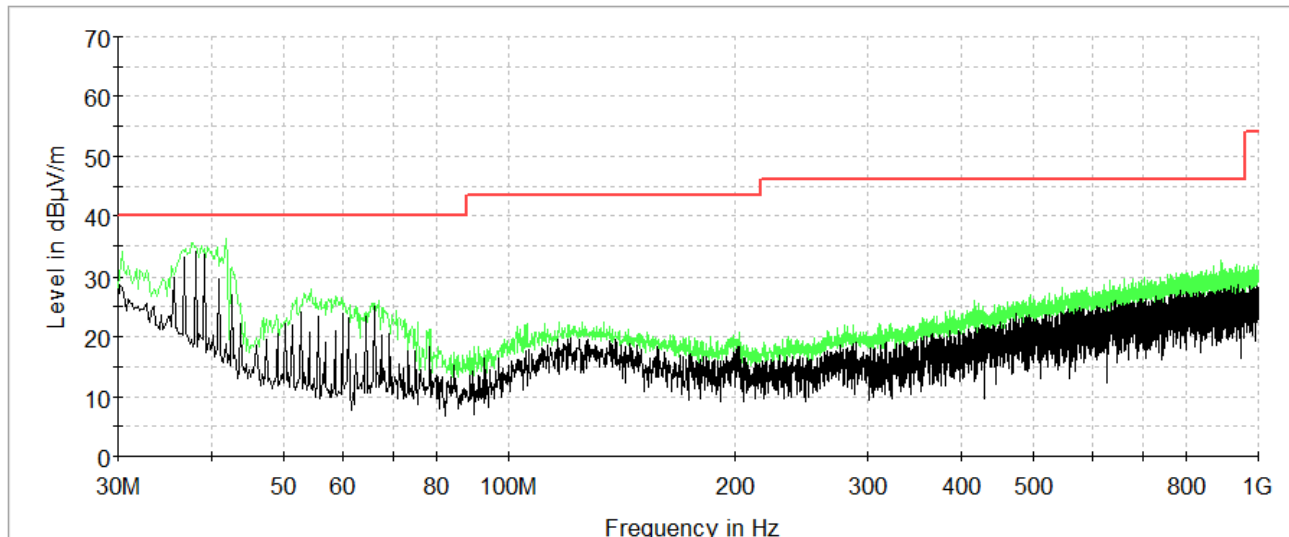
Notes: RE Scan, Loop, EUT on continuous TX, 5.7GHz



