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CERTIFICATION TEST REPORT

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

Applicant: Same As Above

Product Name: JP6Mini

Product Description: 4.3" Lithium Capacitive Touch Tablet for Inmates

Power Source: Battery and AC/DC Adaptor

Model: JP6Mini

FCC ID: 2AUJ4JP6MINI

Testing Commenced: 2020-04-13

Testing Ended: 2020-08-13

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. 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**
- **FCC15.207 - Conducted Limits**



Order Number: F2P22752

Applicant: Securus Technologies
Model: JP6Mini

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 using a coverage factor of $k=2$. The Uncertainty for a laboratory are referred to as U_{lab} . For Radiated and Conducted Emissions, the Expanded Uncertainty is compared to the U_{cispr} values to determine if a specific margin is required to deem compliance.

U_{lab}

Measurement Range	Combined Uncertainty	Expanded Uncertainty
Radiated Emissions <1 GHz @ 3m	2.54	5.07dB
Radiated Emissions <1 GHz @ 10m	2.55	5.09dB
Radiated Emissions 1 GHz to 2.7 GHz	1.81	3.62dB
Radiated Emissions 2.7 GHz to 18 GHz	1.55	3.10dB
AC Power Line Conducted Emissions, 150kHz to 30 MHz	1.38	2.76dB
AC Power Line Conducted Emissions, 9kHz to 150kHz	1.66	3.32dB

U_{cispr}

Measurement Range	Expanded Uncertainty
Radiated Emissions <1 GHz @ 3m	5.2dB
Radiated Emissions <1 GHz @ 10m	5.2dB
Radiated Emissions 1 GHz to 2.7 GHz	Under Consideration
Radiated Emissions 2.7 GHz to 18 GHz	Under Consideration
AC Power Line Conducted Emissions, 150kHz to 30 MHz	3.6dB
AC Power Line Conducted Emissions, 9kHz to 150kHz	4.0dB

If U_{lab} is less than or equal to U_{cispr} , then:

- compliance is deemed to occur if no measured disturbance exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance exceeds the disturbance limit.

If U_{lab} is greater than U_{cispr} in table 1, then:

- compliance is deemed to occur if no measured disturbance, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit.

Note: Only measurements listed in the tables above that relate to tests included in this Test Report are applicable.



1.4 Document History

Document Number	Description	Issue Date	Approved By
F2P22752-02E	First Issue	2020-08-13	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
Conducted Emissions	CFR 47 Part 15.207(a)	Complies

Modifications Made to the Equipment
None



3 TABLE OF MEASURED RESULTS

UNII 1

Test			Low Channel	Mid Channel	High Channel
OFDM54 20M:			5180 MHz	5220 MHz	5240 MHz
OFDM54 40M:			5190 MHz	--	5230 MHz
RF Output Power*	5.1 GHz	OFDM54 20M	38.10mW, 15.81dBm	28.44mW, 14.54dBm	32.13mW, 15.07dBm
		OFDM54 40M	36.39mW, 15.61dBm	--	30.19mW, 14.80dBm
	Output Power Limits		250mW, 24dBm	250mW, 24dBm	250mW, 24dBm
E.I.R.P.*	5.1 GHz	OFDM54 20M	60.39mW, 17.81dBm	45.08mW, 16.54dBm	50.93mW, 17.07dBm
		OFDM54 40M	57.67mW, 17.61dBm	--	47.86mW, 16.80dBm
	E.I.R.P. Limits		1000mW, 30dBm	1000mW, 30dBm	1000mW, 30dBm
Peak Power Spectral Density	5.1 GHz	OFDM54 20M	9.56dBm	9.55dBm	9.65dBm
		OFDM54 40M	9.0dBm	--	8.82dBm
	Limit:		11dBm/1 MHz	11dBm/1 MHz	11dBm/1 MHz
-26dB Occupied Bandwidth (MHz)	5.1 GHz	OFDM54 20M	19.519	19.470	19.471
		OFDM54 40M	39.742	--	39.817
99% Occupied Bandwidth (MHz)	5.1 GHz	OFDM54 20M	16.410	16.380	16.380
		OFDM54 40M	36.000	--	35.950
Voltage Variations	OFDM54 20M	@ 85%	18.55dBm 71.6mW	18.62dBm 72.7,W	18.60dBm 72.4mW
		@ 115%	18.87dBm 77.1mW	19.17dBm 82.6mW	19.03dBm 80.0mW
	OFDM54 40M	@ 85%	20.35dBm 108.4mW	--	20.23dBm 105.4mW
		@ 115%	20.83dBm 121.0mW	--	20.42dBm 110.2mW

*The Output Power was reduced in order to meet SAR requirements. These results are not the max power that the device can transmit at, but is the max power allowed to meet the requirements. The setting is controlled in firmware and will be set to this level with no option by the end user to increase it. The max power before the reduction to meet SAR was at the 5190 Low channel at OFDM54 40M bandwidth and was 118.8mW, 20.75dBm. All other tests listed in this report were done at the previous higher power setting. The results would only comply by even more since the power was reduced, so those tests were not reperformed at the lower power setting.



UNII 3

Test			Low Channel	Mid Channel	High Channel
OFDM54 20M:			5745 MHz	5785 MHz	5825 MHz
OFDM54 40M:			5755 MHz	--	5795 MHz
RF Output Power*	5.7 GHz	OFDM54 20M	28.05mW, 14.48dBm	28.44mW, 14.54dBm	25.76mW, 14.11dBm
		OFDM54 40M	29.78mW, 14.74dBm	--	27.92mW, 14.46dBm
	Output Power Limits		250mW, 24dBm	250mW, 24dBm	250mW, 24dBm
E.I.R.P.*	5.7 GHz	OFDM54 20M	44.46mW, 16.48dBm	45.08mW, 16.54dBm	40.83mW, 16.11dBm
		OFDM54 40M	47.20mW, 16.74dBm	--	44.25mW, 16.46dBm
	E.I.R.P. Limits		1000mW, 30dBm	1000mW, 30dBm	1000mW, 30dBm
Peak Power Spectral Density	5.7 GHz	OFDM54 20M	9.80dBm	10.30dBm	10.84dBm
		OFDM54 40M	7.81dBm	--	6.96dBm
	Limit:		11dBm/1 MHz	11dBm/1 MHz	11dBm/1 MHz
-6dB Occupied Bandwidth (MHz)	5.7 GHz	OFDM54 20M	16.45	16.442	16.394
		OFDM54 40M	36.298	--	36.298
99% Occupied Bandwidth (MHz)	5.7 GHz	OFDM54 20M	16.410	16.380	16.380
		OFDM54 40M	36.000	--	35.950
Voltage Variations	OFDM54 20M	@ 85%	21.95dBm 156.7mW	21.37dBm 137.0mW	20.95dBm 156.6mW
		@ 115%	22.9dBm 165.6mW	21.65dBm 146.2mW	21.13dBm 129.7mW
	OFDM54 40M	@ 85%	21.83dBm 152.4mW	--	21.41dBm 138.3mW
		@ 115%	21.94dBm 156.3mW	--	21.46dBm 140.0mW

*The Output Power was reduced in order to meet SAR requirements. These results are not the max power that the device can transmit at, but is the max power allowed to meet the requirements. The setting is controlled in firmware and will be set to this level with no option by the end user to increase it. The max power before the reduction to meet SAR was at the 5190 Low channel at OFDM54 40M bandwidth and was 118.8mW, 20.75dBm. All other tests listed in this report were done at the previous higher power setting. The results would only comply by even more since the power was reduced, so those tests were not reperformed at the lower power setting.



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: JP6Mini

Serial No.: None Specified

FCC ID: **2AUJ4JP6MINI**

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:

2.0dBi 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 5.15-5.25 GHz and 5.725-5.85 GHz spectrums.

For the 5.15-5.25 GHz 20MHz channels, 5.18 GHz was the Center frequency for the low channel, 5.220 GHz was the Center frequency for the mid channel, and 5.240 GHz was the Center frequency for the high channel. For the 40MHz channels, 5.19 GHz was the Center frequency for the low channel, and 5.23 GHz was the Center frequency for the high channel.

For the 5.725-5.850 GHz 20MHz channels, 5.745 GHz was the Center frequency for the low channel, 5.785 GHz was the Center frequency for the mid channel, and 5.825 GHz was the Center frequency for the high channel. For the 40MHz channels, 5.755 GHz was the Center frequency for the low channel, and 5.795 GHz was the Center frequency for the high channel.

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	2021-01-02
Temp/Hum. Recorder	CL261	Extech	445814	04	2021-02-12
Temp/Hum. Recorder	CL263	Extech	445814	06	2021-02-12
Receiver	CL151	Rohde & Schwarz	ESU40	100319	2020-10-21
Receiver	CL204	Rohde & Schwarz	ESR7	101714	2020-10-16
Antenna, Bilog	CL211	Sunol Sciences, Inc.	JB1	QA021017	2021-10-03
Horn Antenna	CL098	Emco	3115	9809-5580	2021-01-31
Pre-Amplifier	CL153	Agilent	83006-69007	MY39500791	2020-08-05
Amplifier w/Monopole & 18" Loop	CL163-Loop	A.H. Systems, Inc.	EHA-52B	100	2020-07-24
Software:	Tile Version 3.4.B.3		Software Verified: 2020-04-13 to 2020-04-20		
Software:	EMC 32, Version 8.53.0		Software Verified: 2020-04-13 to 2020-04-20, 2020-08-07		
Antenna, Horn	CL114	A. H. Systems, Inc.	SAS-572	237	2021-02-04
Spectrum Analyzer	CL147	Agilent	E7402	MY45101241	2021-01-06
Temp./Hum. Recorder	CL263	Extech	445814	06	2021-02-12
Spectrum Analyzer	0204	Hewlett Packard	HP8591A	3149A02546	2020-07-29
Software	EMC Analyzer 85712D Rev. A.00.01			Date Verified	2020-04-13
Transient Limiter	0202	Hewlett Packard	11947A	3107A00729	2020-07-29
LISN	CL181	Com-Power	LI-125A	191226	2020-09-06
LISN	CL182	Com-Power	LI-125A	191225	2020-09-06
Horn Antenna (26.5-40 GHz)	CL188	Com-Power	AH-640	091065	2021-07-23
Pre-Amplifier (18 GHz-40 GHz)	CL189	Com-Power	PAM-840A	461303	2021-07-31
Low Loss Cable Set	--	Pasternack	PE3C0666-252 / PE3C066-50CM	None Spec.	2020-08-31



7 OCCUPIED BANDWIDTH

7.1 Requirements:

UNII 1

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%.

UNII 3

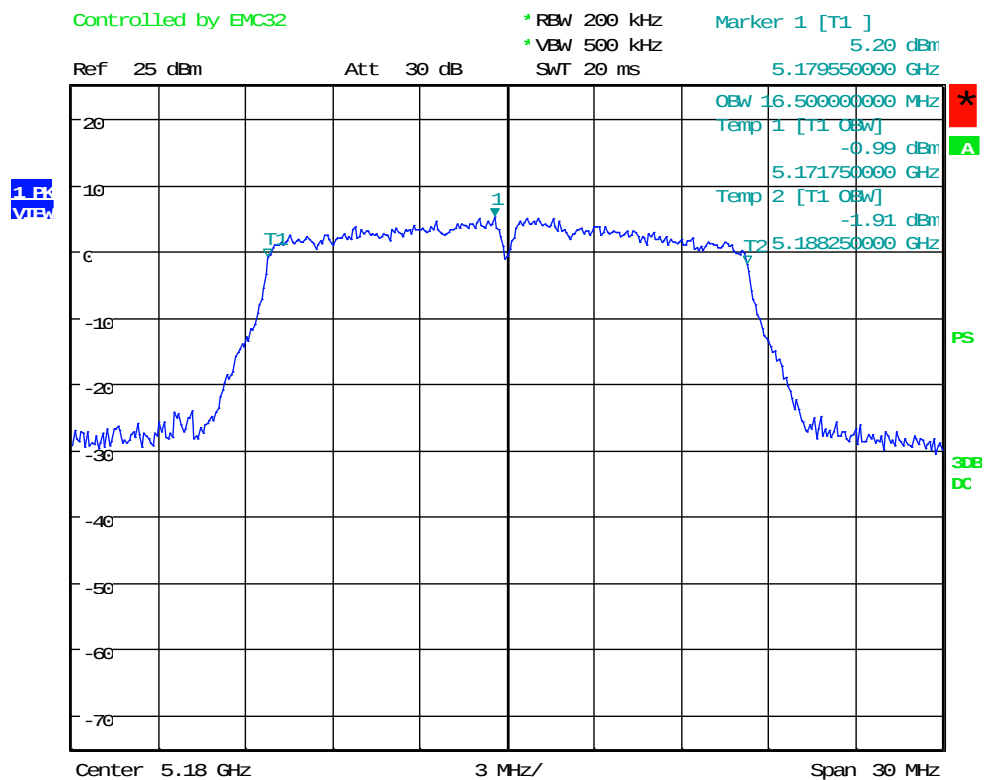
Bandwidth measurements were made at the low, mid and high frequencies. The -6dB bandwidth was measured using the marker delta method. The 99% bandwidth is included and was measured using the receiver's OBW function set for 99%.



7.2 Occupied Bandwidth Test Data

Test Date(s):	2020-04-13	Test Engineer(s):	J. Chiller
Standards:	CFR 47 Part 15.215(c)	Air Temperature:	22.4°C
		Relative Humidity:	35%

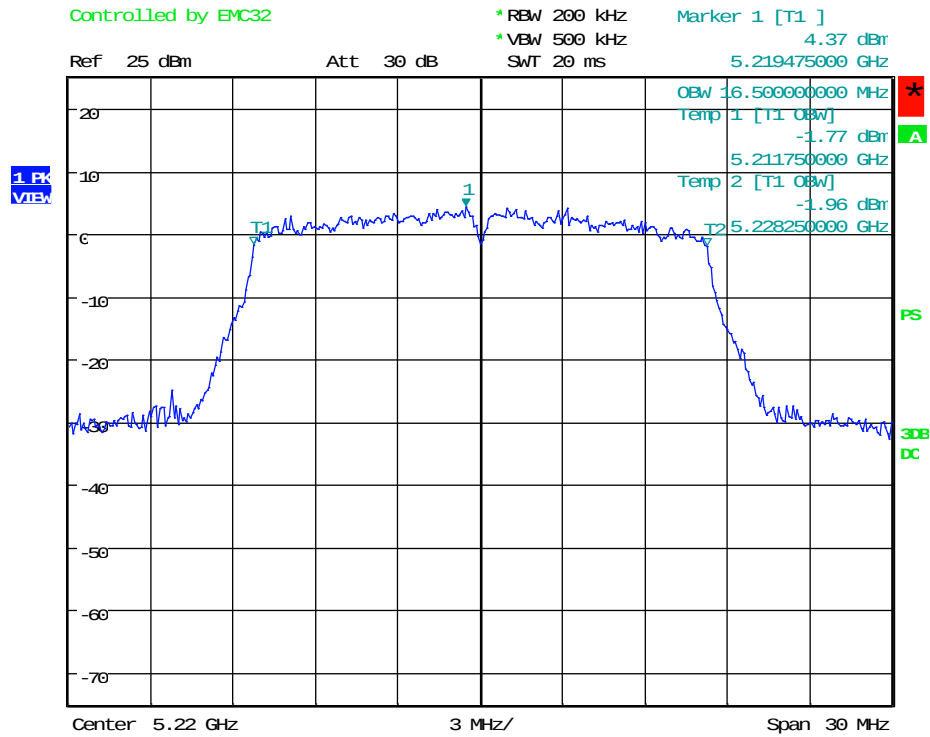
UNII 1, 5.1 GHz, OFDM54 20M: 99% OBW, Low Channel



Date: 13.APR.2020 13:03:12



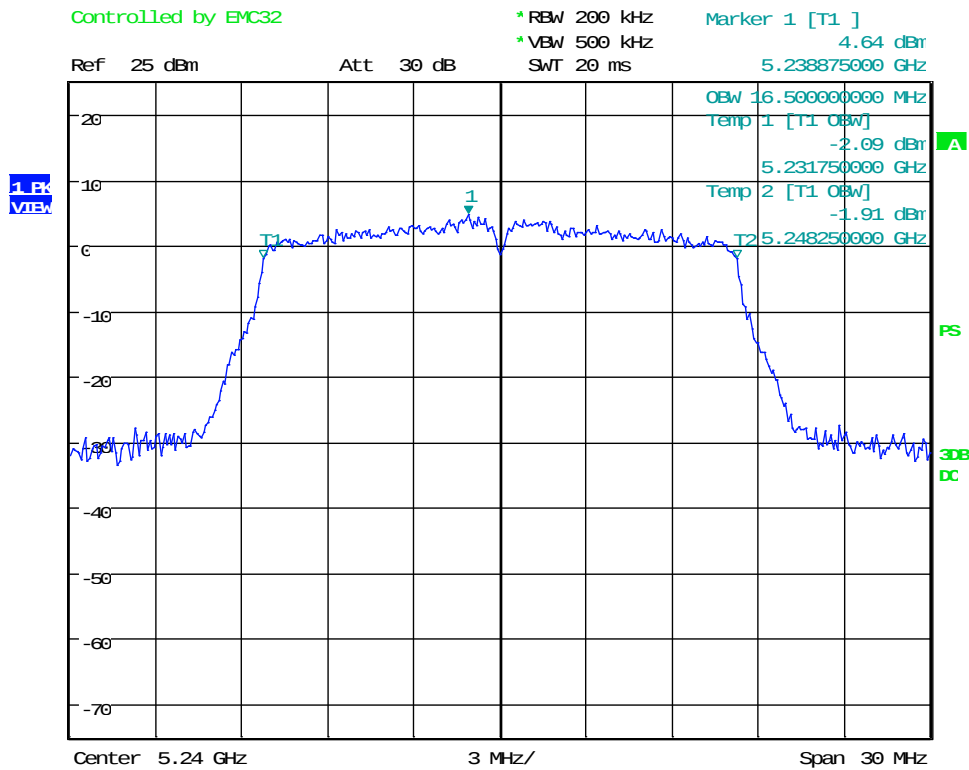
UNII 1, 5.1 GHz, OFDM54 20M: 99% OBW, Mid Channel



Date: 13.APR.2020 13:06:10



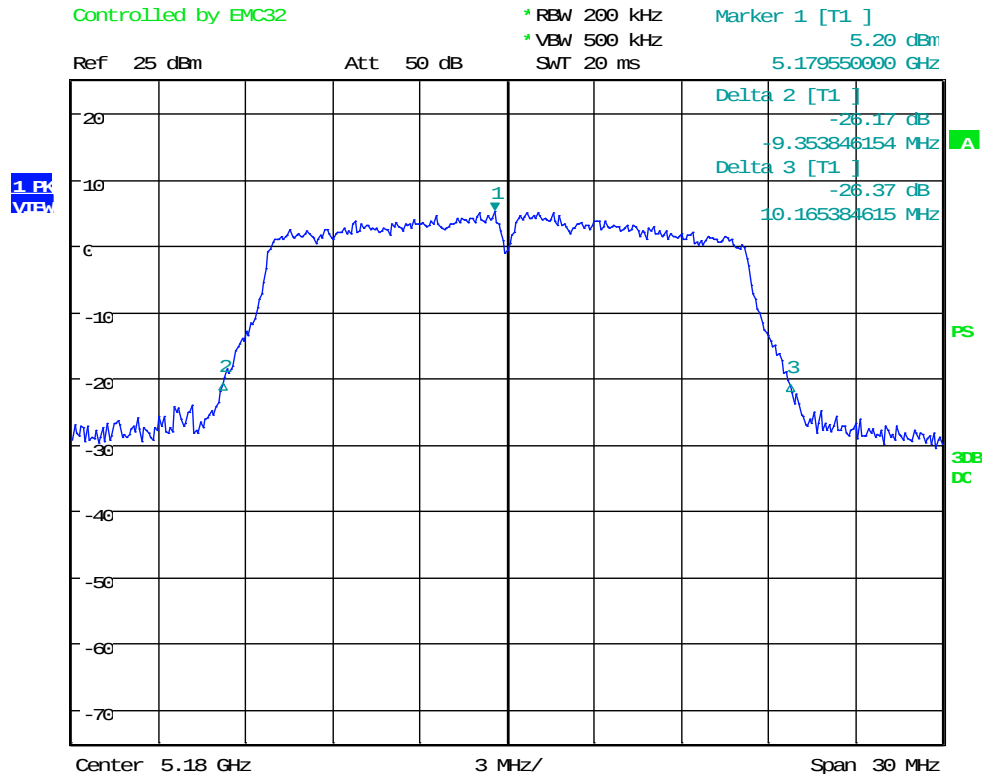
UNII 1, 5.1 GHz, OFDM54 20M: 99% OBW, High Channel



Date: 13.APR.2020 13:07:33



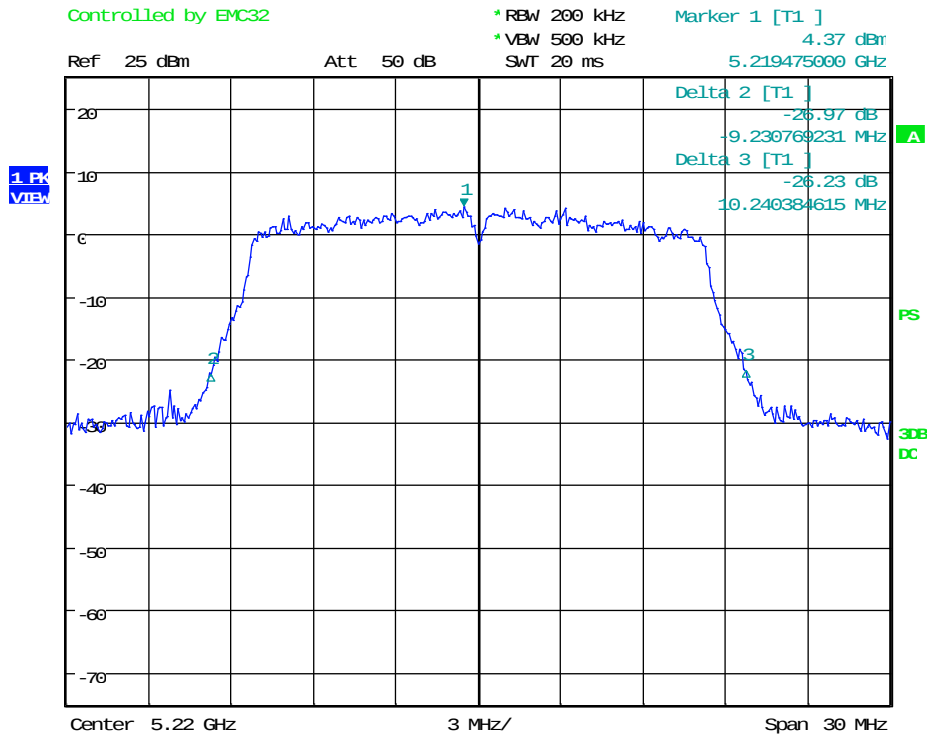
UNII 1, 5.1 GHz, OFDM54 20M: -26dB OBW, Low Channel



Date: 13.APR.2020 13:02:02



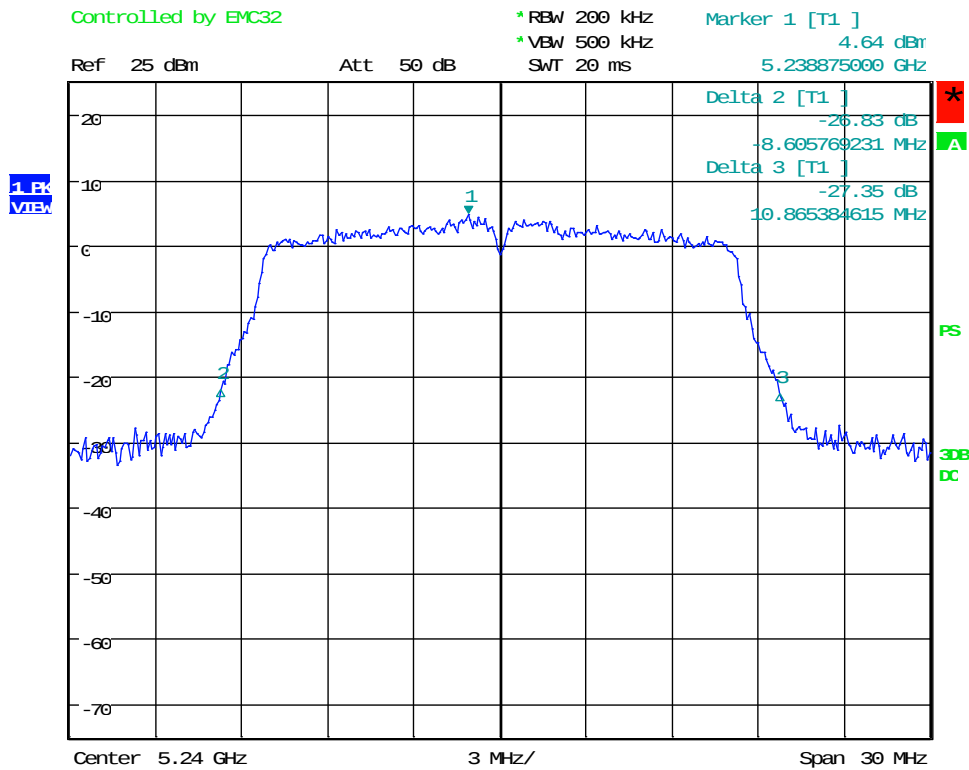
UNII 1, 5.1 GHz, OFDM54 20M: -26dB OBW, Mid Channel



Date: 13.APR.2020 13:05:07



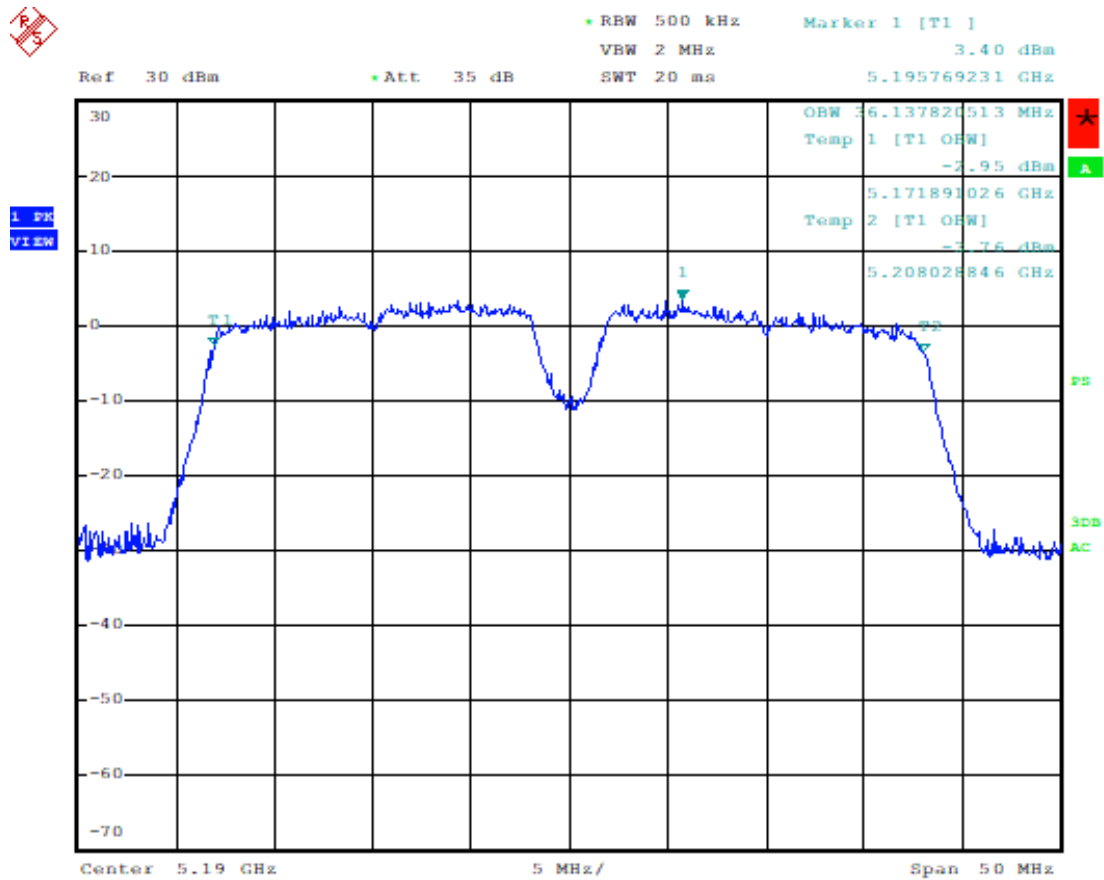
UNII 1, 5.1 GHz, OFDM54 20M: -26dB OBW, High Channel



Date: 13.APR.2020 13:09:03



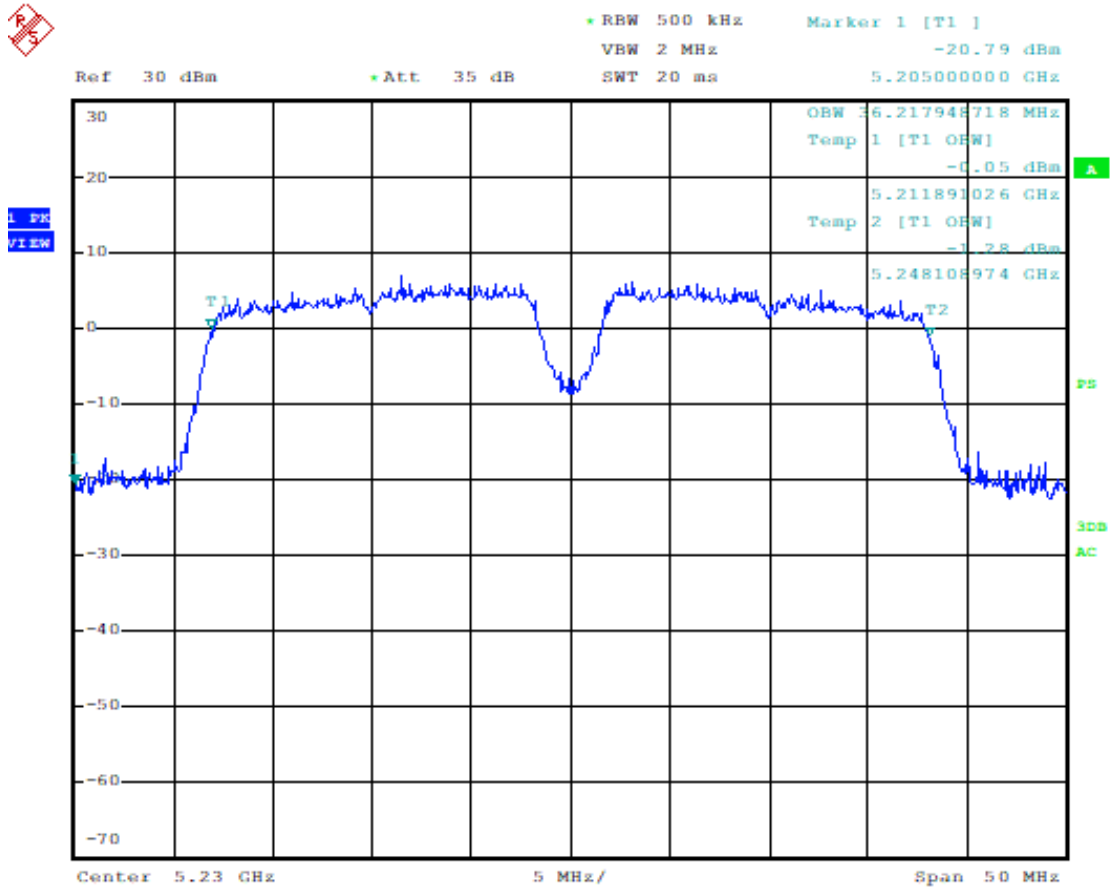
UNII 1, 5.1 GHz, OFDM54 40M: 99% OBW, Low Channel



Date: 14.MAY.2020 09:53:35



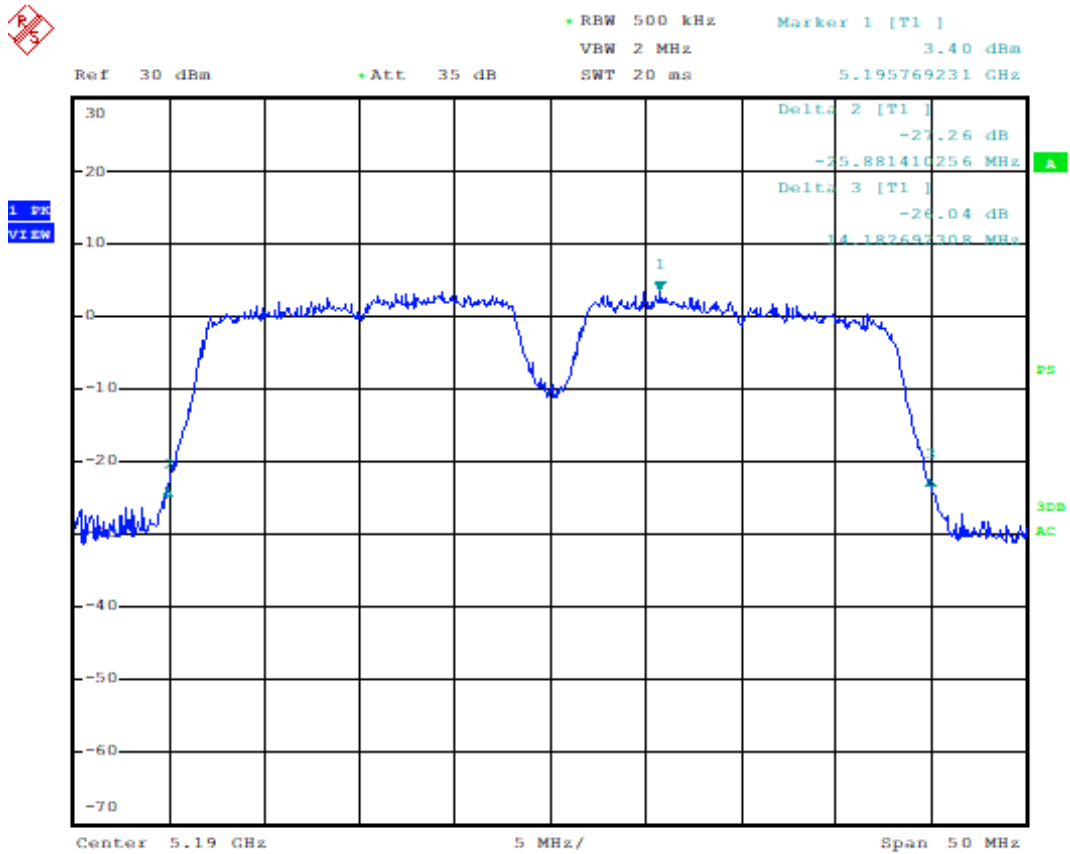
UNII 1, 5.1 GHz, OFDM54 40M: 99% OBW, High Channel



Date: 14.MAY.2020 10:00:51



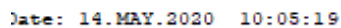
UNII 1, 5.1 GHz, OFDM54 40M: -26dB OBW, Low Channel



Date: 14.MAY.2020 09:53:11

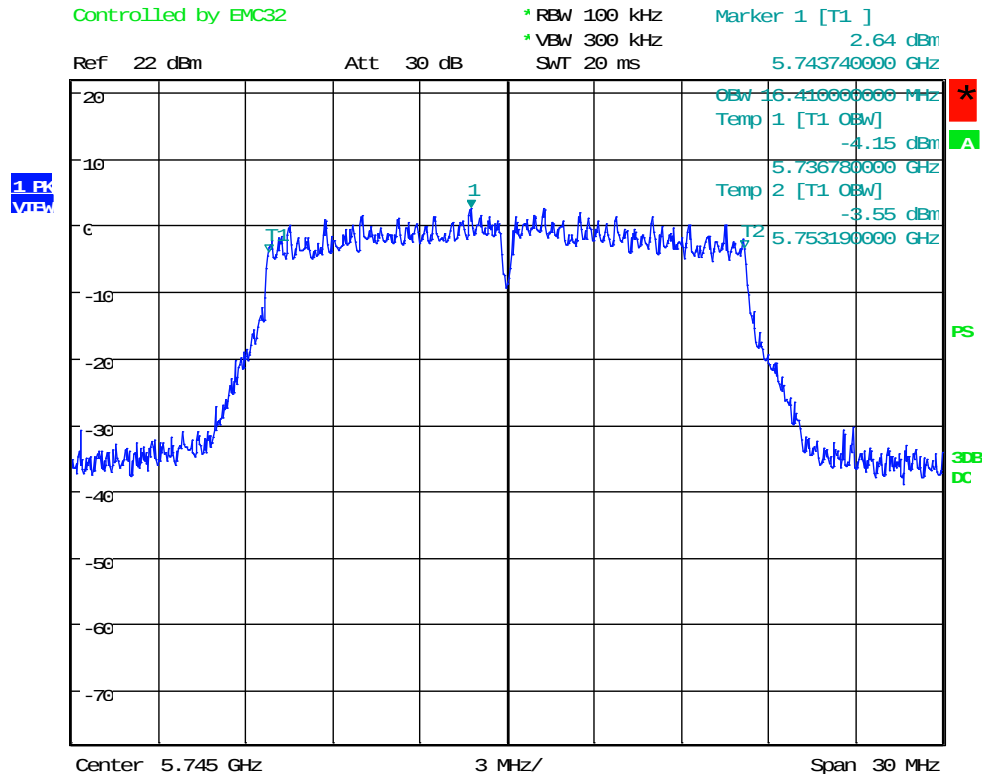


UNII 1, 5.1 GHz, OFDM54 40M: -26dB OBW, High Channel





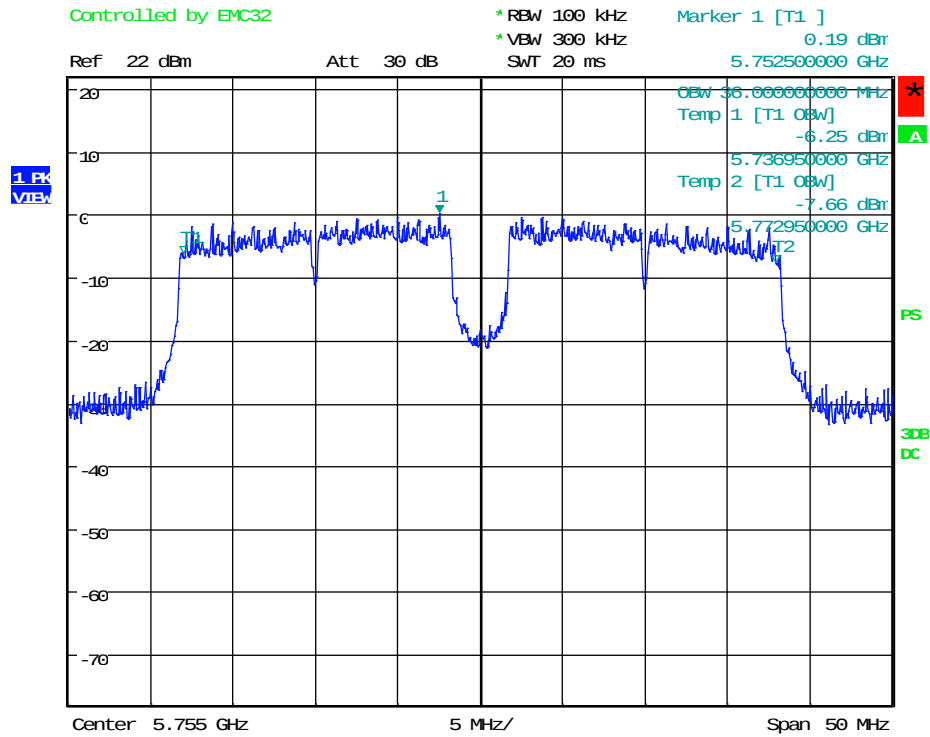
UNII 3, 5.7 GHz, OFDM54 20M: 99% OBW, Low Channel



Date: 13.APR.2020 13:44:27



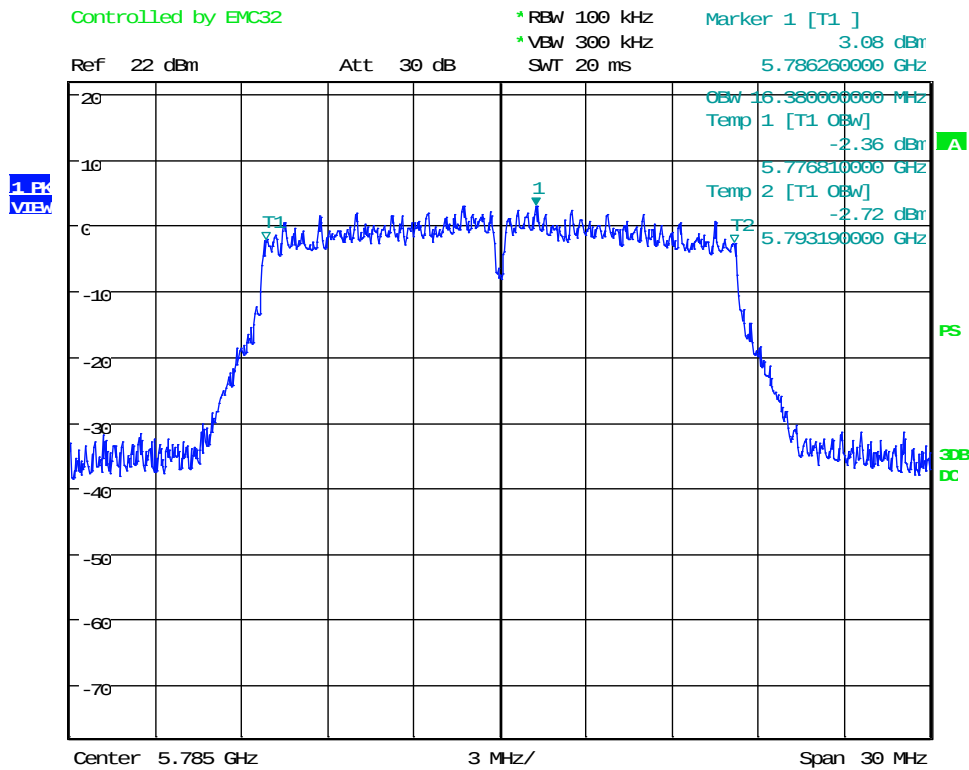
UNII 3, 5.7 GHz, OFDM54 40M: 99% OBW, Mid Channel