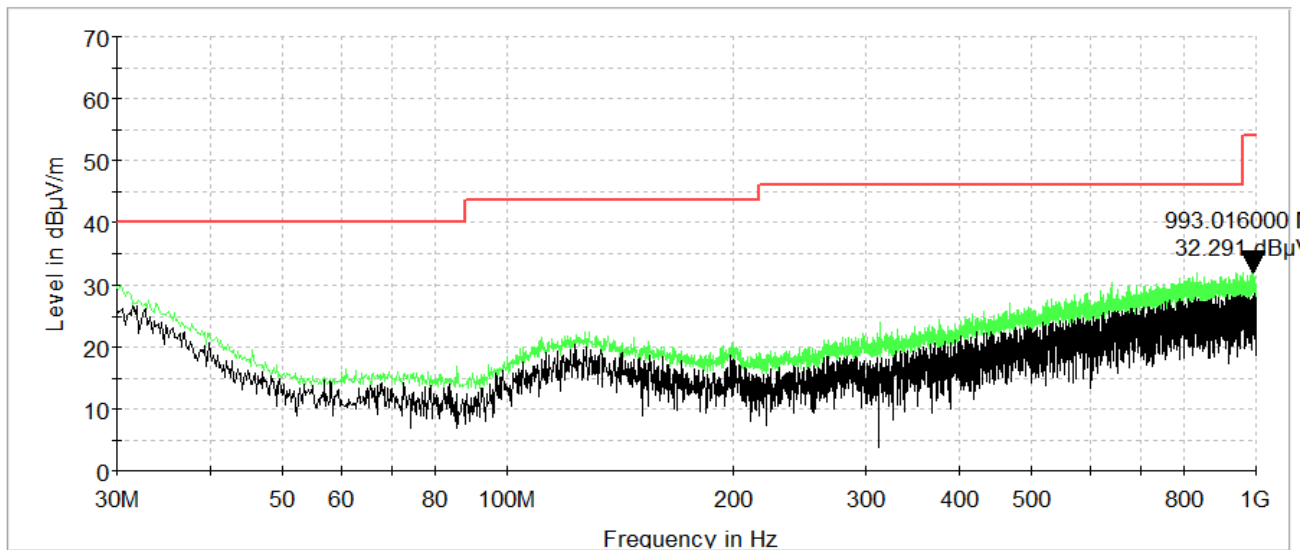
RE_Grab Trace.TIL



Wi-Fi, 5.7 GHz – OFDM 40M: 30 MHz to 1000 MHz, Vertical



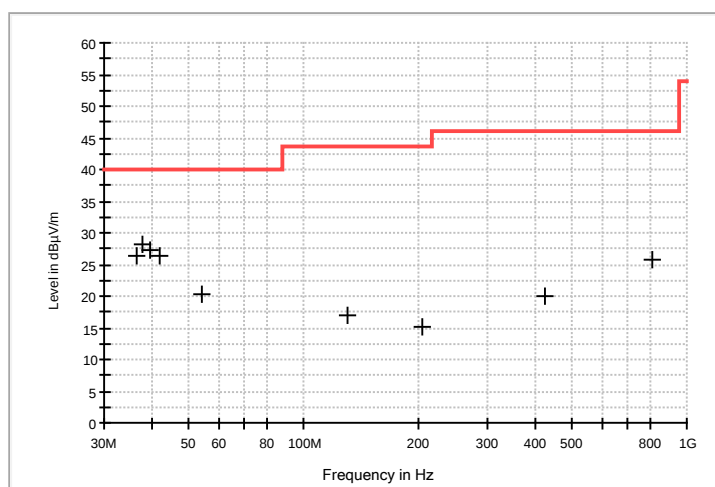
Wi-Fi, 5.7 GHz – OFDM 40M: 30 MHz to 1000 MHz, Horizontal





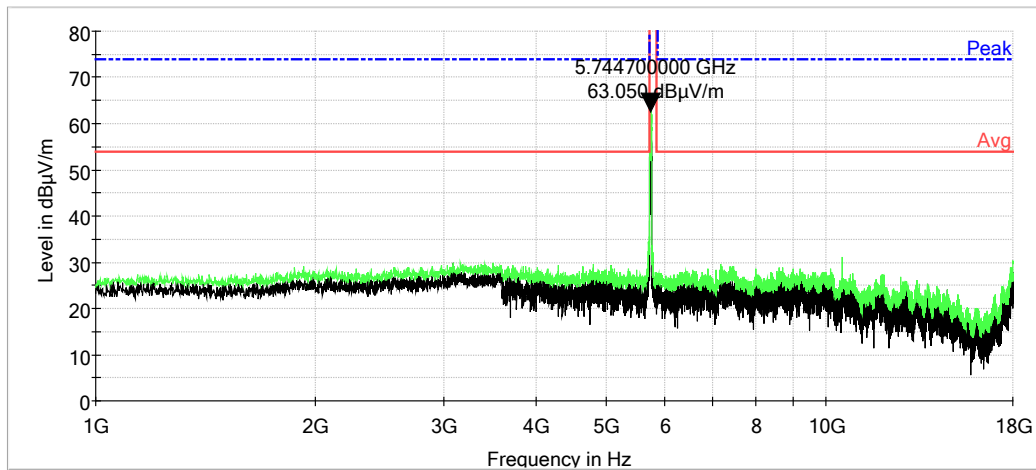
Wi-Fi, 5.7 GHz – OFDM 40M: Measurements

Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Azimuth (deg)	Reading (dBμV)	Correction Factors (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
36.400000	V	100.00	348.00	27.1	-0.9	26.2	40.0	-13.8
37.760000	V	100.00	358.00	30.3	-2.0	28.3	40.0	-11.7
39.520000	V	100.00	358.00	30.7	-3.3	27.4	40.0	-12.6
41.840000	V	100.00	266.00	31.4	-5.1	26.3	40.0	-13.7
54.040000	V	100.00	4.00	30.5	-10.3	20.2	40.0	-19.8
129.520000	V	100.00	4.00	20.7	-3.9	16.8	43.5	-26.7
202.680000	V	100.00	4.00	20.3	-5.3	15.0	43.5	-28.5
423.640000	V	100.00	4.00	21.1	-1.1	20.0	46.0	-26.0
810.280000	V	100.00	4.00	21.6	4.1	25.7	46.0	-20.3