Date: 13.APR.2020 13:55:31



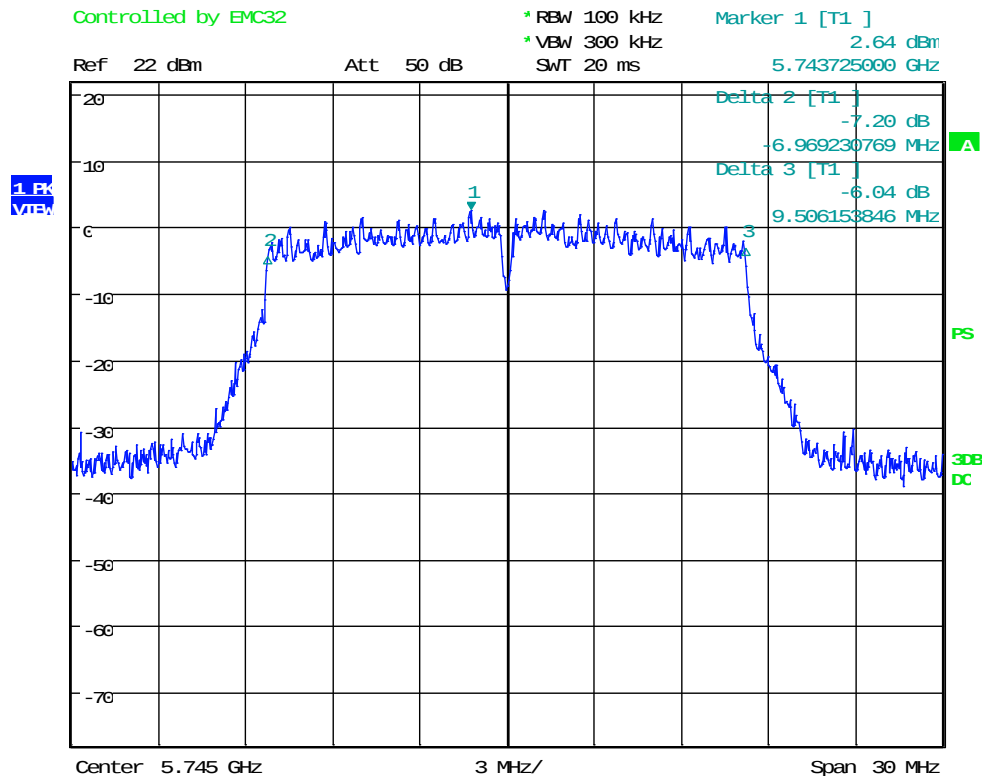
UNII 3, 5.7 GHz, OFDM54 20M: 99% OBW, Mid Channel



Date: 13.APR.2020 13:47:15



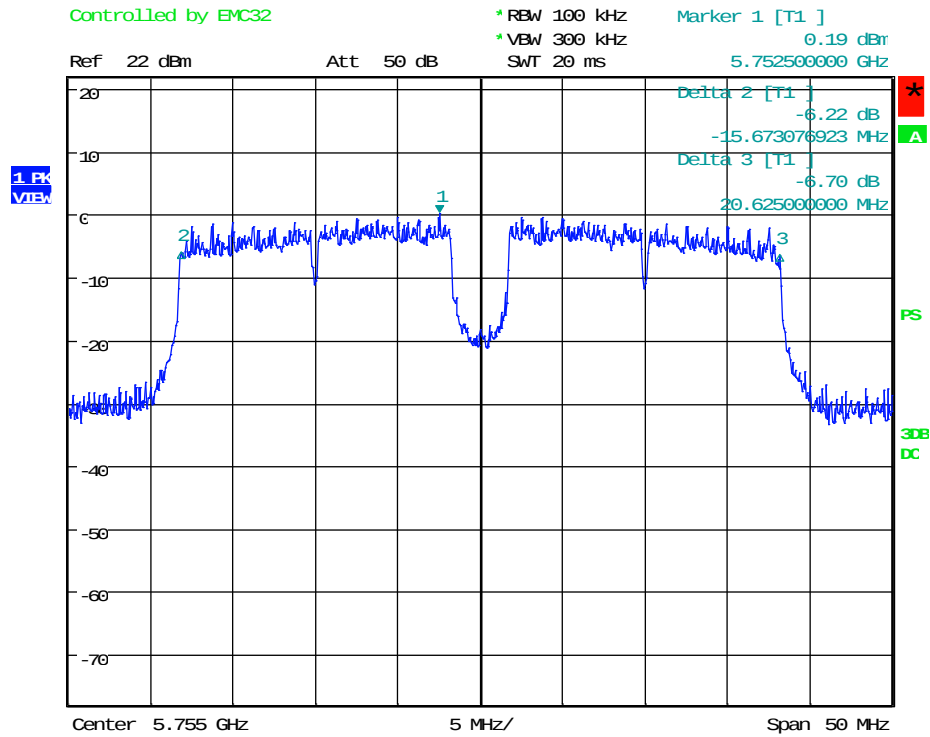
UNII 3, 5.7 GHz, OFDM54 20M: -6dB OBW, Low Channel



Date: 13.APR.2020 13:43:48



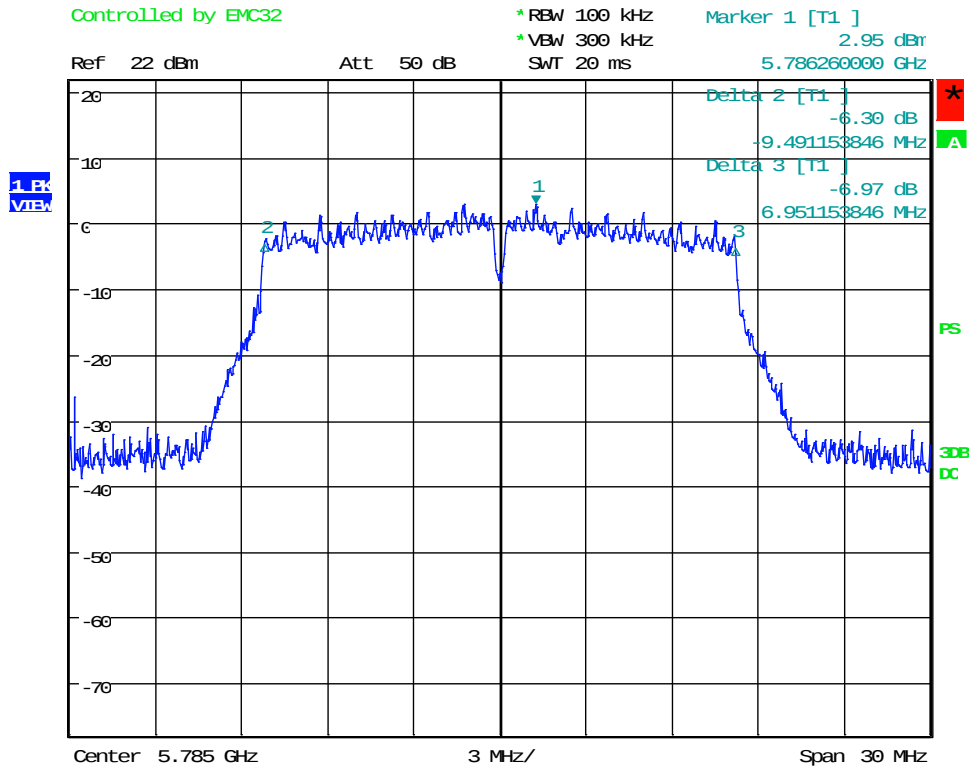
UNII 3, 5.7 GHz, OFDM54 40M: -6dB OBW, Low Channel



Date: 13.APR.2020 13:56:29



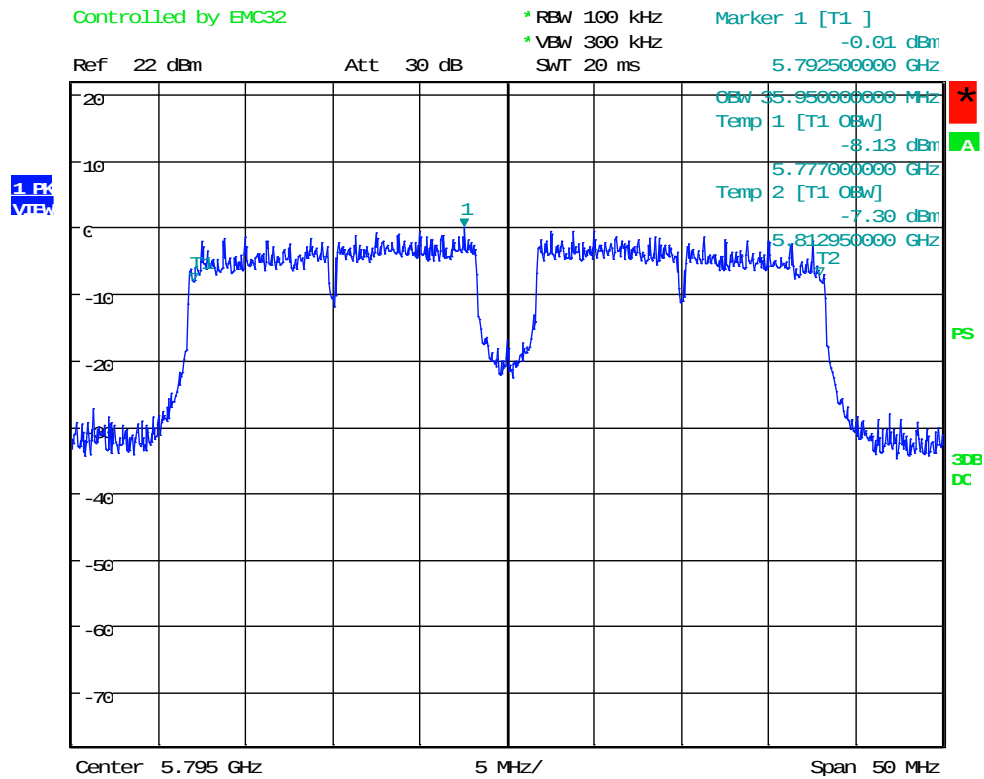
UNII 3, 5.7 GHz, OFDM54 20M: -6dB OBW, Mid Channel



Date: 13.APR.2020 13:49:49



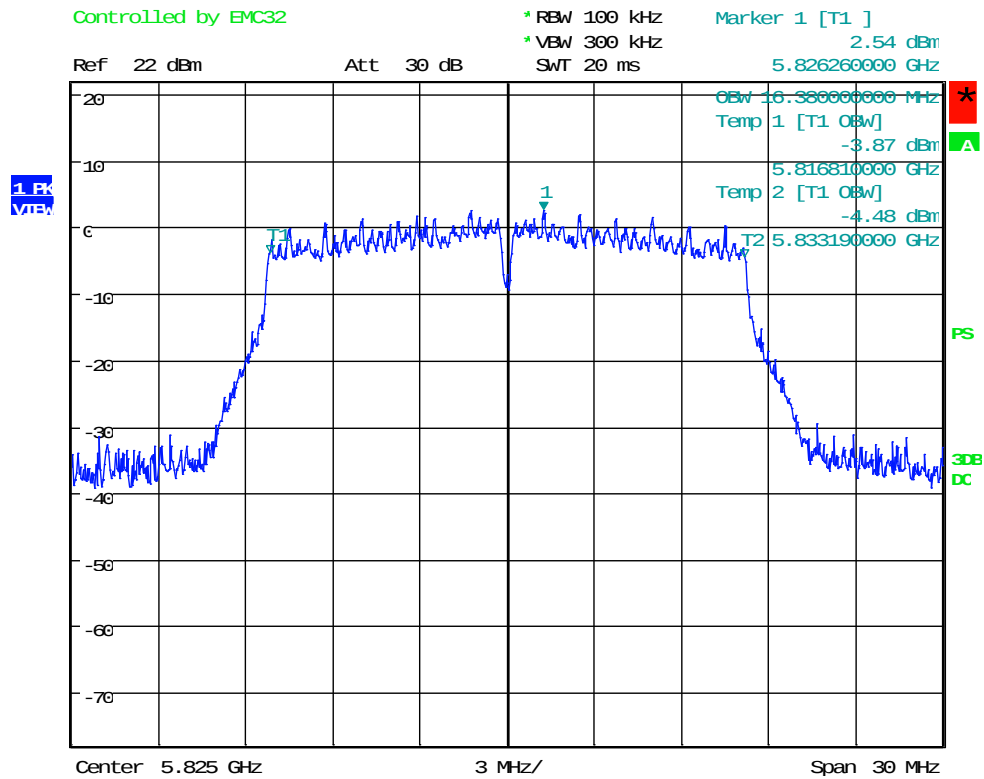
UNII 3, 5.7 GHz, OFDM54 40M: 99% OBW, Hi Channel



Date: 13.APR.2020 13:58:05



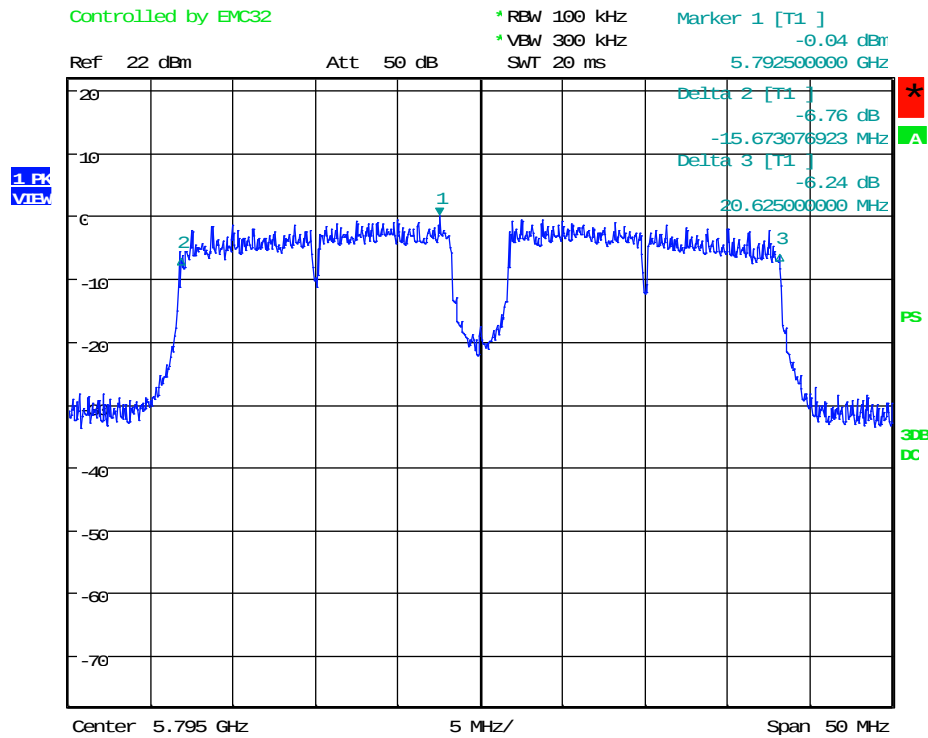
UNII 3, 5.7 GHz, OFDM54 20M: 99% OBW, High Channel



Date: 13.APR.2020 13:51:22



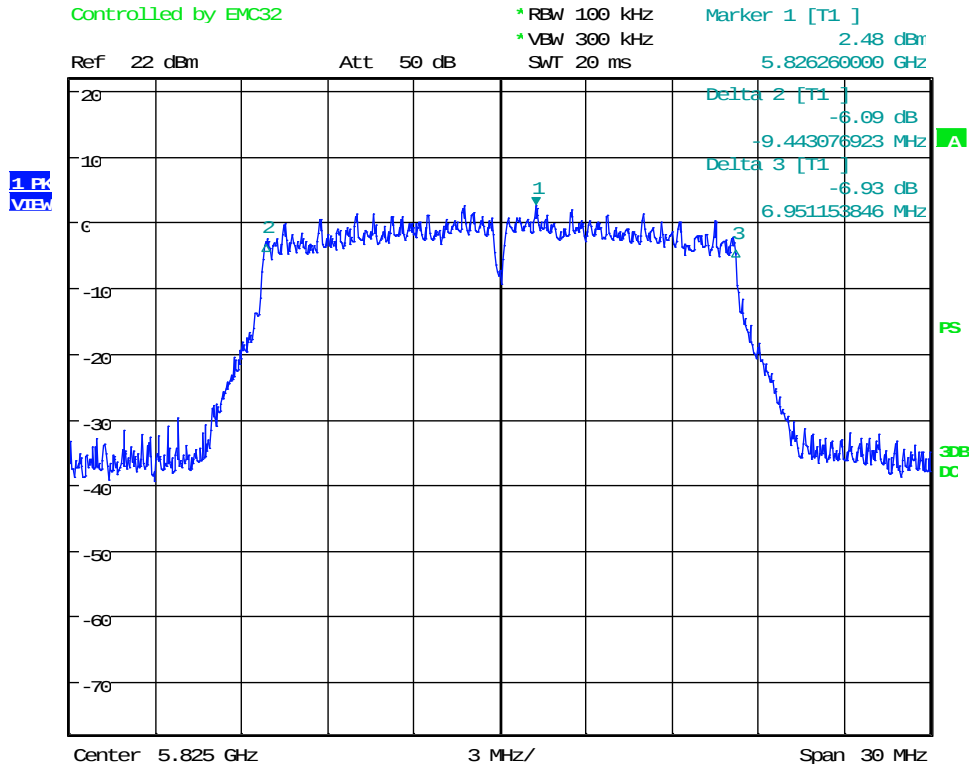
UNII 3, 5.7 GHz, OFDM54 40M: -6dB OBW, High Channel



Date: 13.APR.2020 14:00:15



UNII 3, 5.7 GHz, OFDM54 20M: -6dB OBW, High Channel



Date: 13.APR.2020 13:53:03



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 client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW (24 dBm) provided the maximum antenna gain does not exceed 6 dBi.

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.

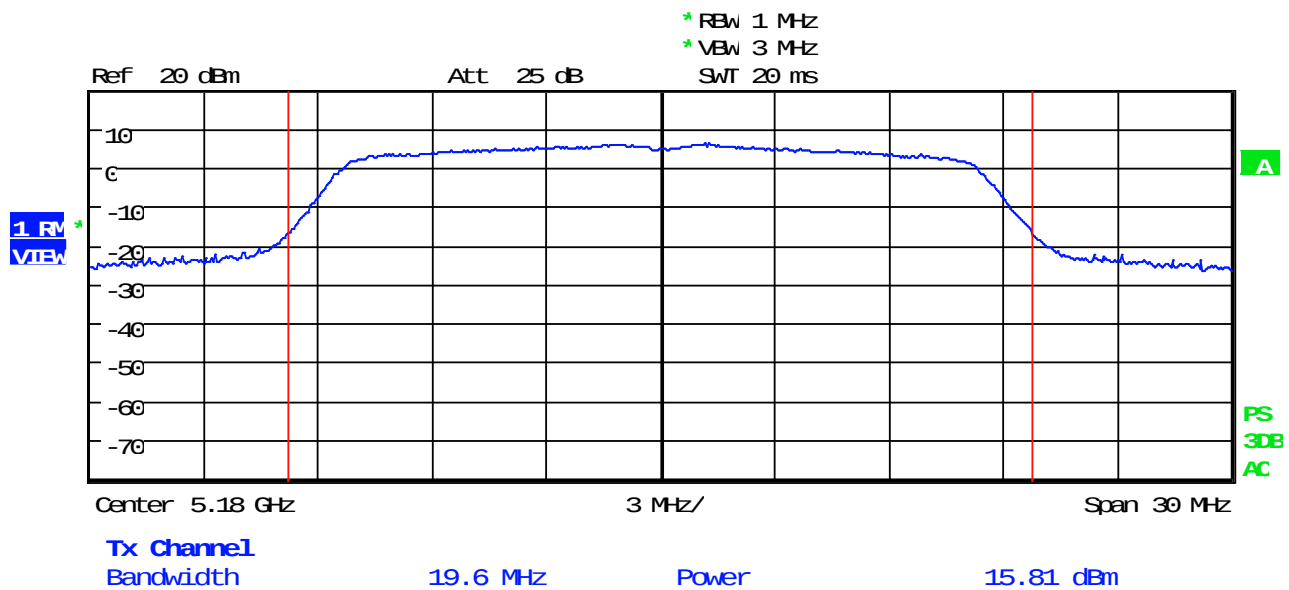
Antenna gain is 2.0dBi.