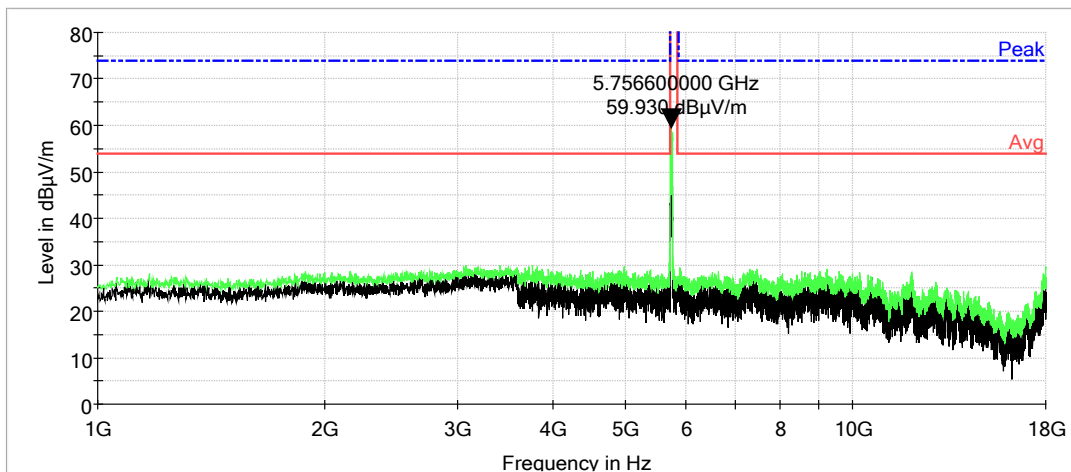




Wi-Fi, 5.7 GHz – OFDM 40M: 1 GHz to 18 GHz, Vertical

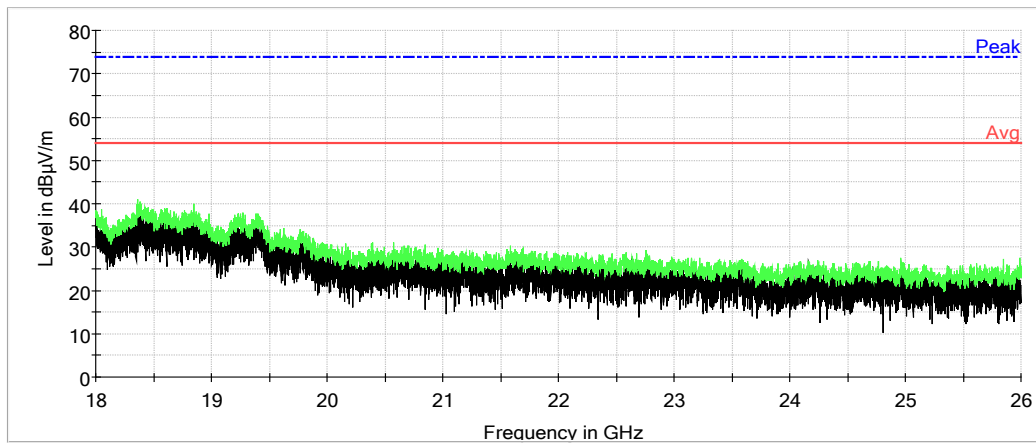


Wi-Fi, 5.7 GHz – OFDM 40M: 1 GHz to 18 GHz, Horizontal

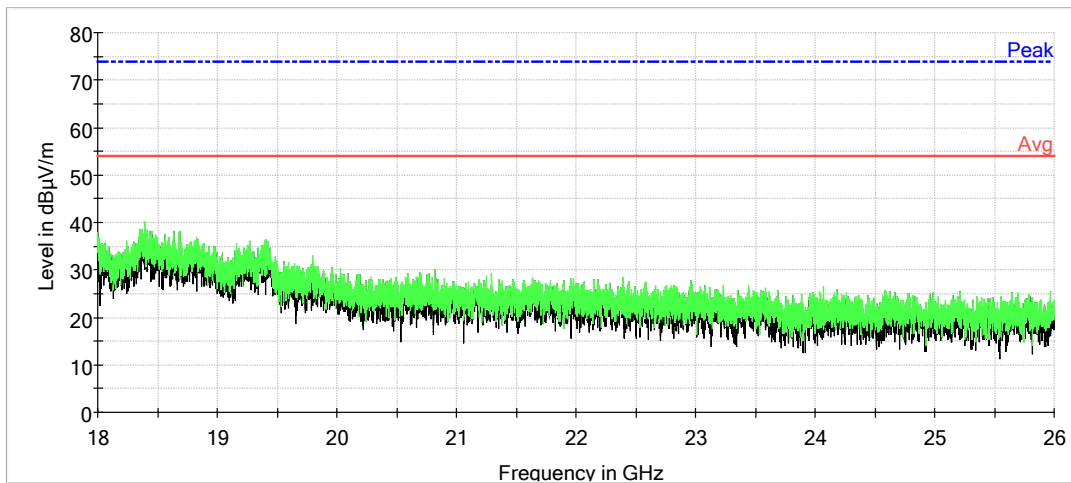




Wi-Fi, 5.7 GHz – OFDM 40M: 18 GHz to 26 GHz, Vertical

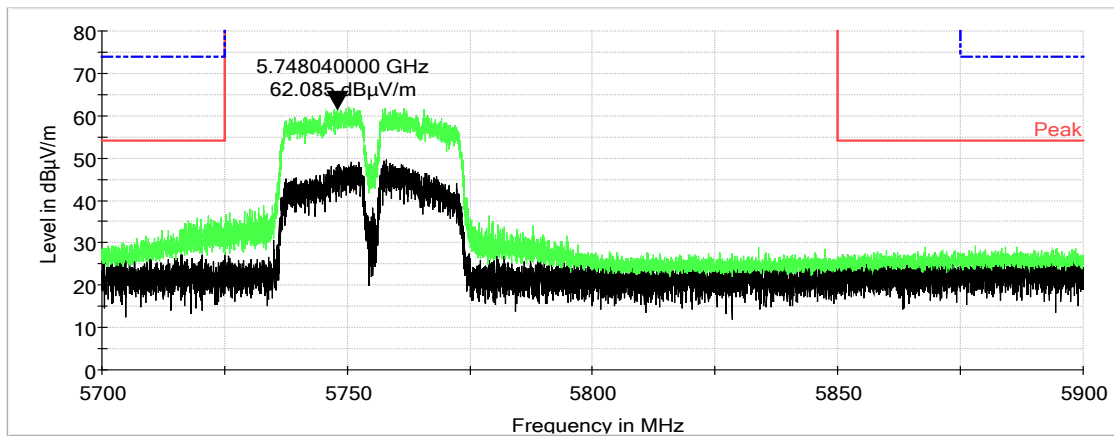


Wi-Fi, 5.7 GHz – OFDM 40M: 18 GHz to 26 GHz, Horizontal

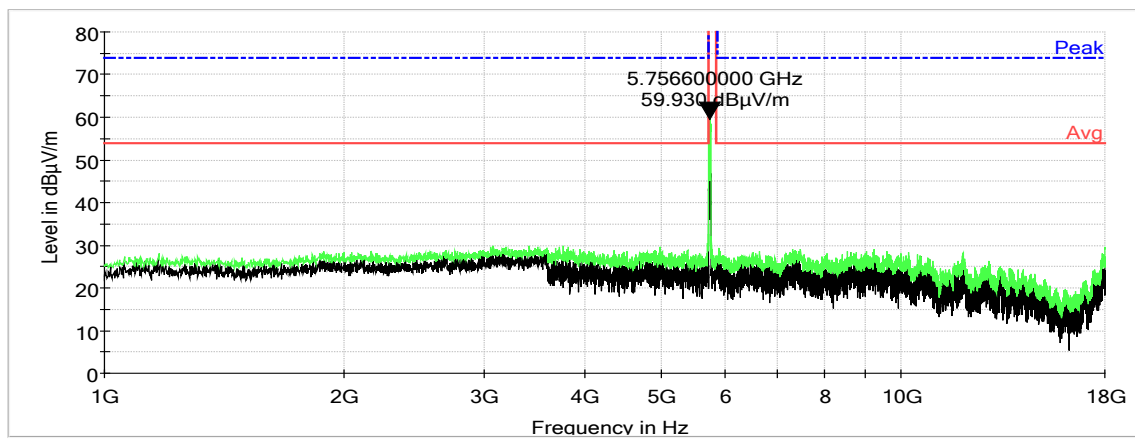




Wi-Fi, 5.7 GHz – OFDM 40M: 26 GHz to 40 GHz, Vertical



Wi-Fi, 5.7 GHz – OFDM 40M: 26 GHz to 40 GHz, Horizontal





12 PEAK POWER SPECTRAL DENSITY (PSD)

Peak power spectral density measurements were performed.

12.1 Requirements:

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