8.2 Output Power Test Data

Test Date:	2020-07-27	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.407(a)(1,3); KDB789033	Air Temperature:	20.1°C
		Relative Humidity:	50%

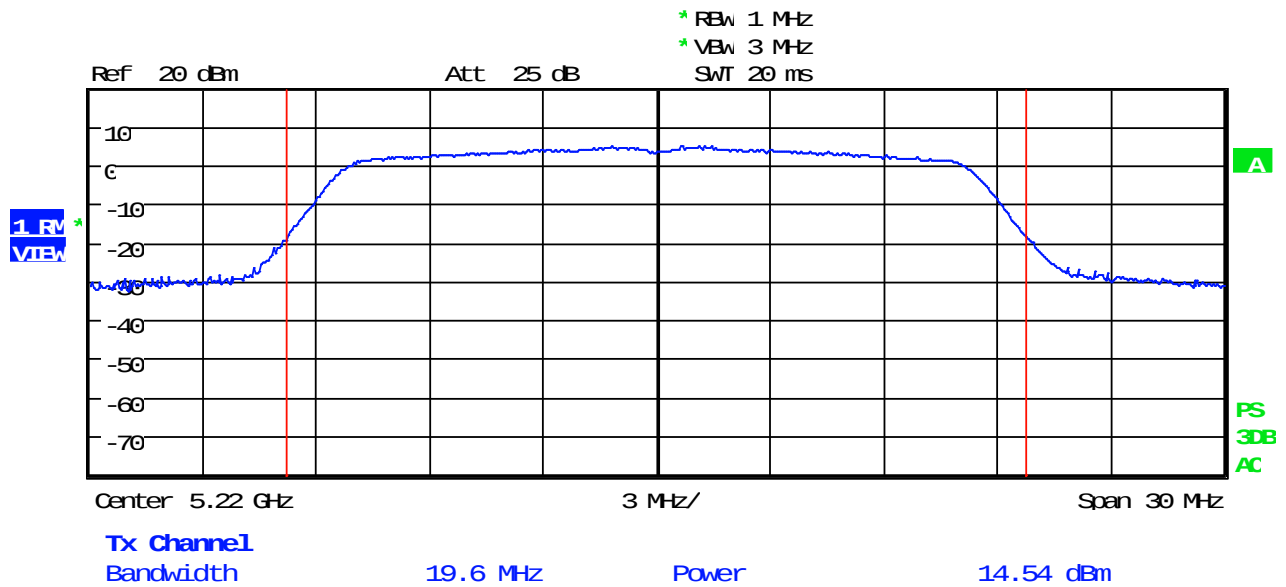
UNII 1, 5.1 GHz, OFDM54 20M, Low Channel



Date: 27.JUL.2020 10:34:34



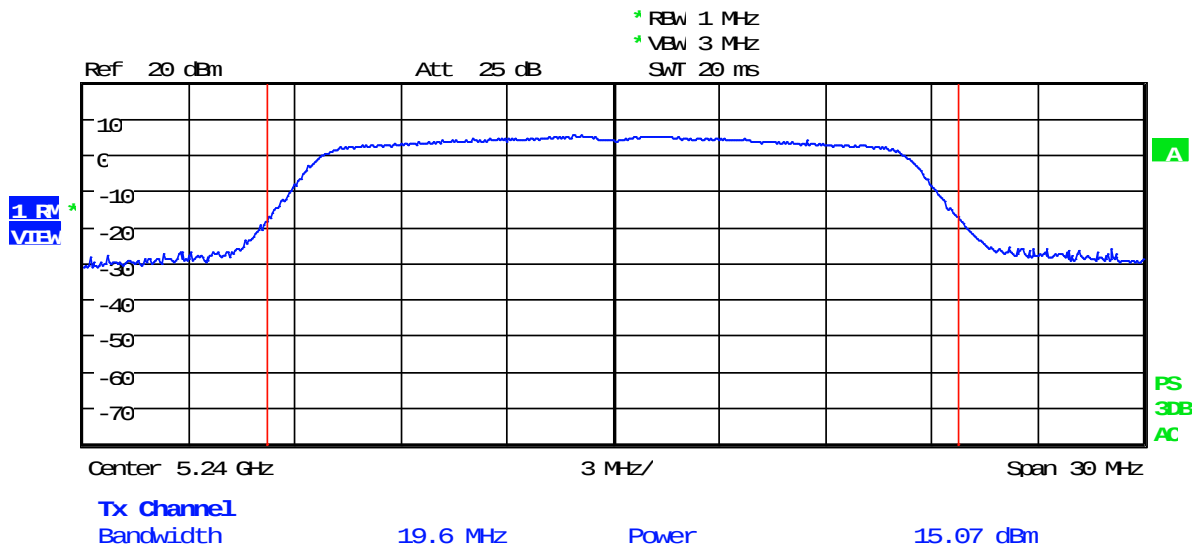
UNII 1, 5.1 GHz, OFDM54 20M, Mid Channel



Date: 27.JUL.2020 10:36:24



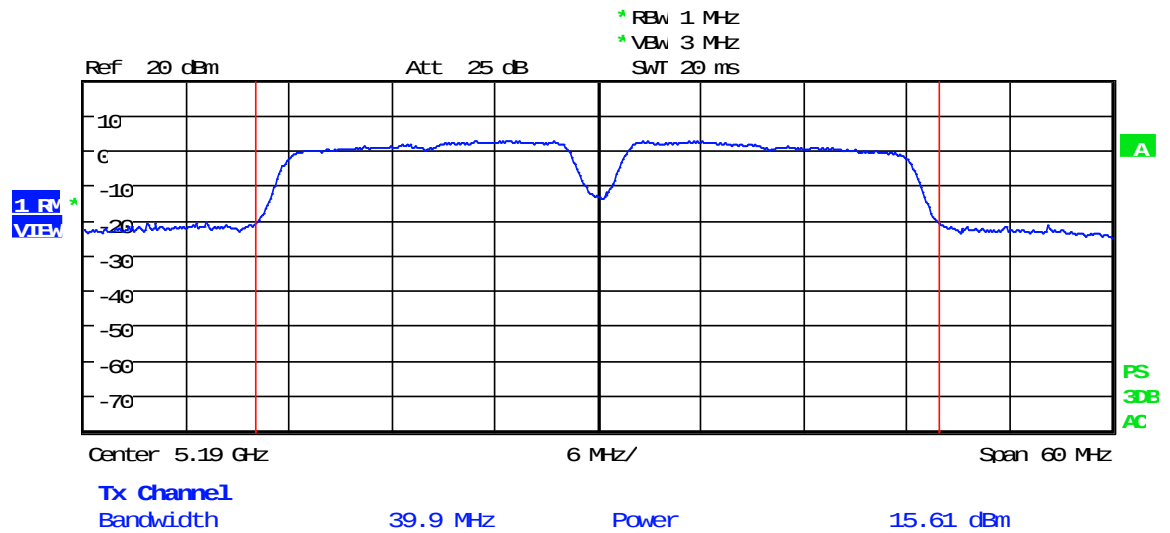
UNII 1, 5.1 GHz, OFDM54 20M, High Channel



Date: 27.JUL.2020 10:37:24



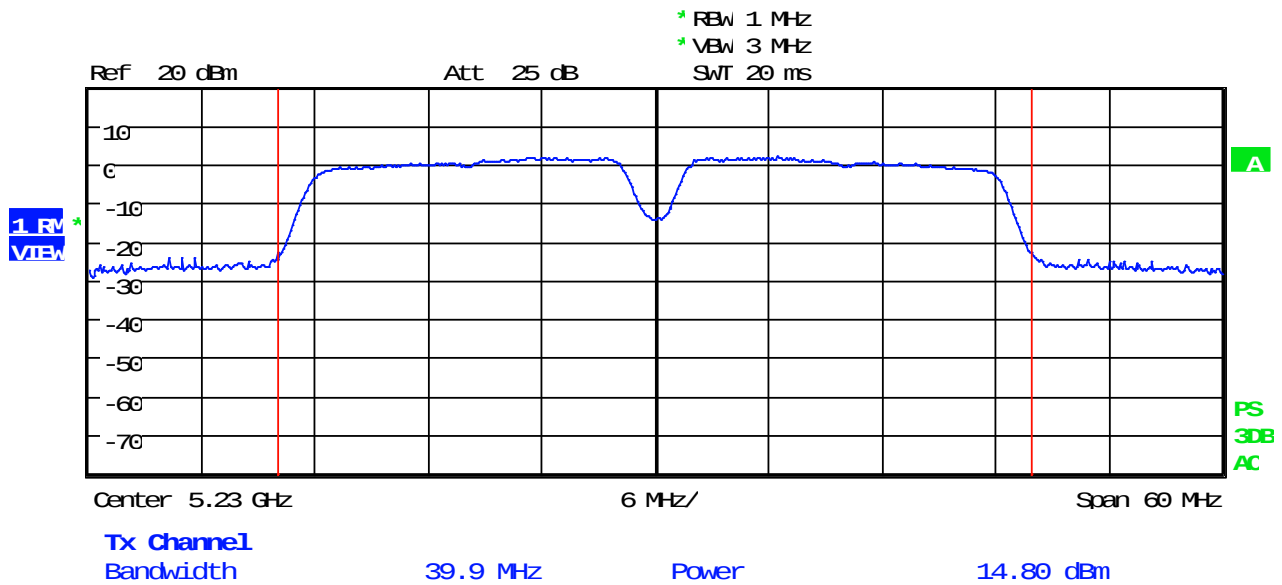
UNII 1, 5.1 GHz, OFDM54 40M, Low Channel



Date: 27.JUL.2020 10:43:56



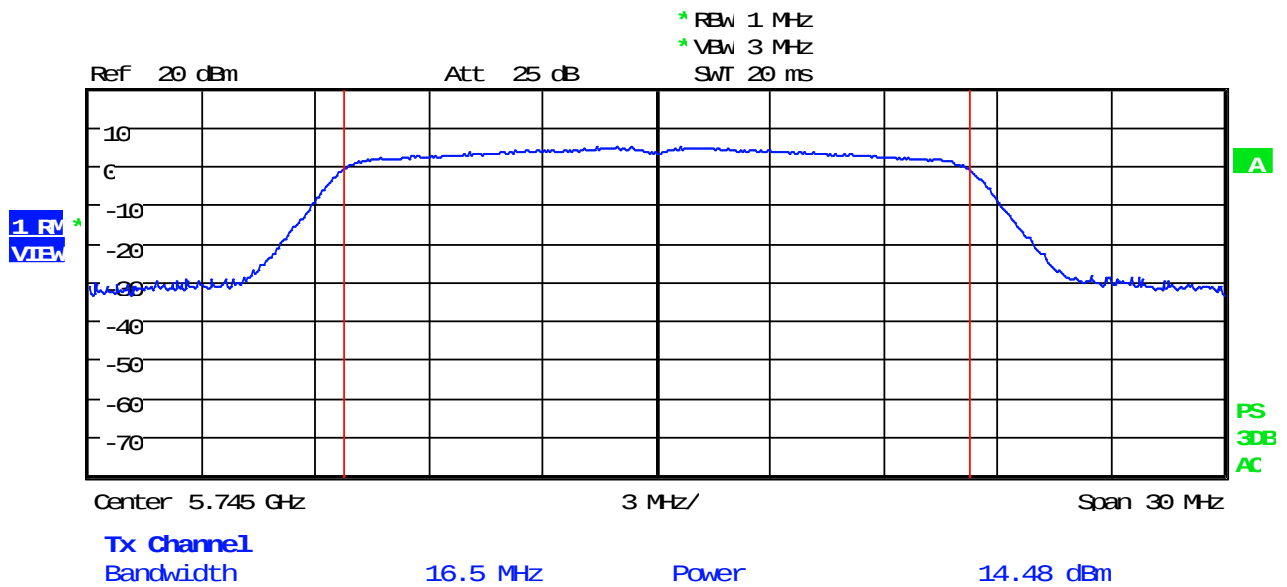
UNII 1, 5.1 GHz, OFDM54 40M, High Channel



Date: 27.JUL.2020 10:45:51



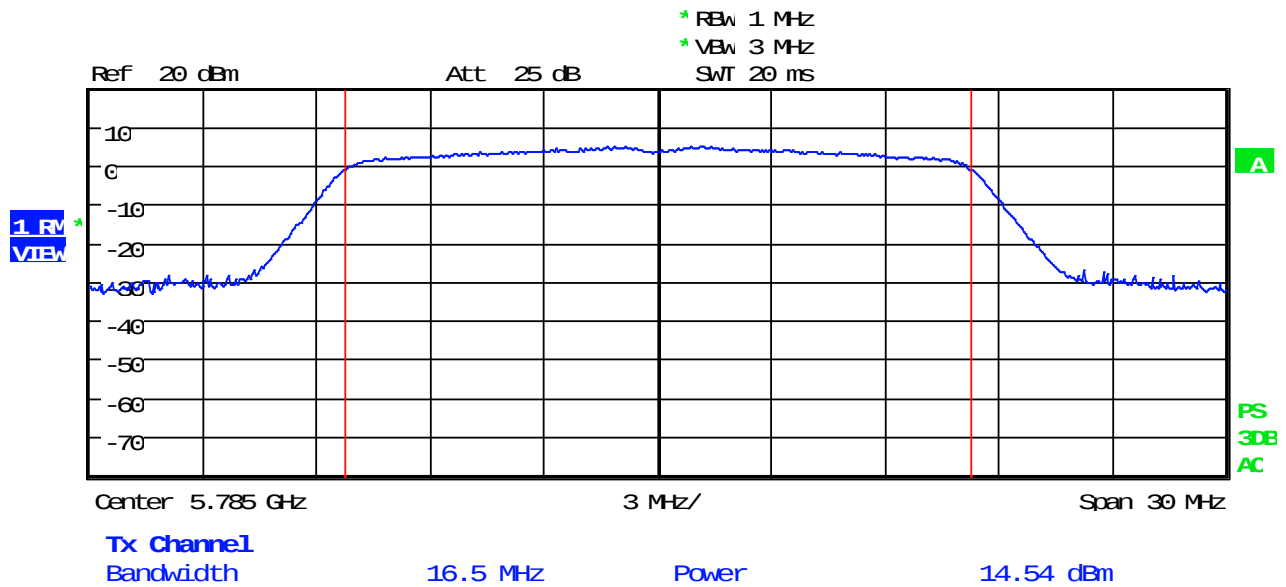
UNII 3, 5.7 GHz, OFDM54 20M, Low Channel



Date: 27.JUL.2020 11:02:32



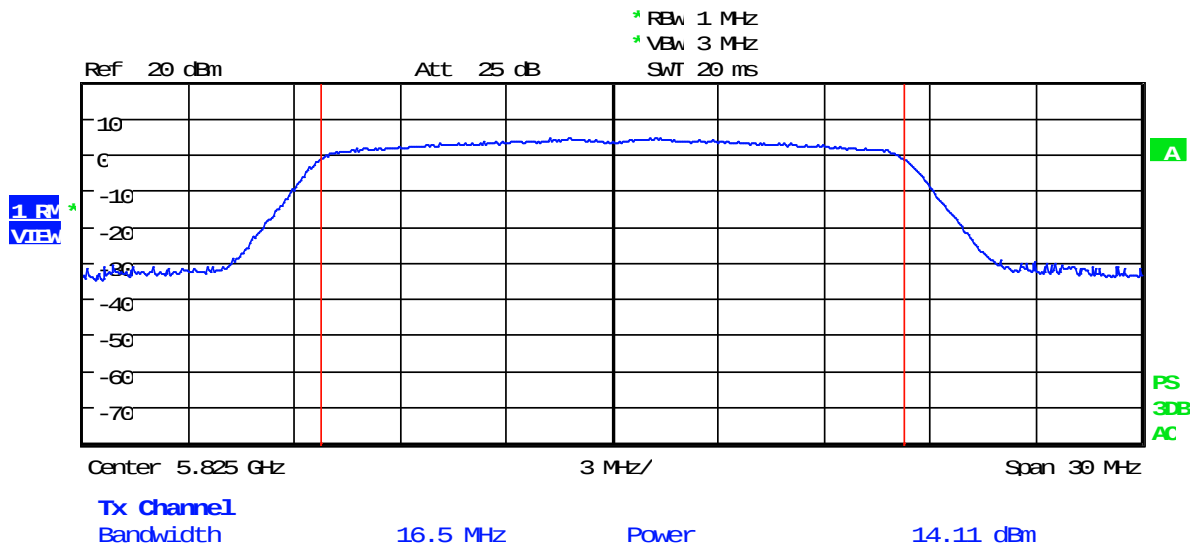
UNII 3, 5.7 GHz, OFDM54 20M, Mid Channel



Date: 27.JUL.2020 11:03:47



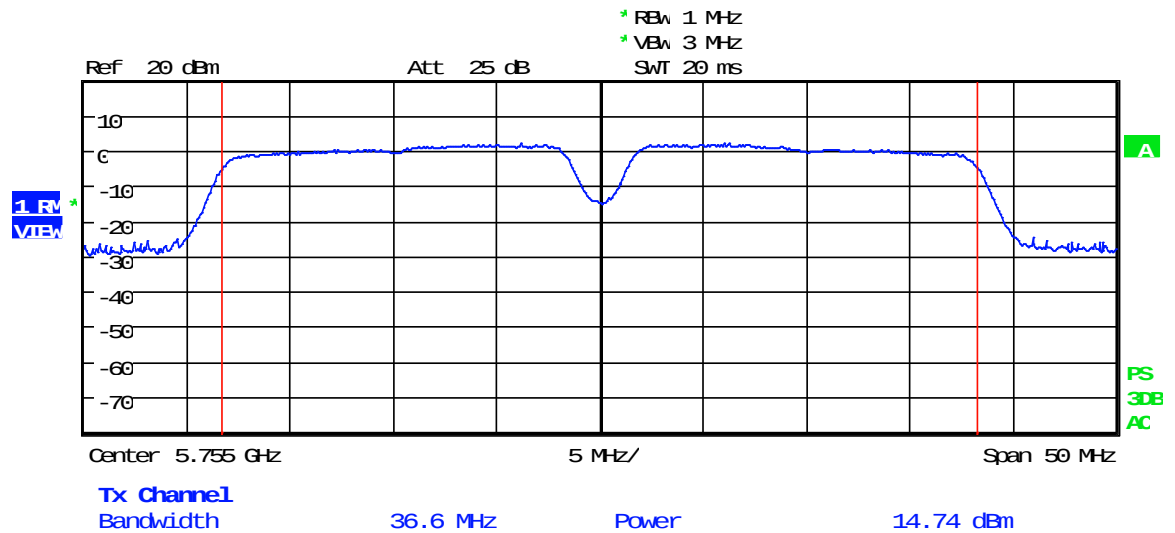
UNII 3, 5.7 GHz, OFDM54 20M, High Channel



Date: 27.JUL.2020 11:04:58



UNII 3, 5.7 GHz, OFDM54 40M, Low Channel



Date: 27.JUL.2020 10:59:14

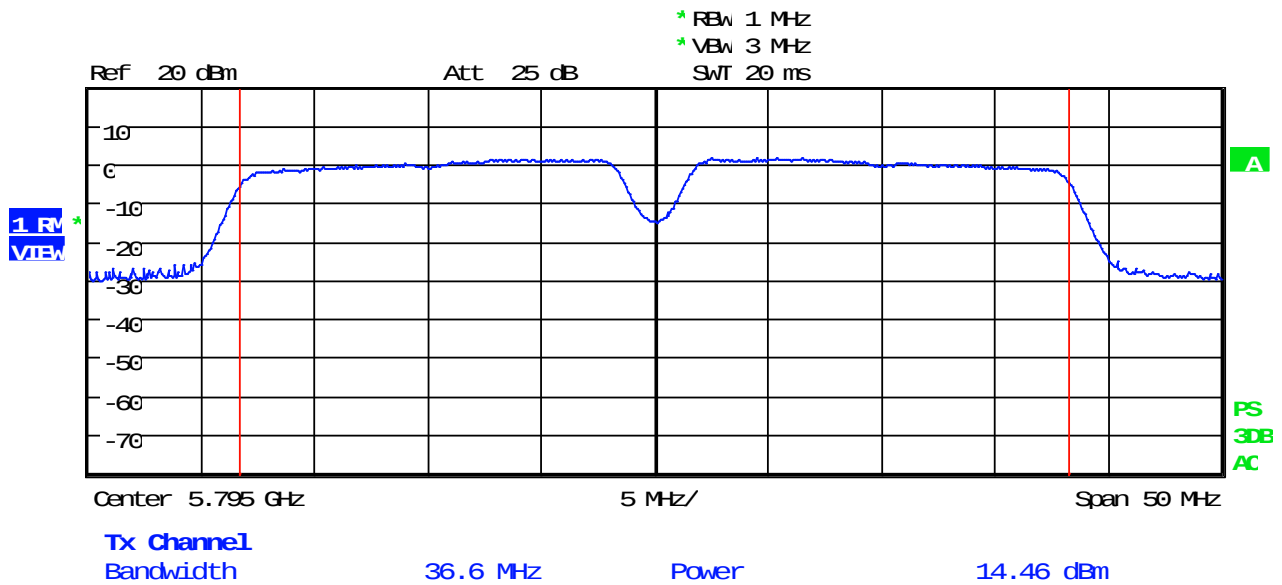


Order Number: F2P22752

Applicant: Securus Technologies

Model: JP6Mini

UNII 3, 5.7 GHz, OFDM54 40M, High Channel



Date: 27.JUL.2020 11:00:20



9 PEAK POWER SPECTRAL DENSITY (PSD)

Peak power spectral density measurements were performed.