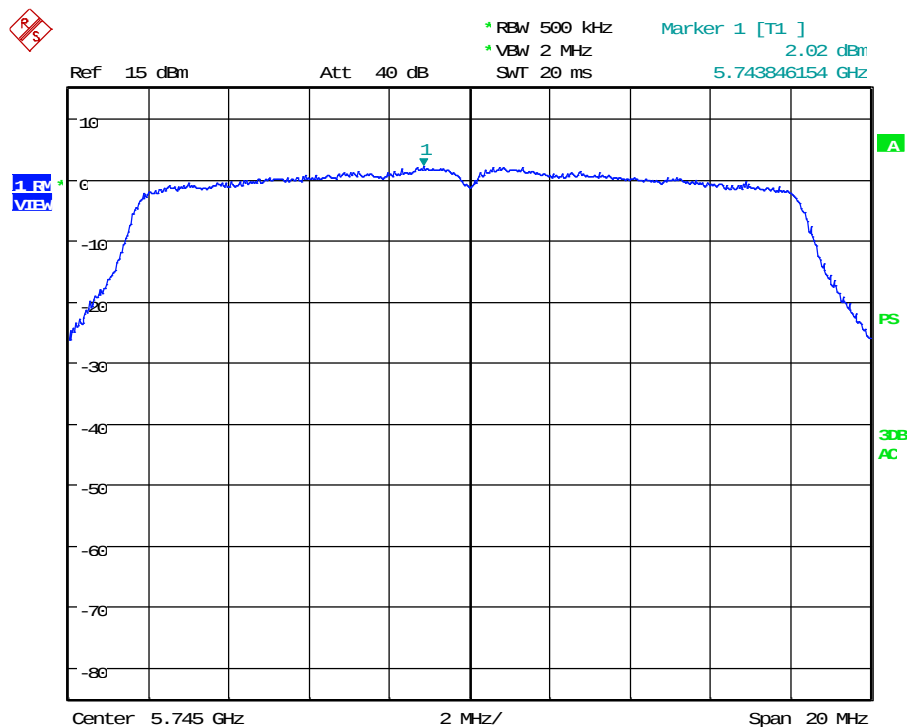


12.2 Peak Power Spectral Density Test Data

Test Date(s):	Feb. 5, 2020	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.407(a)(1,3); KDB789033	Air Temperature:	22.1 °C
		Relative Humidity:	40%

Note: RF Power was reduced to 15dBm setting to reduce Power Spectral Density to passing level.

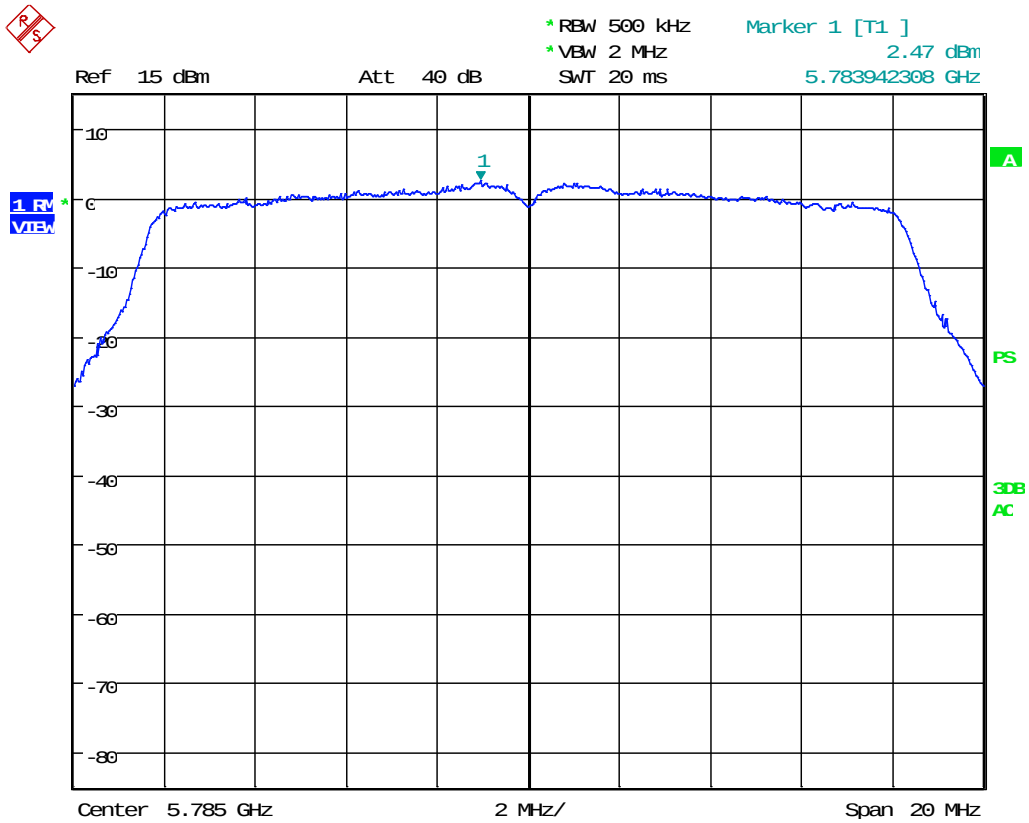
Wi-Fi, 5.7 GHz – OFDM 20M: Low Channel



Date: 5.FEB.2020 14:21:25



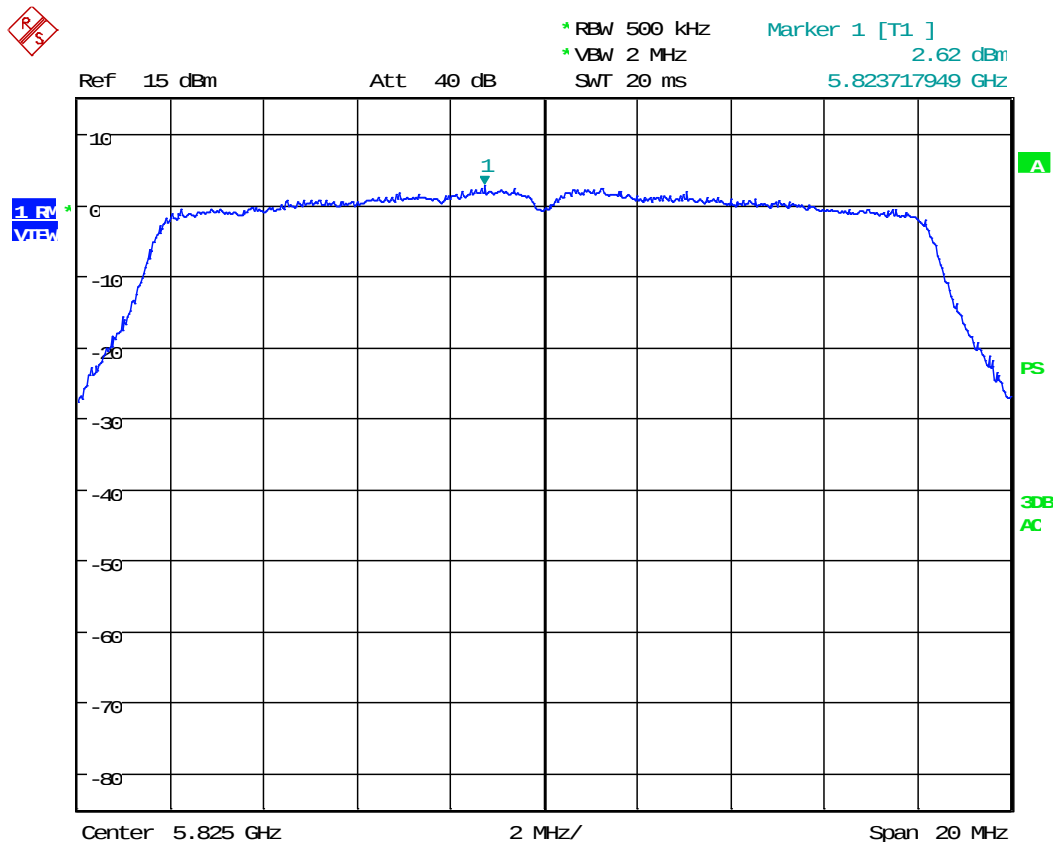
Wi-Fi, 5.7 GHz – OFDM 20M: Mid Channel



Date: 5.FEB.2020 14:22:30



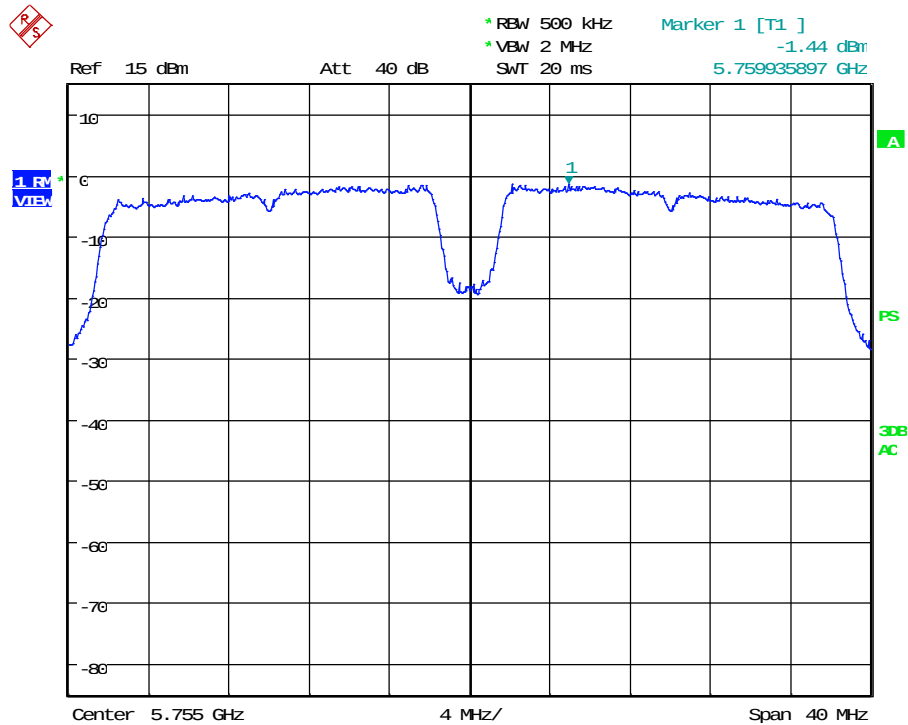