9.1 Requirements:

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6dBi. In addition, the maximum power spectral density shall not exceed 11dBm in any 1 MHz band.

For the band 5.725-5.85 GHz. The maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.



9.2 Peak Power Spectral Density Test Data

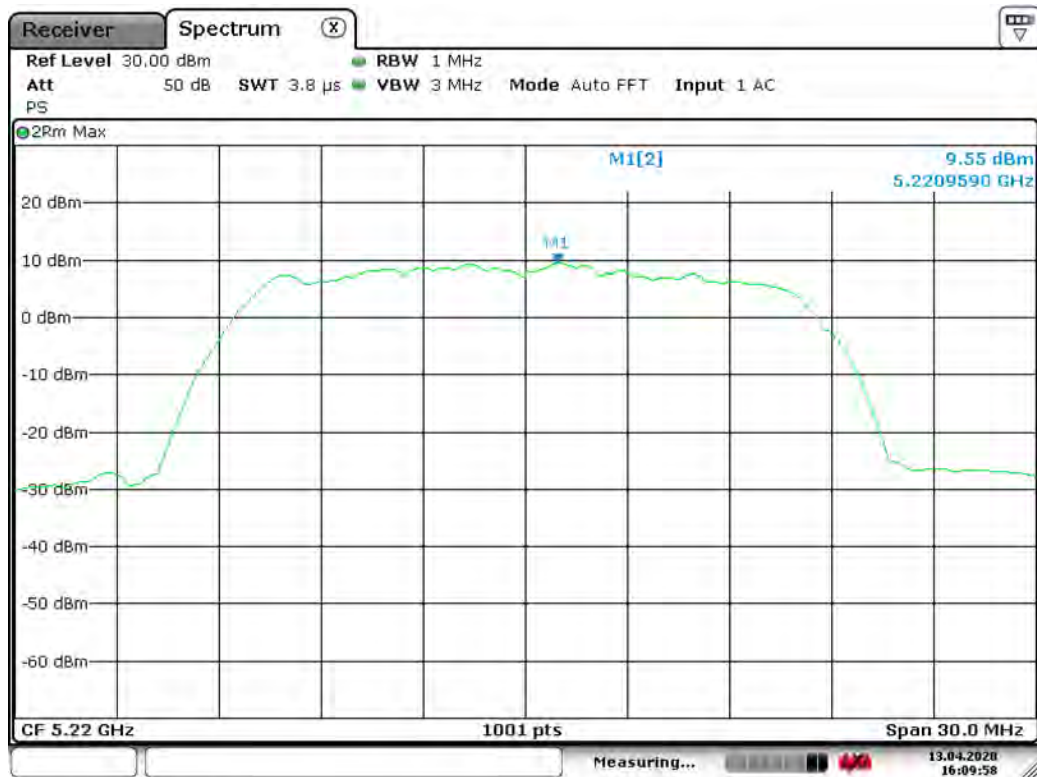
Test Date(s):	2020-04-13	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.407(a)(1,3); KDB789033	Air Temperature:	22.1°C
		Relative Humidity:	35%

UNII 1, 5.1 GHz, OFDM54 20M: Low Channel





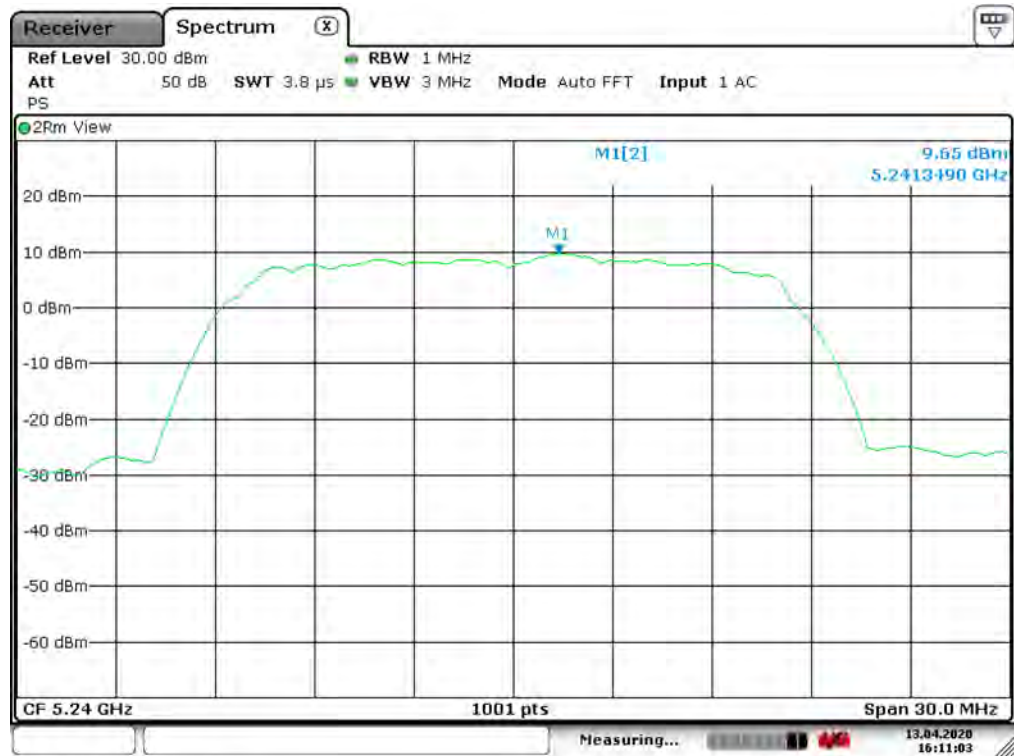
UNII 1, 5.1 GHz, OFDM54 20M: Mid Channel



Date: 13.APR.2020 16:09:58



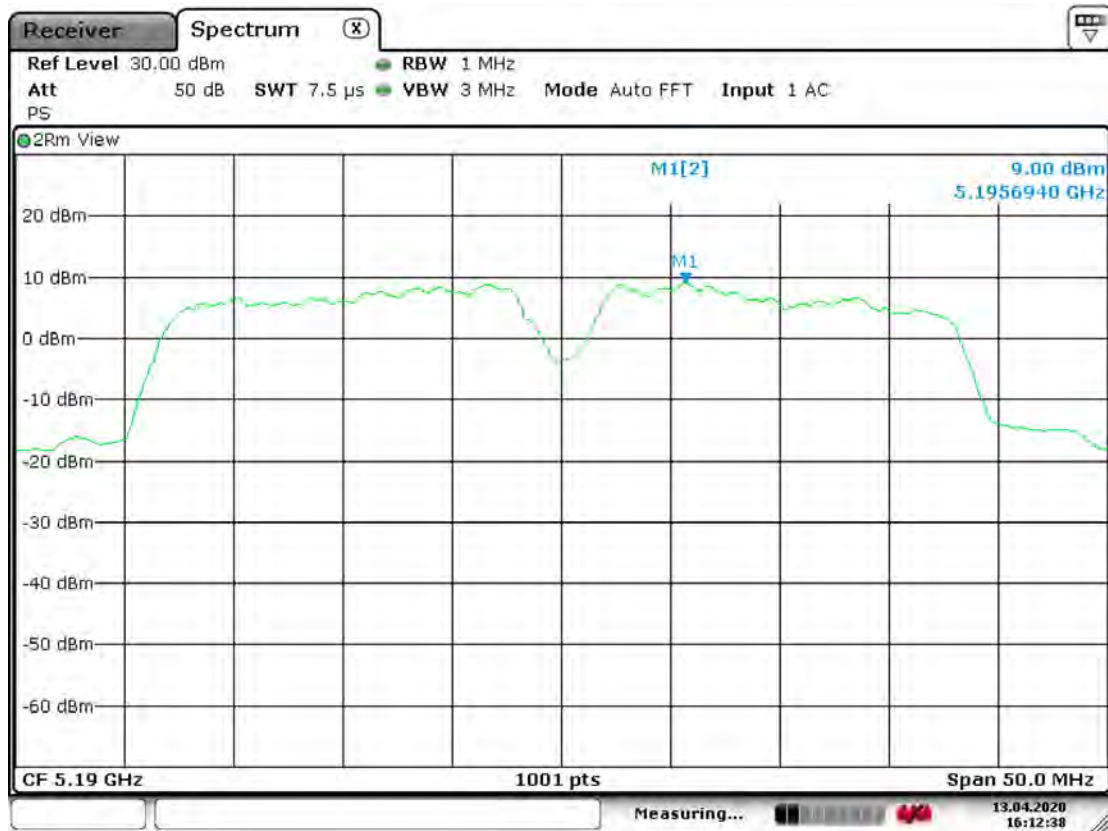
UNII 1, 5.1 GHz, OFDM54 20M: High Channel



Date: 13 APR 2020 16:11:04



UNII 1, 5.1 GHz, OFDM54 40M: Low Channel



Date: 13 APR 2020 16:12:38



UNII 1, 5.1 GHz, OFDM54 40M: High Channel



Date: 13.APR.2020 16:13:38



UNII 3, 5.7 GHz, OFDM54 20M: Low Channel



Date: 13.APR.2020 16:16:20



UNII 3, 5.7 GHz, OFDM54 20M: Mid Channel



Date: 13.APR.2020 16:17:17



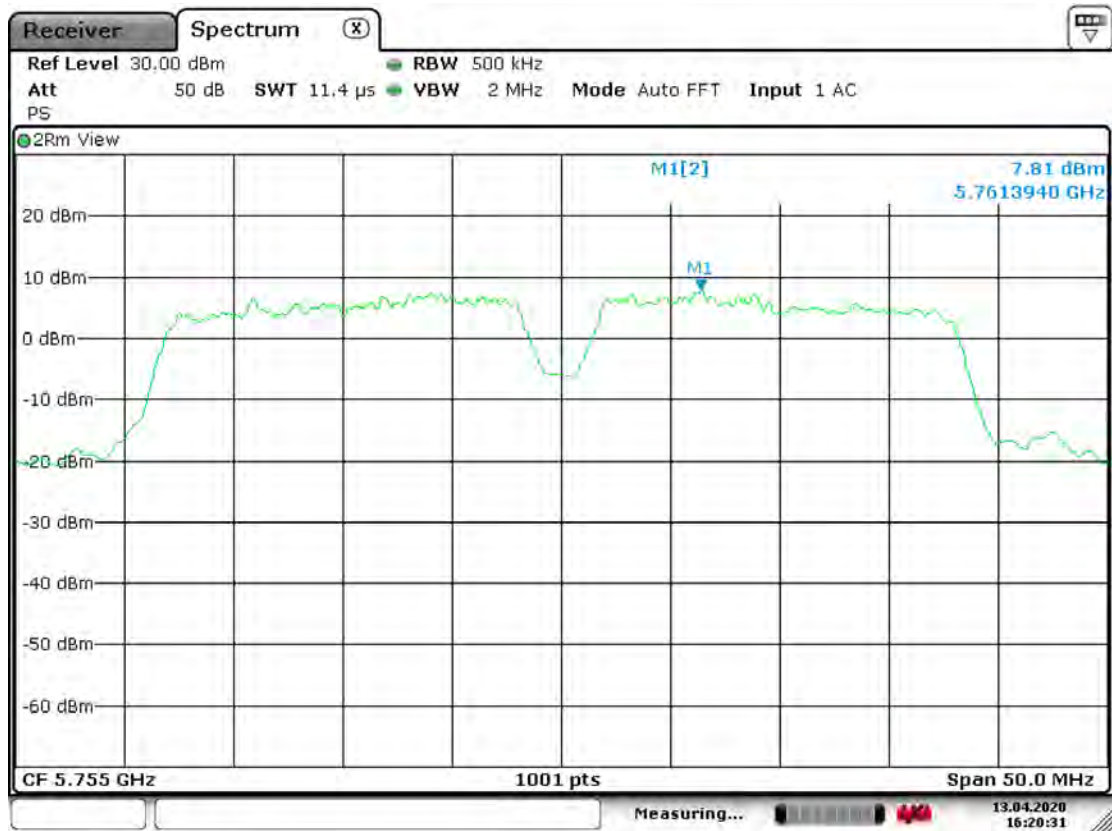
UNII 3, 5.7 GHz, OFDM54 20M: High Channel



Date: 13 APR 2020 16:18:59



UNII 3, 5.7 GHz, OFDM54 40M: Low Channel



Date: 13.APR.2020 16:20:31



UNII 3, 5.7 GHz, OFDM54 40M: High Channel



Date: 14.APR.2020 15:12:16



10 RADIATED SPURIOUS EMISSIONS

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.

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).

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 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.



10.2 Radiated Spurious Emission Test Data

Test Date(s):	2020-04-17; 2020-08-07; 2020-08-12; 2020-08-13	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.407; Part 15.209 / KDB789033	Air Temperature:	22.8°C
		Relative Humidity:	24%

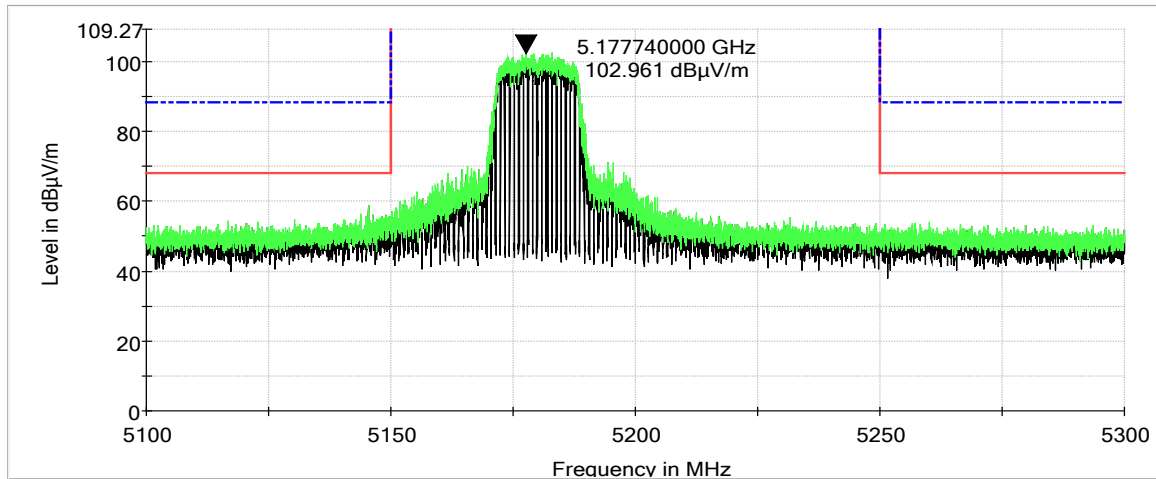
Notes: Plots are peak, max hold prescan data included only to determine what frequencies to investigate and measure. The EUT was initially placed in a semi-anechoic chamber, and rotated in all three orthogonal positions to maximize the emissions. The orthogonal position that showed the highest emissions 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.

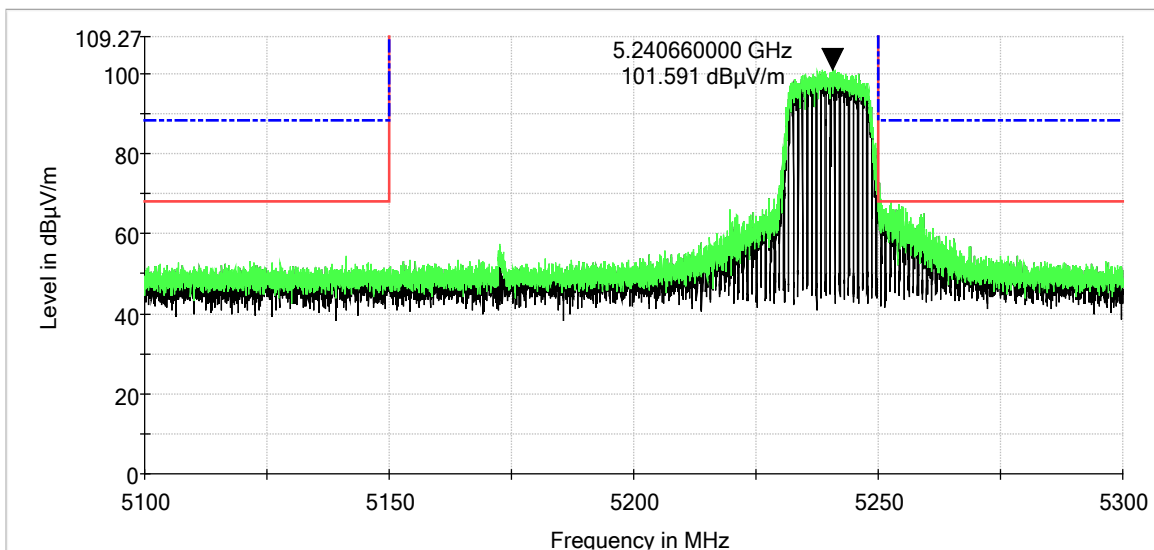
In the following plots, emissions to be found by the EUT were measured and listed in tables. The black lines are active scans while the green lines are the max peak scan of the unit during rotations. The plots for below 1 GHz are for the mid channel 20M bandwidth and the plots for greater than 1 GHz are for the high channel 40M Bandwidth which were determined worse-case. The table of results includes results for all channels.



UNII 1, 5.1 GHz, OFDM54 20M: Lower Radiated Band Edge



UNII 1, 5.1 GHz, OFDM54 20M: Upper Radiated Band Edge





UNII 1, 5.1 GHz, OFDM54 20M: Radiated Band Edge Measurements

MaxPeak

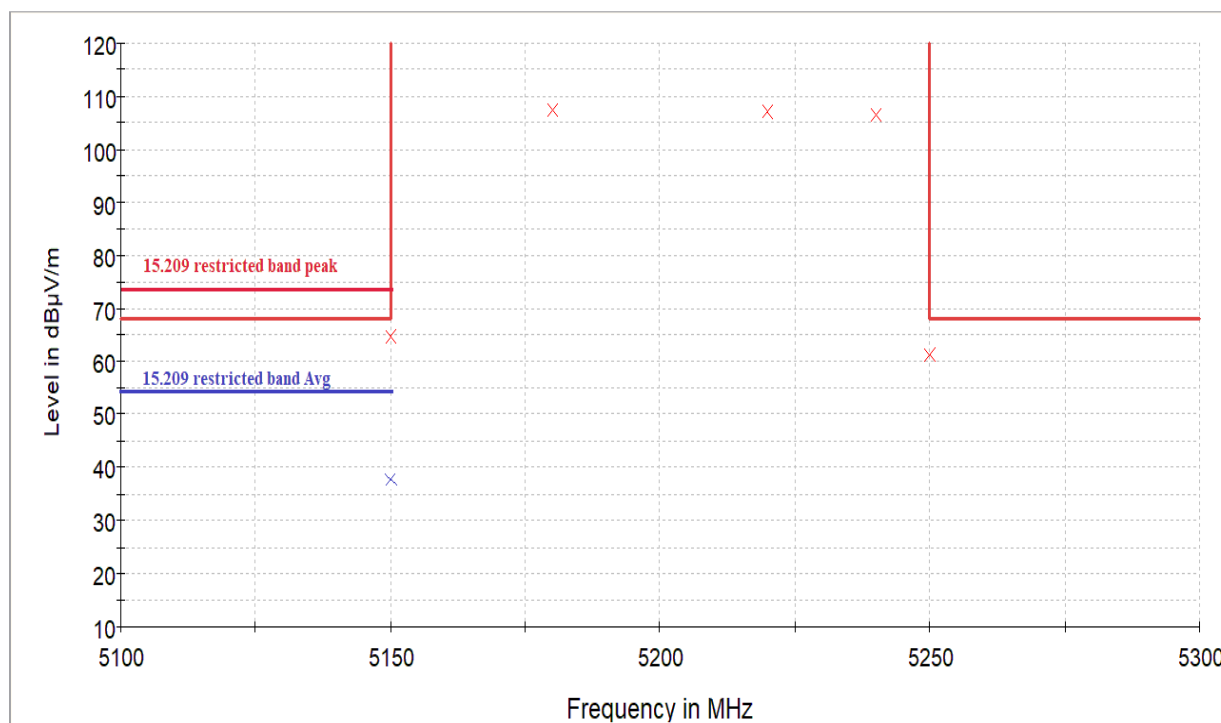
Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Azimuth (deg)	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5150.000000	H	150.00	299.00	47.1	17.7	64.80	68.2	-3.4
5180.000000	H	150.00	299.00	89.7	17.7	107.40	--	--
5220.000000	H	150.00	299.00	89.9	17.9	107.80	--	--
5240.000000	H	150.00	299.00	88.9	17.9	106.80	--	--
5250.000000	H	150.00	161.00	43.4	17.9	61.30	68.2	-6.9

15.209 Restricted Band 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)
5150.000000	H	150.00	295.00	20.8	17.7	38.50	54.0	-15.5

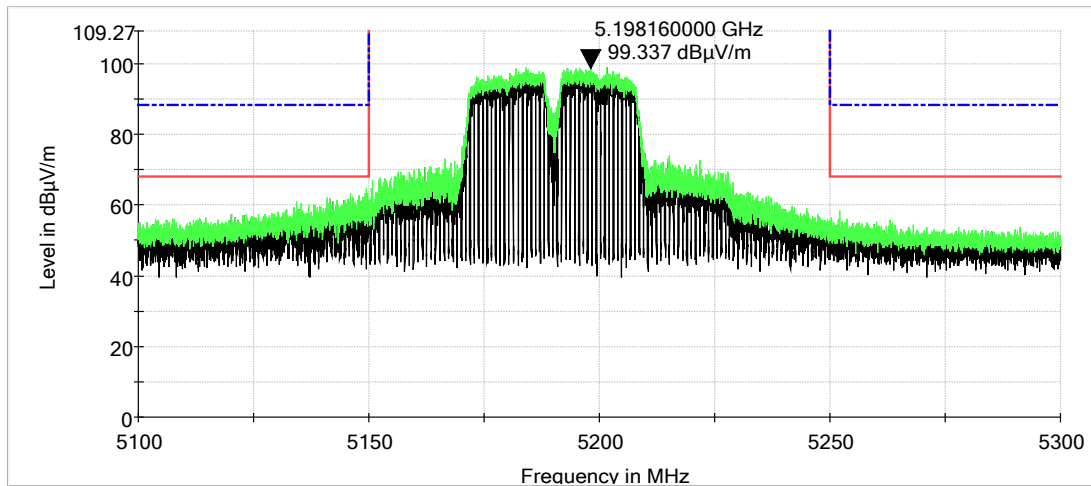
15.209 Restricted Band MaxPk

Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Azimuth (deg)	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5150.000000	H	150.00	295.00	47.1	17.7	64.80	74.0	-9.2

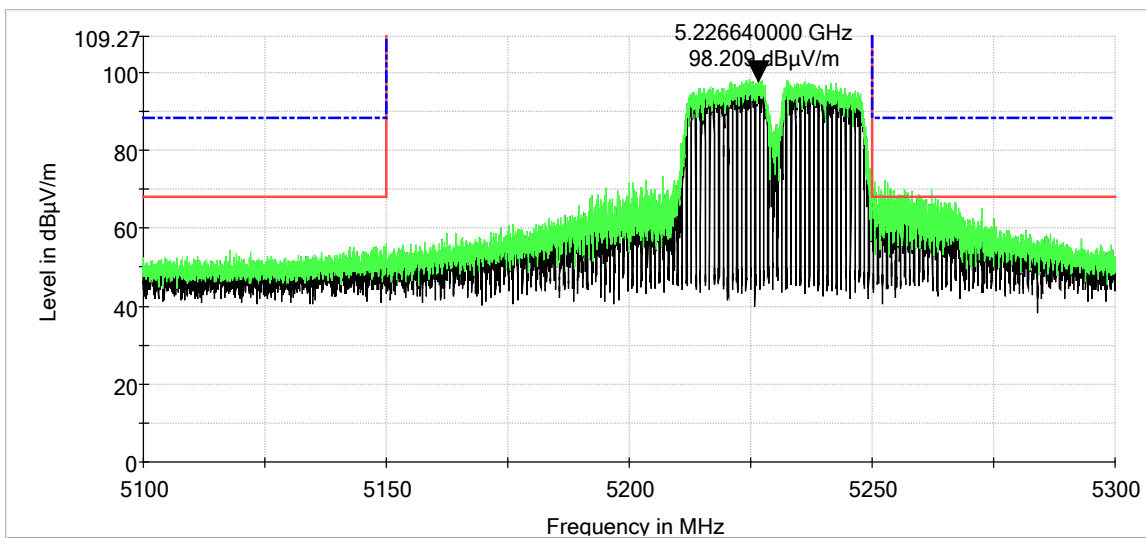




UNII 1, 5.1 GHz, OFDM54 40M: Lower Radiated Band Edge



UNII 1, 5.1 GHz, OFDM54 40M: Upper Radiated Band Edge





UNII 1, 5.1 GHz, OFDM54 40M: Radiated Band Edge Measurements

MaxPeak

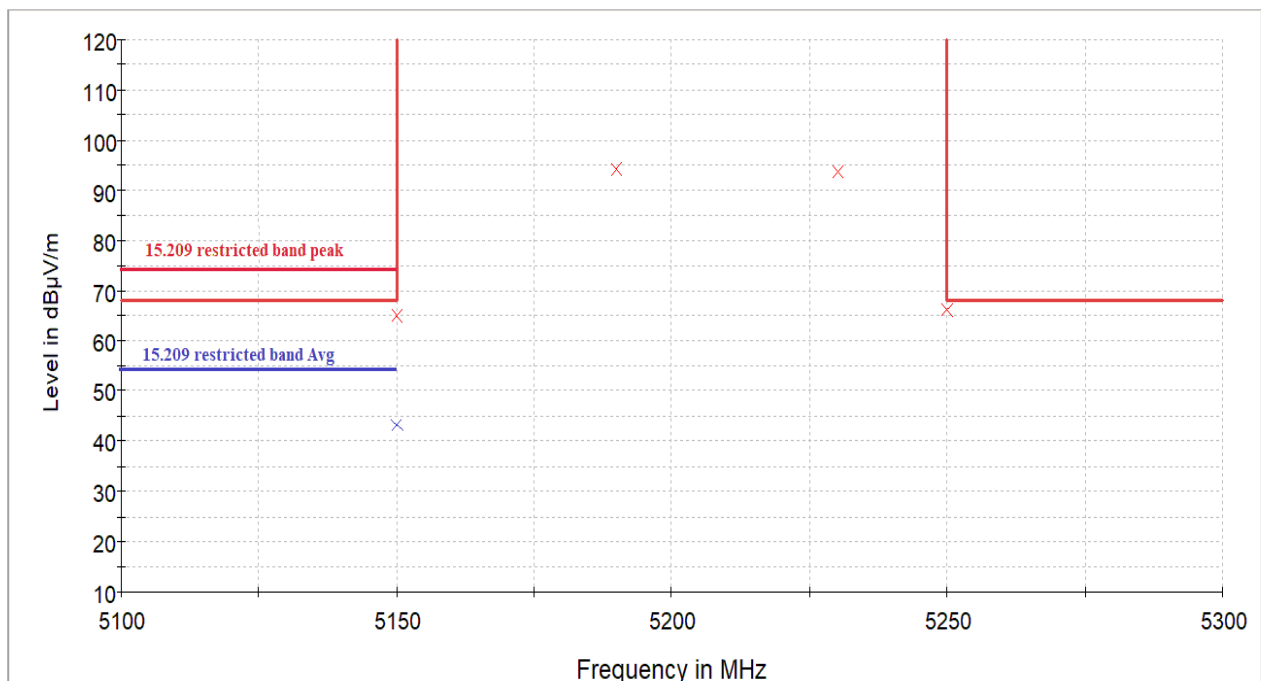
Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Azimuth (deg)	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5150.000000	H	150.00	295.00	47.3	17.7	65.00	68.2	-3.2
5190.000000	H	150.00	293.00	76.6	17.7	94.30	--	--
5230.000000	H	150.00	301.00	75.7	17.9	93.60	--	--
5250.000000	H	150.00	232.00	48.3	17.9	66.20	68.2	-2.0

15.209 Restricted Band 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)
5150.000000	H	150.00	295.00	25.8	17.7	43.50	54.0	-10.5

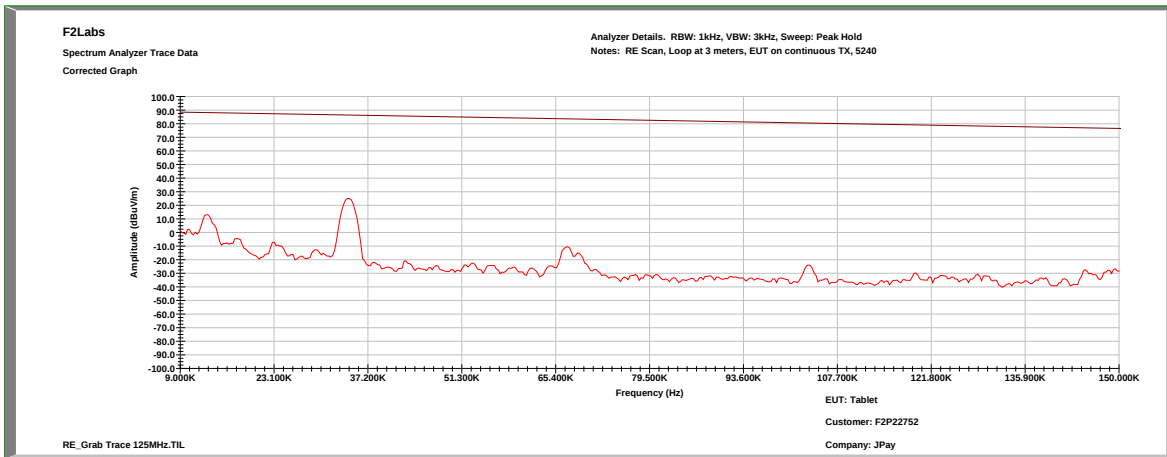
15.209 Restricted Band MaxPk

Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Azimuth (deg)	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5150.000000	H	150.00	295.00	47.3	17.7	65.00	74.0	-9.0

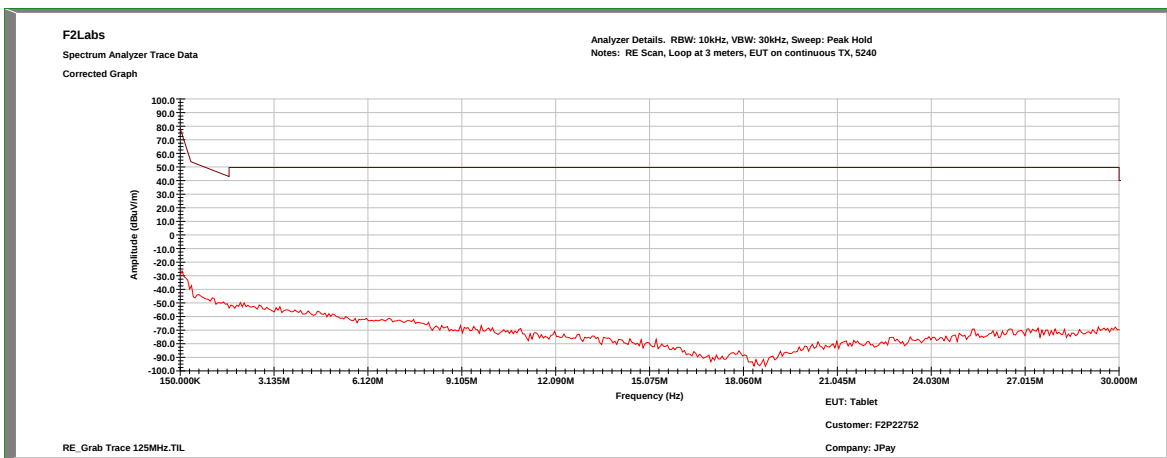




**UNII 1, 5.1 GHz, OFDM54 20M Radiated Spurious Emissions:
High Channel, 0.009 MHz to 0.15 MHz**

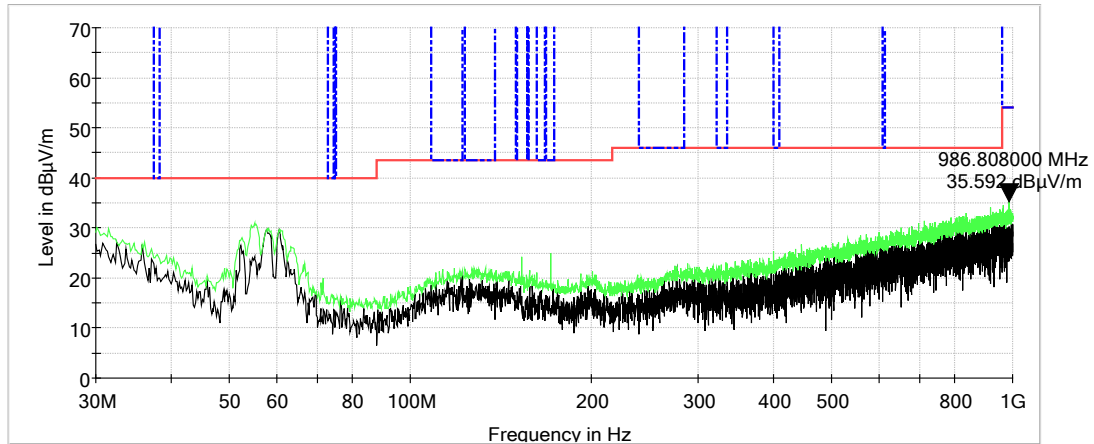


**UNII 1, 5.1 GHz, OFDM54 20M Radiated Spurious Emissions:
High Channel, 0.15 MHz to 30.0 MHz**

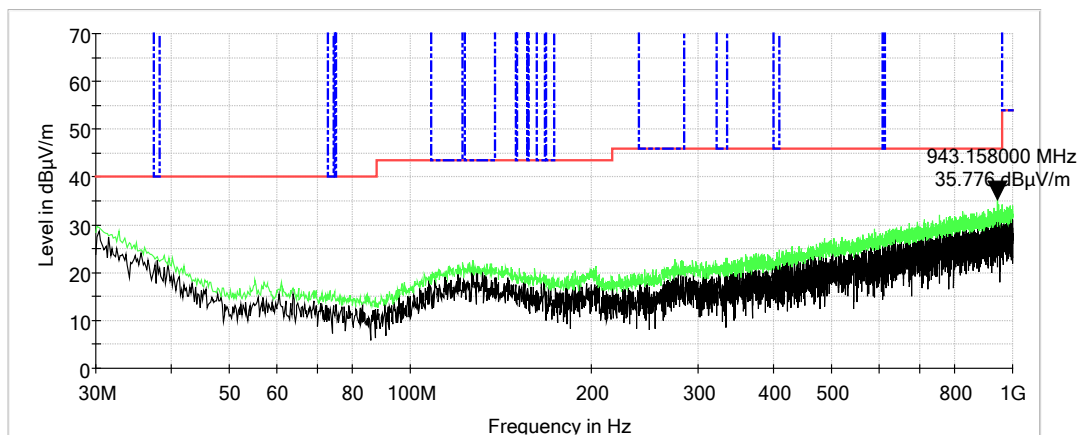




**UNII 1, 5.1 GHz, OFDM54 20M, Radiated Spurious Emissions:
High Channel, 30 MHz to 1000 MHz, Vertical**

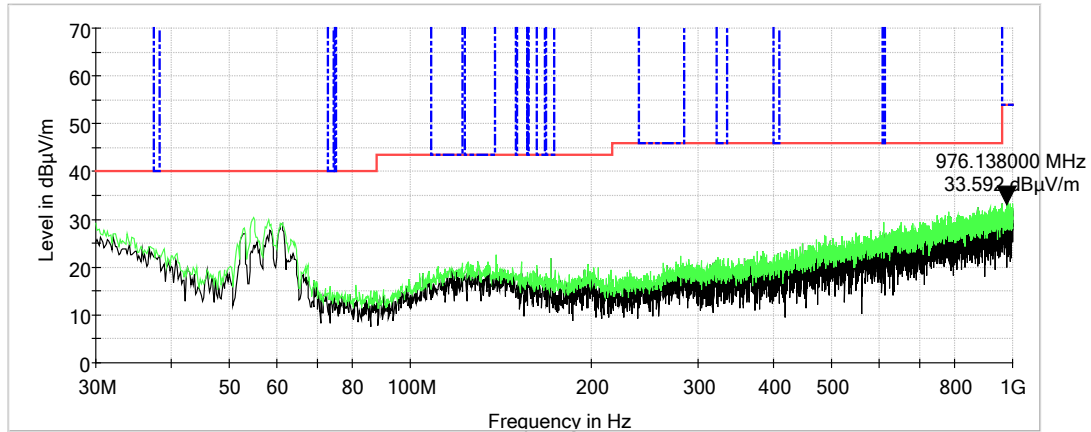


**UNII 1, 5.1 GHz, OFDM54 20M, Radiated Spurious Emissions:
High Channel, 30 MHz to 1000 MHz, Horizontal**

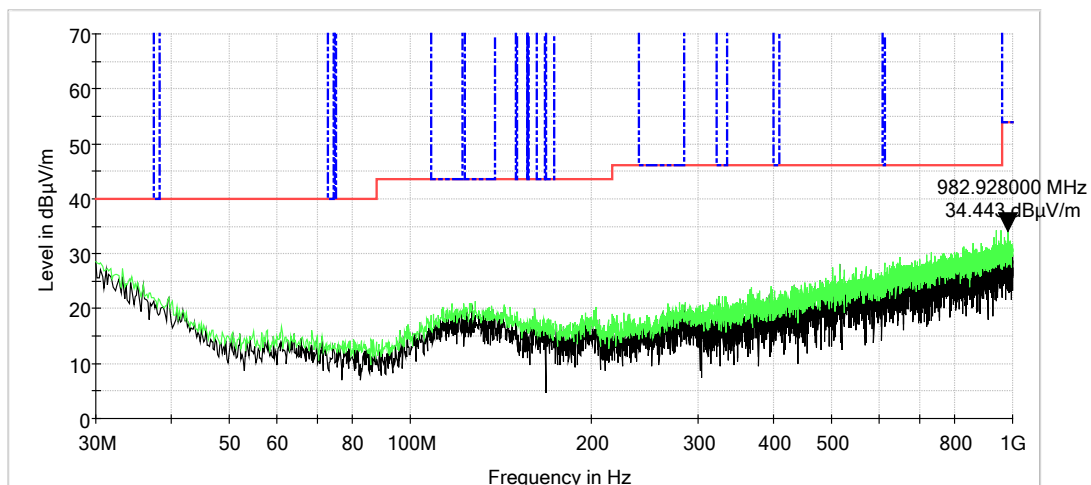




**UNII 1, 5.1 GHz, OFDM54 20M, Radiated Spurious Emissions:
High Channel, 30 MHz to 1000 MHz, Vertical**

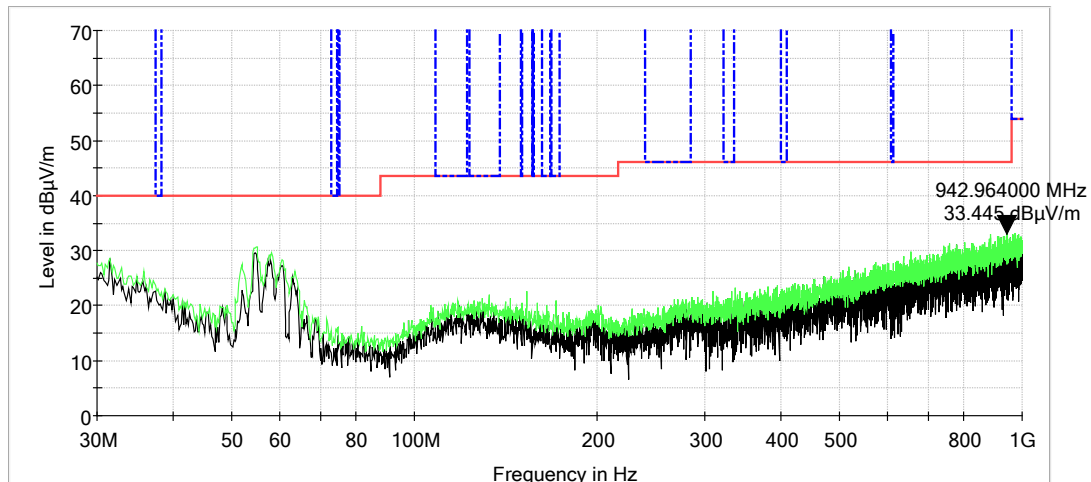


**UNII 1, 5.1 GHz, OFDM54 20M, Radiated Spurious Emissions:
High Channel, 30 MHz to 1000 MHz, Horizontal**

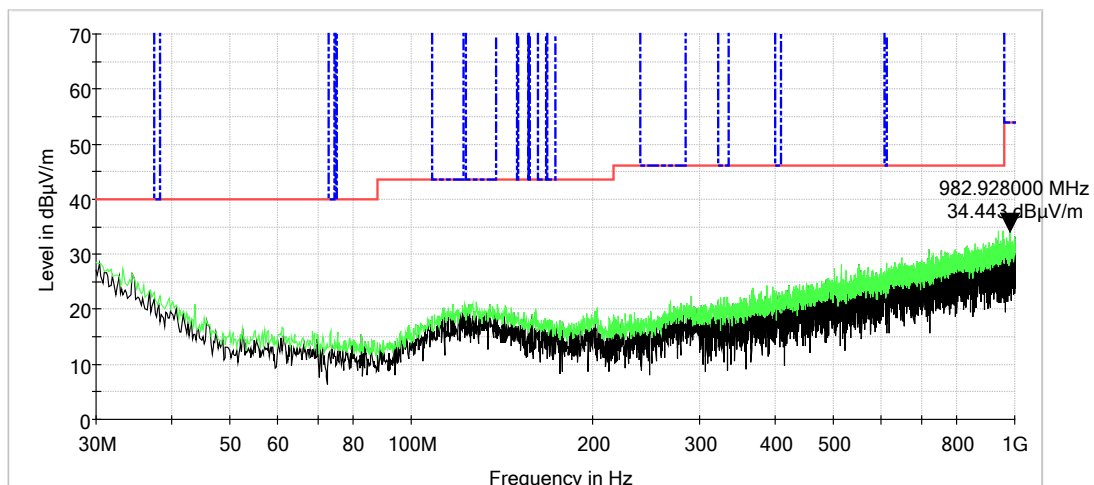




**UNII 1, 5.1 GHz, OFDM54 20M, Radiated Spurious Emissions:
High Channel, 30 MHz to 1000 MHz, Vertical**



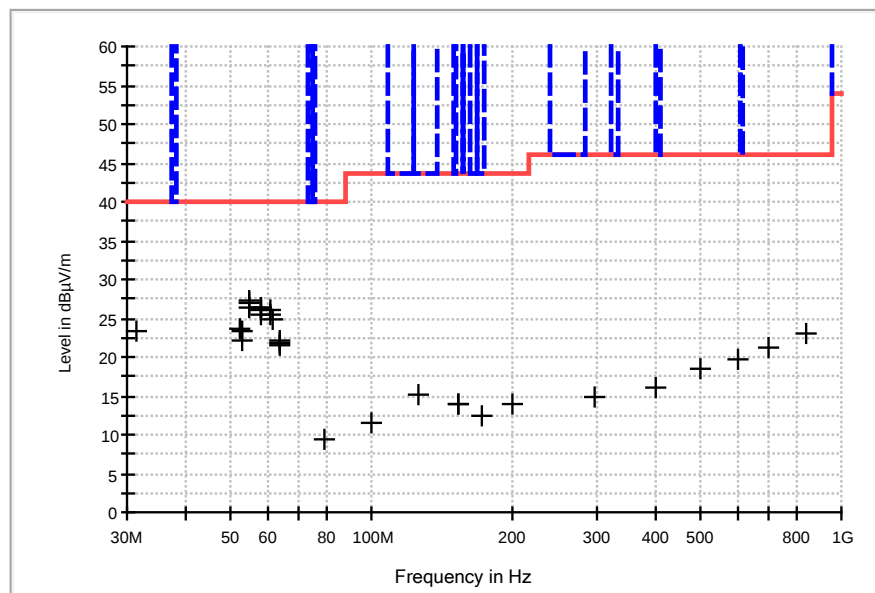
**UNII 1, 5.1 GHz, OFDM54 20M, Radiated Spurious Emissions:
High Channel, 30 MHz to 1000 MHz, Horizontal**