Wi-Fi, 5.7 GHz – OFDM 20M: High Channel



Date: 5.FEB.2020 14:23:17



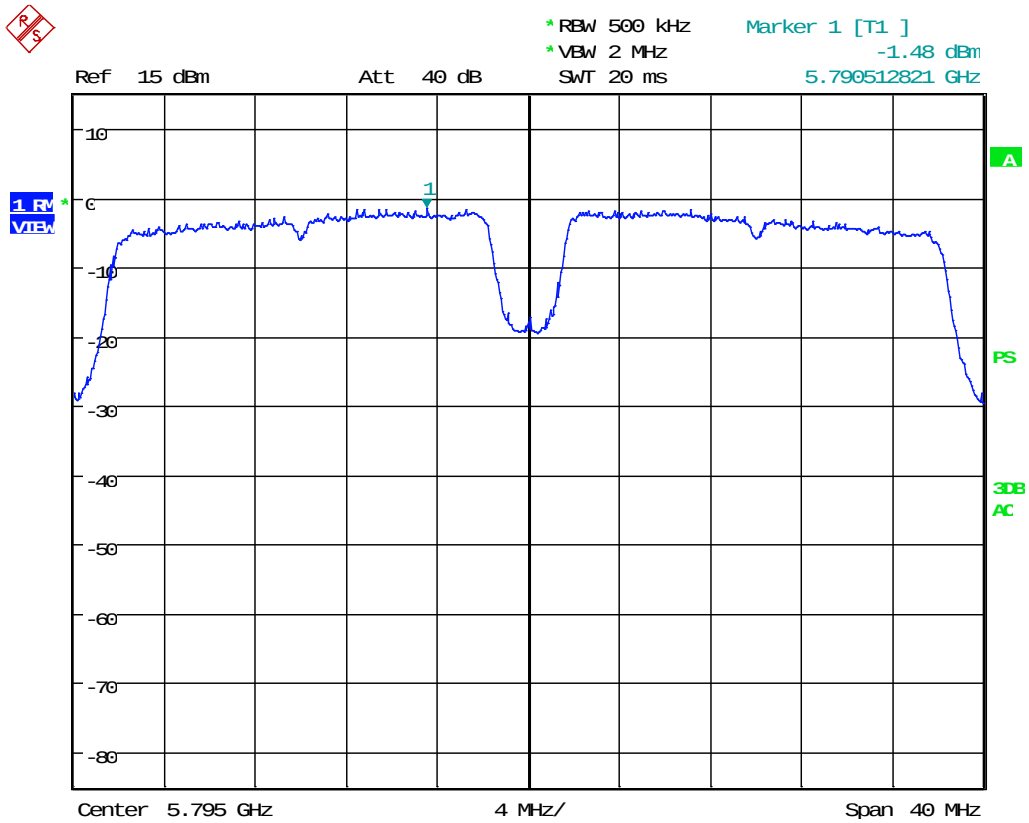
Wi-Fi, 5.7 GHz – OFDM 40M: Low Channel



Date: 5.FEB.2020 14:24:42



Wi-Fi, 5.7 GHz – OFDM 40M: High Channel

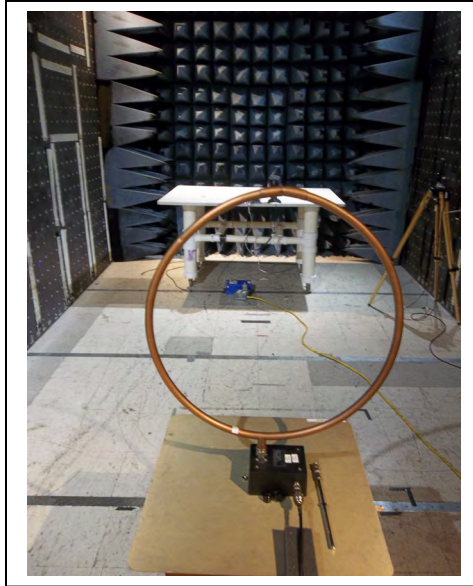


Date: 5.FEB.2020 14:25:43

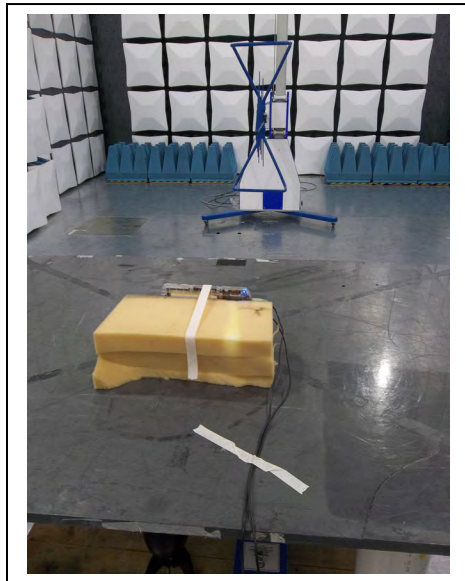


13 PHOTOGRAPHS

Radiated Spurious Emission, Less Than 30 MHz



Radiated Spurious Emission, 30 MHz to 1000 MHz





Radiated Spurious Emission, above 1 GHz



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





Voltage Variations