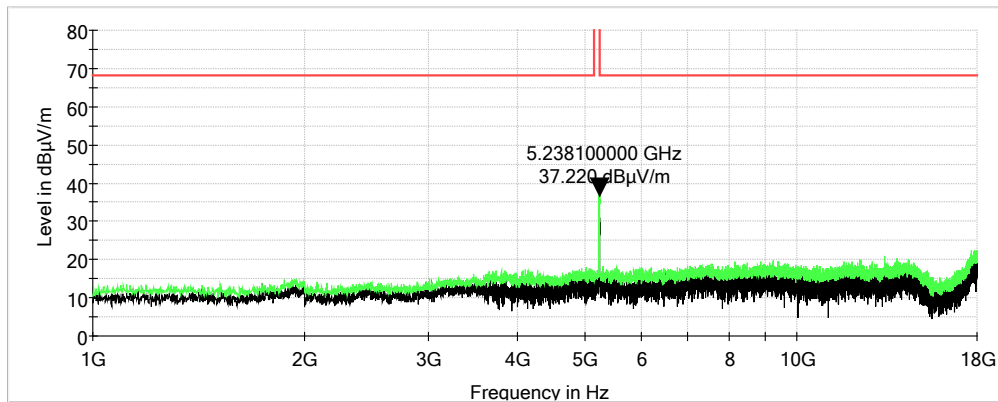
UNII 1, 5.1 GHz, OFDM54 20M, 30 MHz to 1000 MHz: Data from all channels

Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Azimuth (deg)	Reading (dBμV)	Correction Factors (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
31.560000	V	100.00	0.00	17.5	5.9	23.4	40.0	-16.6
51.920000	V	100.00	0.00	30.3	-6.8	23.5	40.0	-16.5
52.520000	V	100.00	0.00	30.4	-6.9	23.5	40.0	-16.5
52.680000	V	100.00	0.00	29.3	-7.0	22.3	40.0	-17.7
54.440000	V	100.00	0.00	33.6	-7.1	26.5	40.0	-13.5
54.640000	V	100.00	0.00	34.3	-7.2	27.1	40.0	-12.9
54.840000	V	100.00	0.00	34.3	-7.2	27.1	40.0	-12.9
57.760000	V	100.00	0.00	33.6	-7.2	26.4	40.0	-13.6
57.760000	V	100.00	0.00	33.6	-7.2	26.4	40.0	-13.6
58.120000	V	100.00	0.00	32.5	-7.1	25.4	40.0	-14.6
58.120000	V	100.00	0.00	33.2	-7.1	26.1	40.0	-13.9
60.440000	V	100.00	0.00	33.0	-7.0	26.0	40.0	-14.0
60.840000	V	100.00	0.00	32.2	-6.9	25.3	40.0	-14.7
61.240000	V	100.00	0.00	31.8	-6.9	24.9	40.0	-15.1
63.360000	V	100.00	0.00	28.9	-6.7	22.2	40.0	-17.8
63.360000	V	100.00	0.00	28.7	-6.7	22.0	40.0	-18.0
63.560000	V	100.00	0.00	28.1	-6.7	21.4	40.0	-18.6
78.880000	H	100.00	0.00	16.1	-6.6	9.5	40.0	-30.5
100.040000	V	100.00	0.00	15.6	-4.0	11.6	43.5	-31.9
125.440000	H	100.00	0.00	15.0	0.2	15.2	43.5	-28.3
153.000000	V	100.00	0.00	15.0	-1.2	13.8	43.5	-29.7
153.000000	V	100.00	0.00	15.1	-1.2	13.9	43.5	-29.6
171.040000	V	100.00	0.00	14.2	-1.7	12.5	43.5	-31.0
200.000000	V	100.00	0.00	14.1	-0.1	14.0	43.5	-29.5
298.320000	H	100.00	0.00	13.4	1.3	14.7	46.0	-31.3
401.120000	V	100.00	0.00	11.9	4.0	15.9	46.0	-30.1
499.280000	H	100.00	0.00	11.7	6.6	18.3	46.0	-27.7
600.960000	V	100.00	0.00	11.6	8.0	19.6	46.0	-26.4
696.000000	H	100.00	0.00	11.7	9.5	21.2	46.0	-24.8
839.000000	V	100.00	0.00	11.3	11.6	22.9	46.0	-23.1

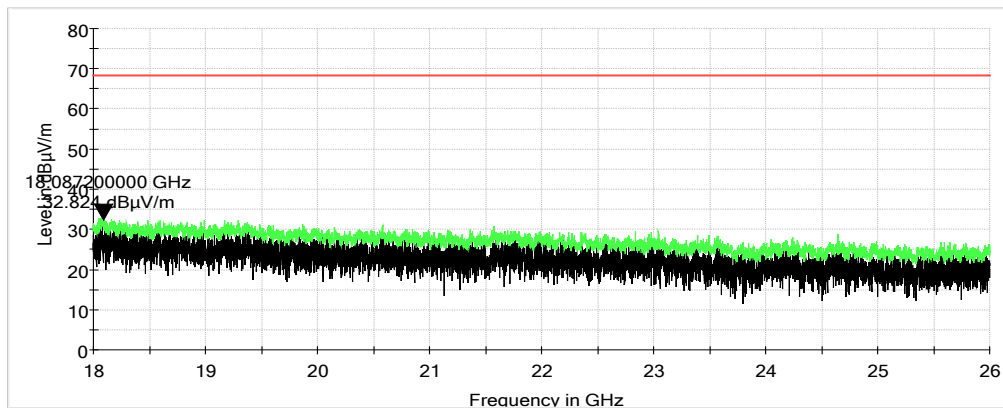




**UNII 1, 5.1 GHz, OFDM54 40M, Radiated Spurious Emissions:
High Channel, 1 GHz to 18 GHz, Vertical**



**UNII 1, 5.1 GHz, OFDM54 40M, Radiated Spurious Emissions:
High Channel, 18 GHz to 26 GHz, Vertical**

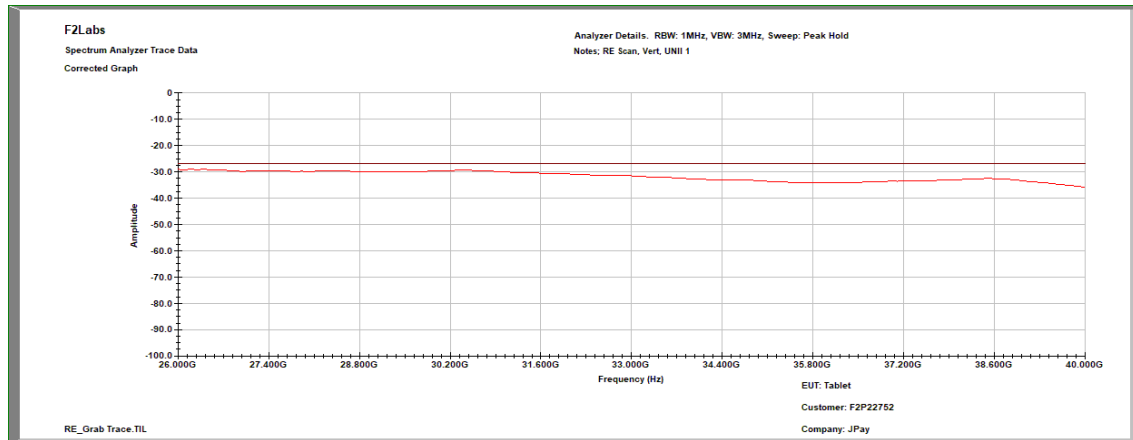




Order Number: F2P22752

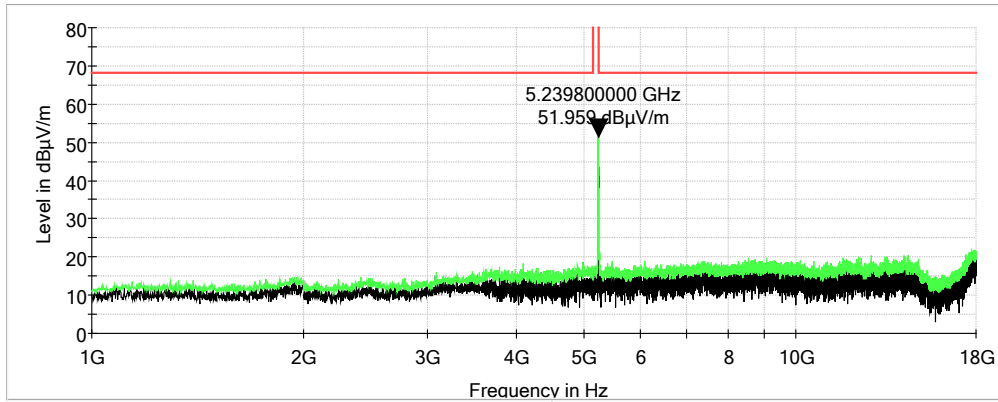
Applicant: Securus Technologies
Model: JP6Mini

**UNII 1, 5.1 GHz, OFDM54 40M, Radiated Spurious Emissions:
High Channel, 26 GHz to 40 GHz, Vertical**

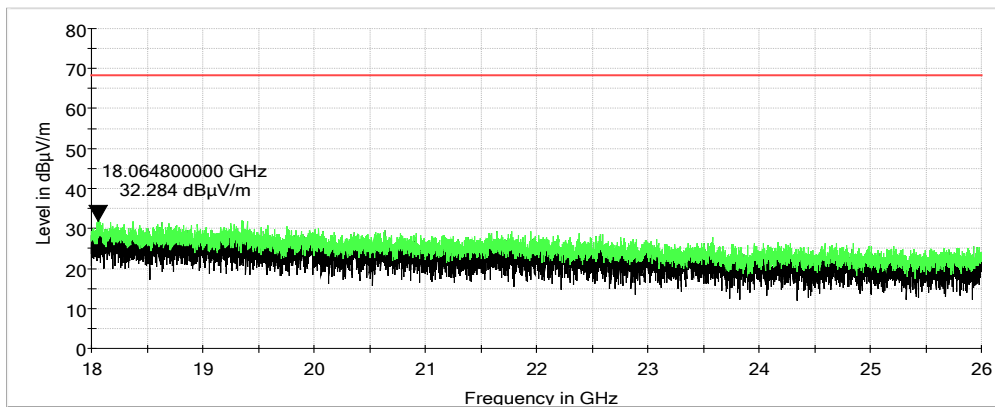




**UNII 1, 5.1 GHz, OFDM54 40M, Radiated Spurious Emissions:
High Channel, 1 GHz to 18 GHz, Horizontal**



**UNII 1, 5.1 GHz, OFDM54 40M, Radiated Spurious Emissions:
High Channel 18 GHz to 26 GHz, Horizontal**

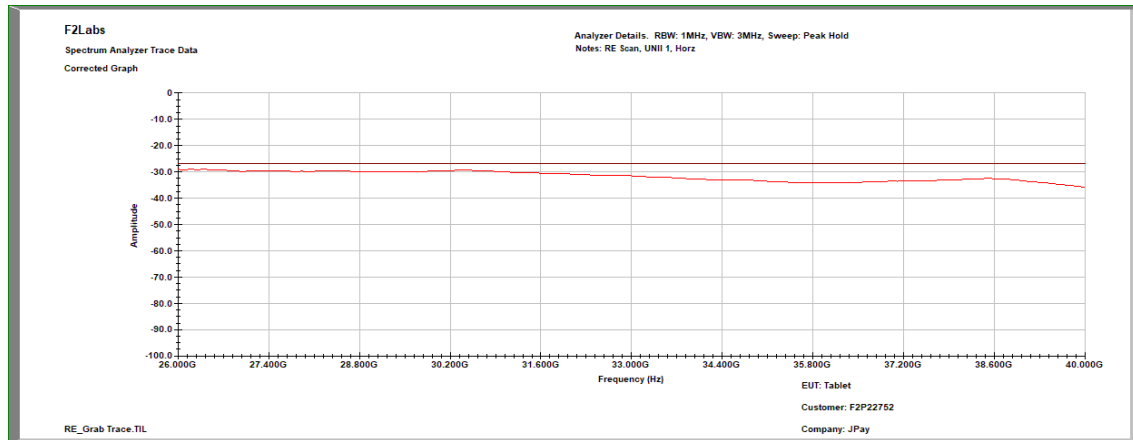




Order Number: F2P22752

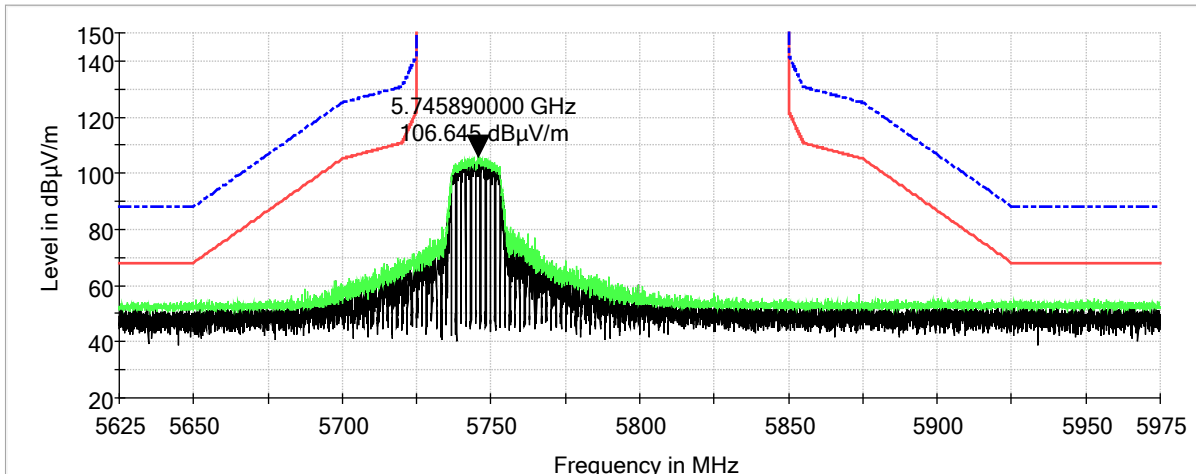
Applicant: Securus Technologies
Model: JP6Mini

**UNII 1, 5.1 GHz, OFDM54 40M, Radiated Spurious Emissions:
High Channel, 26 GHz to 40 GHz, Horizontal**

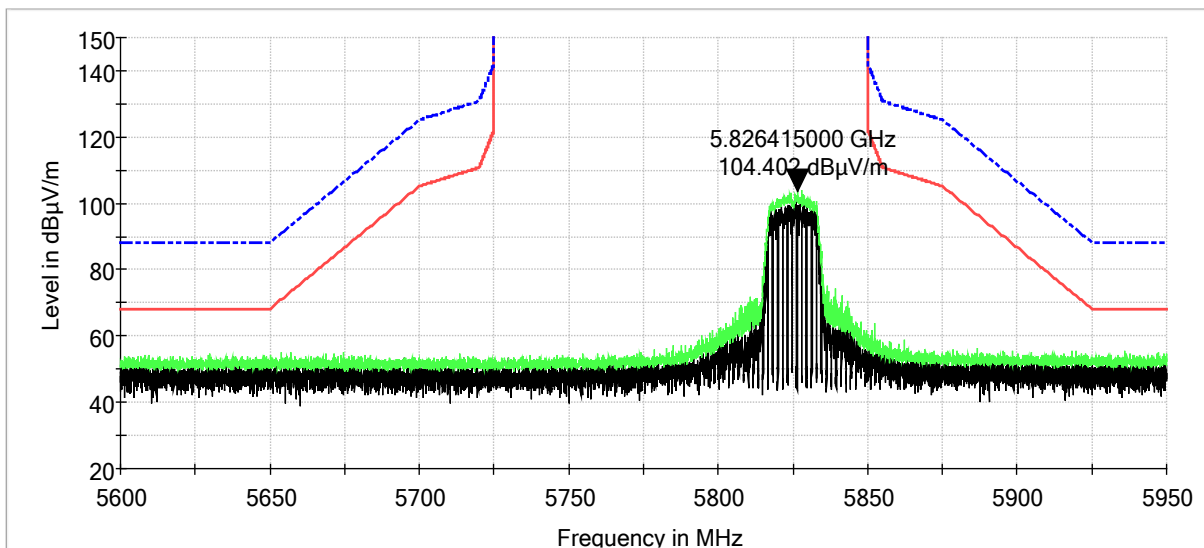




UNII 3, 5.7 GHz, OFDM54 20M: Lower Radiated Band Edge



UNII 3, 5.7 GHz, OFDM54 20M: Upper Radiated Band Edge

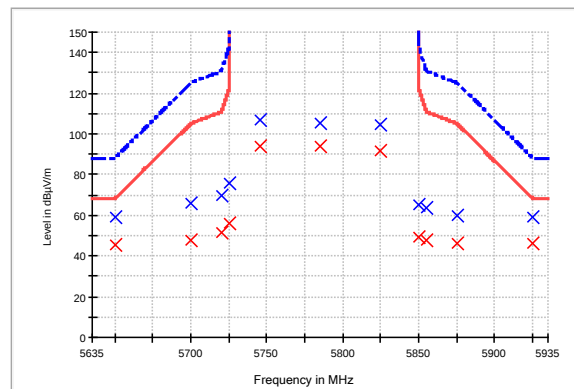




UNII 3, 5.7 GHz, OFDM54 20M: Radiated Band Edge Measurements

MaxPeak

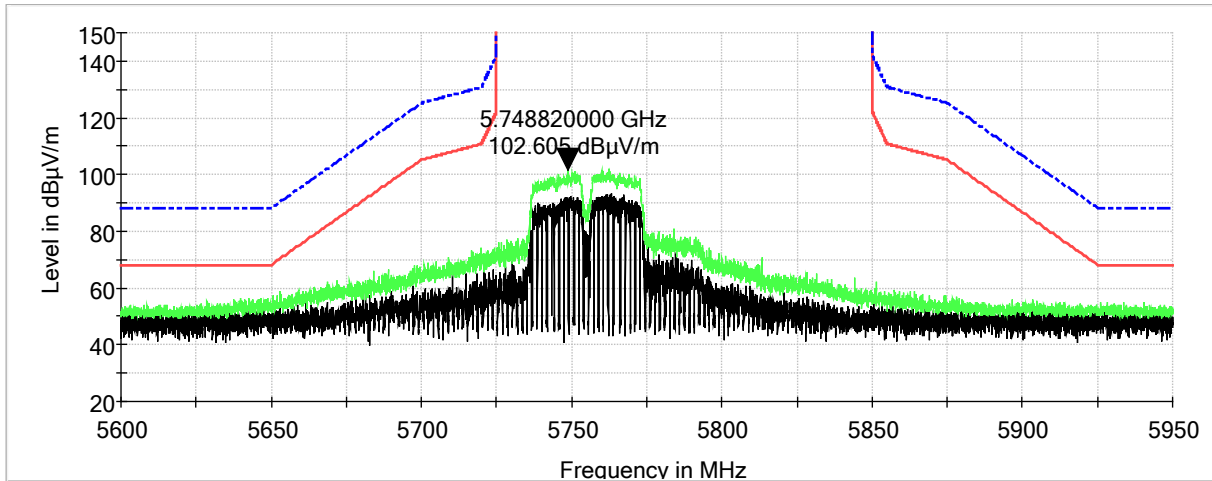
Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Azimuth (deg)	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5650.000000	H	150.00	314.00	39.9	18.8	58.70	68.2	-9.5
5700.000000	H	150.00	314.00	46.8	18.8	65.60	105.2	-39.6
5720.000000	H	150.00	318.00	51.1	18.9	70.00	110.8	-40.8
5725.000000	H	150.00	314.00	57.1	18.9	76.00	122.2	-46.2
5745.000000	H	150.00	314.00	87.8	18.9	106.70	---	--
5785.000000	H	150.00	314.00	86.3	18.9	105.20	---	--
5825.000000	H	150.00	318.00	85.6	19.0	104.60	---	--
5850.000000	H	150.00	318.00	46.3	19.0	65.30	122.2	-56.9
5855.000000	H	150.00	318.00	44.3	19.0	63.30	110.8	-47.5
5875.000000	H	150.00	318.00	41.2	19.0	60.20	105.2	-45.0
5925.000000	H	150.00	318.00	40.0	19.1	59.10	68.2	-9.1



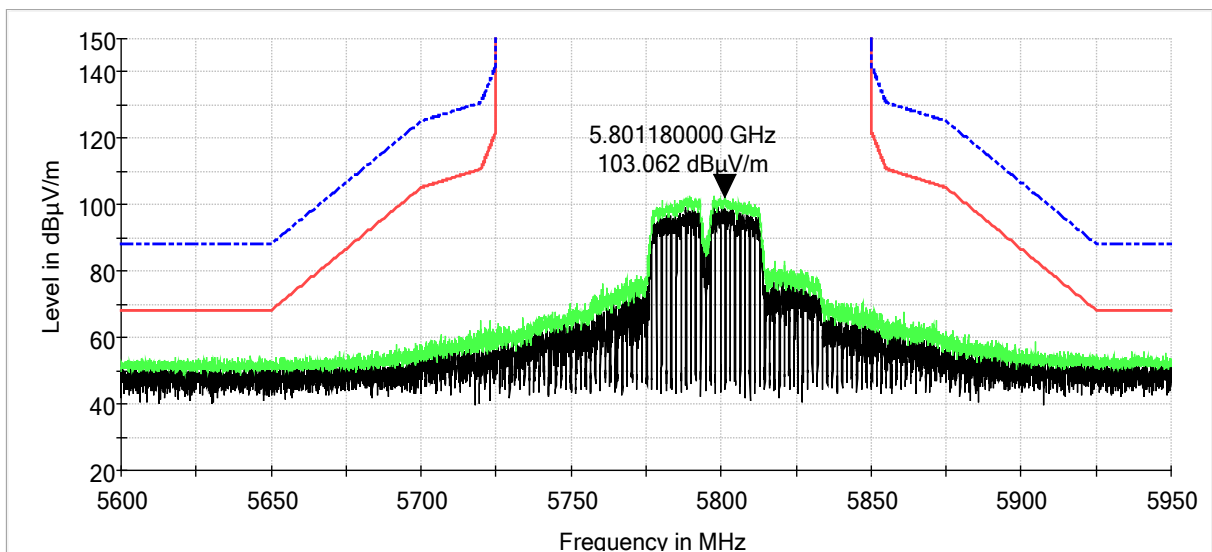
NOTE: The above table and graph are in dBuV/m. All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge using a Peak Detector. The table above reflects the measurements taken using dBuV/m.



UNII 3, 5.7 GHz, OFDM54 40M: Lower Radiated Band Edge



UNII 3, 5.7 GHz, OFDM54 40M: Upper Radiated Band Edge

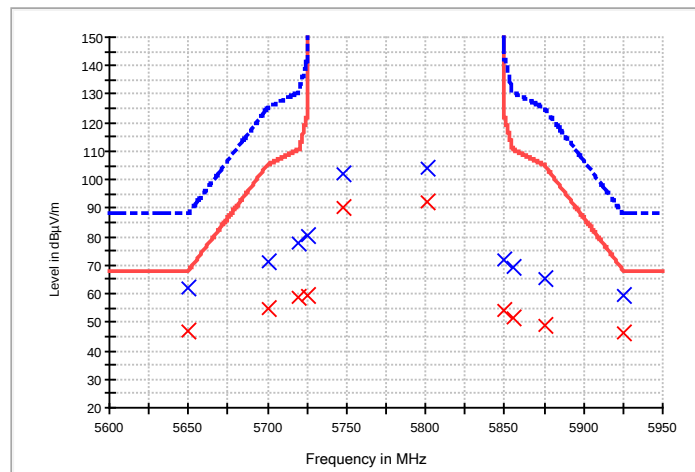




UNII 3, 5.7 GHz, OFDM54 40M: Radiated Band Edge Measurements

MaxPeak

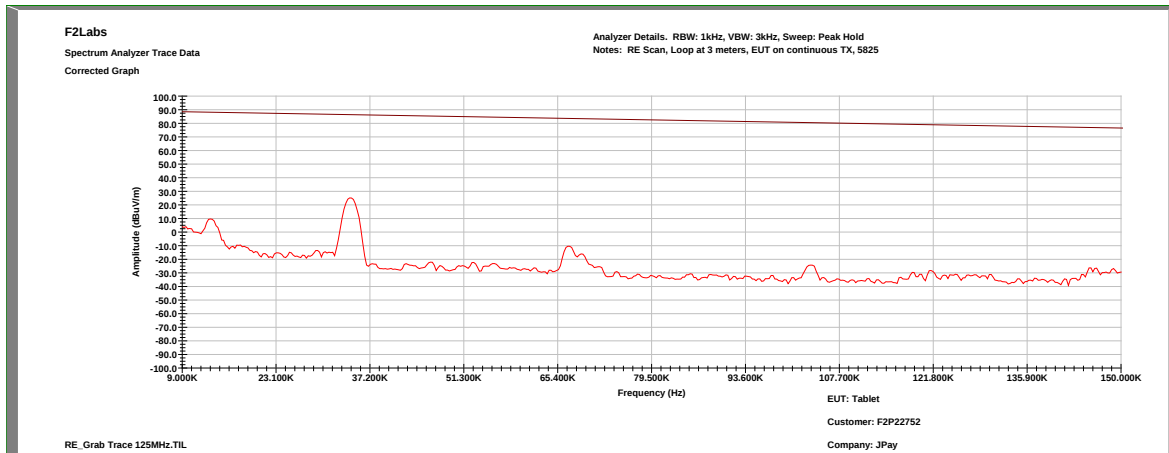
Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Azimuth (deg)	Reading (dBμV)	Cable Loss & Antenna Factor (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5650.000000	H	150.00	316.00	43.5	18.8	62.30	68.2	-5.9
5700.000000	H	150.00	316.00	52.1	18.8	70.90	105.2	-34.3
5720.000000	H	150.00	316.00	59.1	18.9	78.00	110.8	-32.8
5725.000000	H	150.00	316.00	61.2	18.9	80.10	122.2	-42.1
5748.000000	H	150.00	316.00	83.5	18.9	102.40	--	--
5801.000000	H	150.00	316.00	85.1	18.9	104.00	--	--
5850.000000	H	150.00	316.00	52.6	19.0	71.60	122.2	-50.6
5855.000000	H	150.00	316.00	50.3	19.0	69.30	110.8	-41.5
5875.000000	H	150.00	316.00	46.3	19.0	65.30	105.2	-39.9
5925.000000	H	150.00	316.00	40.4	19.1	59.50	68.2	-8.7



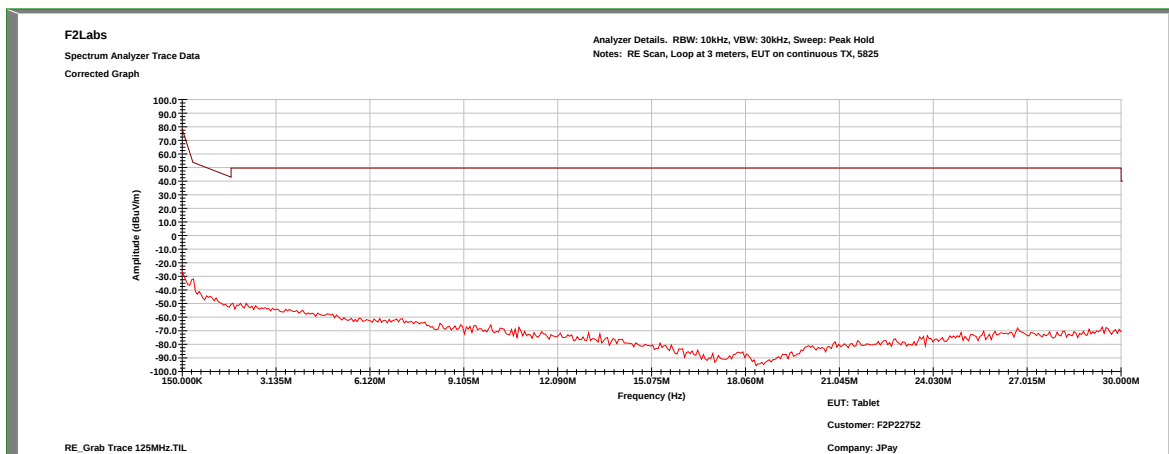
NOTE: The above table and graph are in dBuV/m. All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge using a Peak detector. The table above reflects the measurements taken using dBuV/m.



**UNII 3, 5.7 GHz, OFDM54 20M Radiated Spurious Emissions:
High Channel, 0.009 MHz to 0.15 MHz**

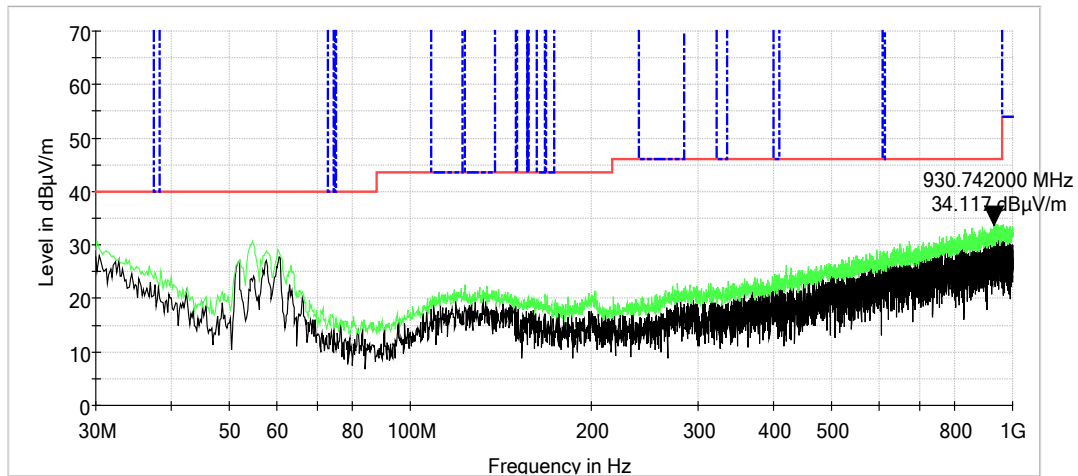


**UNII 3, 5.7 GHz, OFDM54 20M Radiated Spurious Emissions:
High Channel, 0.15 MHz to 30.0 MHz**

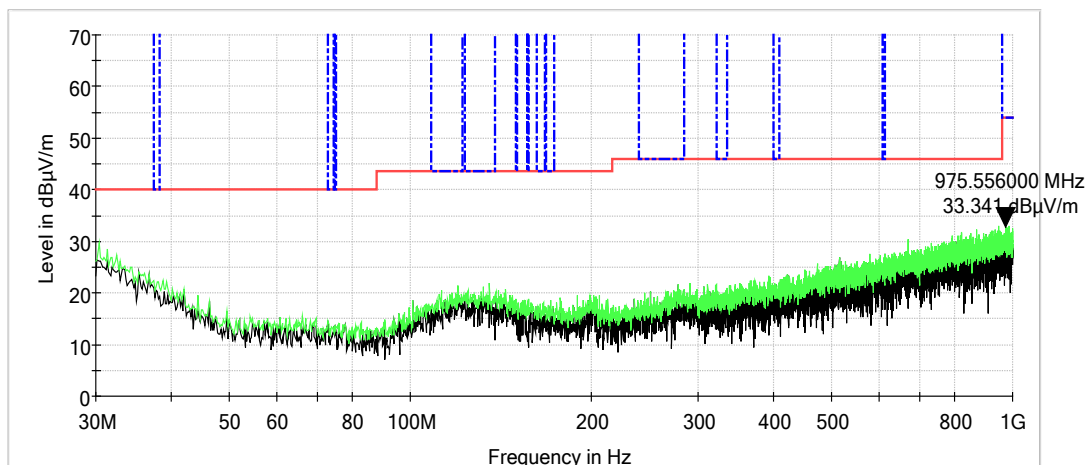




**UNII 3, 5.7 GHz, OFDM54 20M, Radiated Spurious Emissions:
High Channel, 30 MHz to 1000 MHz, Vertical**

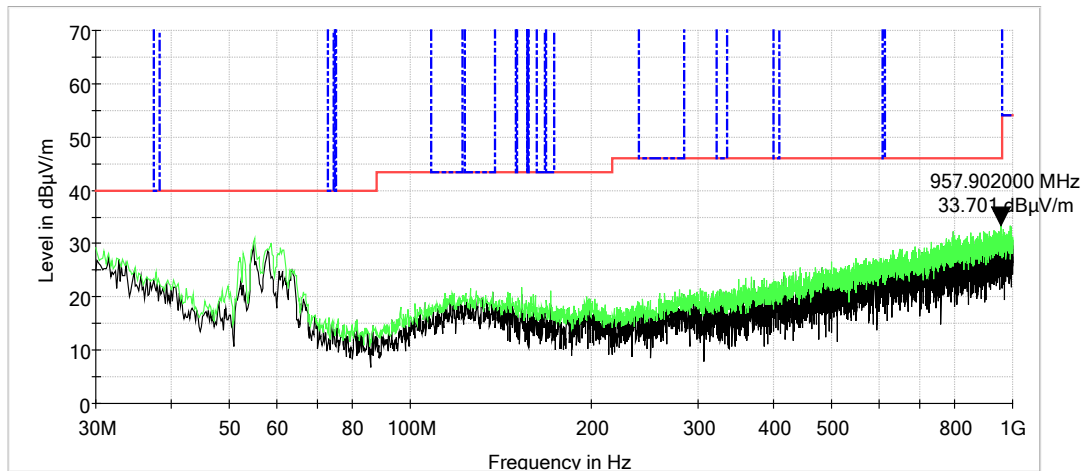


**UNII 3, 5.7 GHz, OFDM54 20M, Radiated Spurious Emissions:
High Channel, 30 MHz to 1000 MHz, Horizontal**

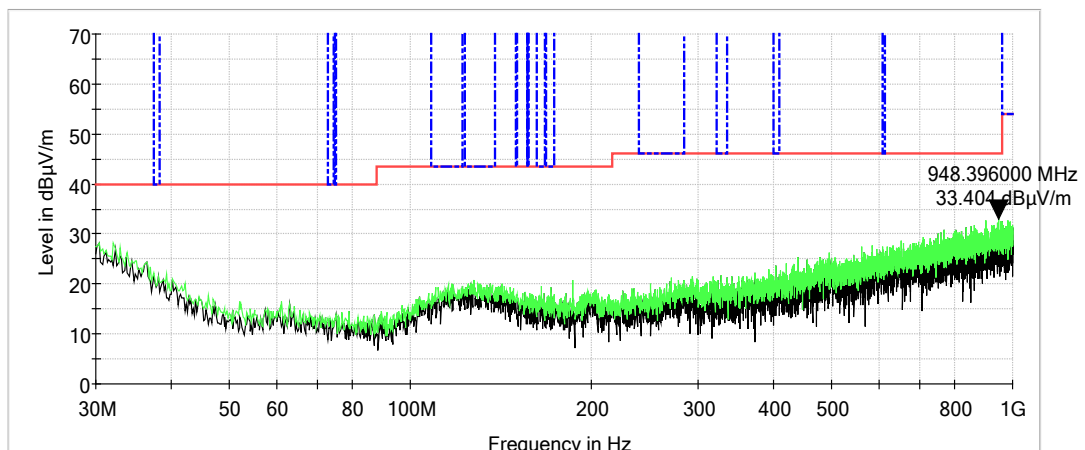




**UNII 3, 5.7 GHz, GHz, OFDM54 20M, Radiated Spurious Emissions:
High Channel, 30 MHz to 1000 MHz, Vertical**

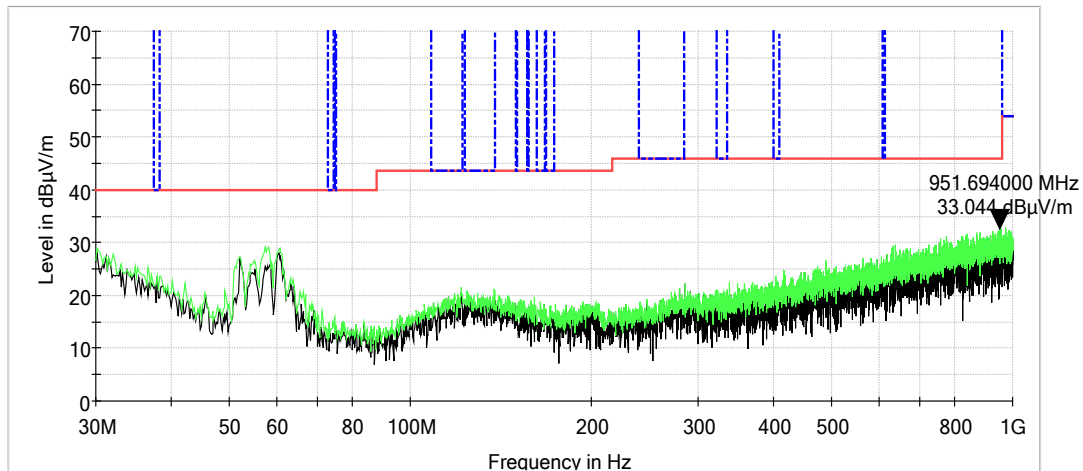


**UNII 3, 5.7 GHz, OFDM54 20M, Radiated Spurious Emissions:
High Channel, 30 MHz to 1000 MHz, Horizontal**

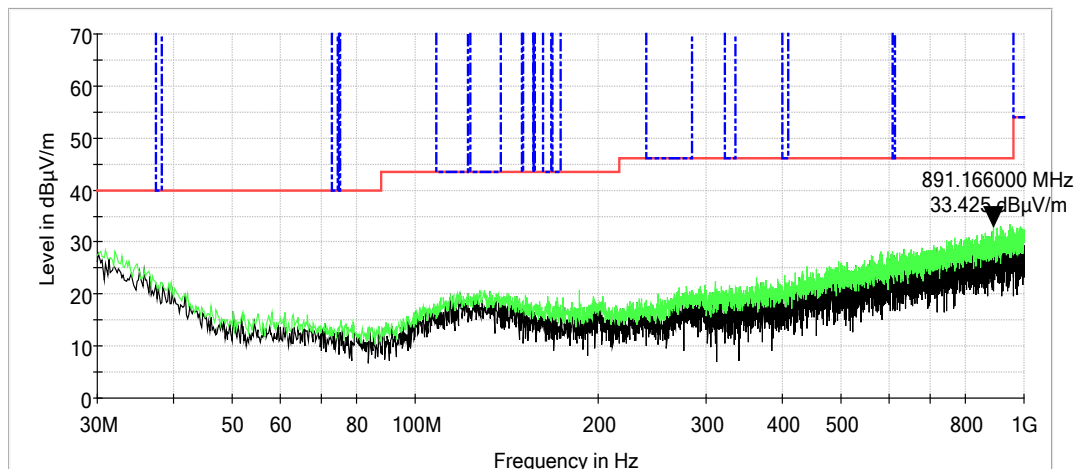




**UNII 3, 5.7 GHz, OFDM54 20M, Radiated Spurious Emissions:
High Channel, 30 MHz to 1000 MHz, Vertical**



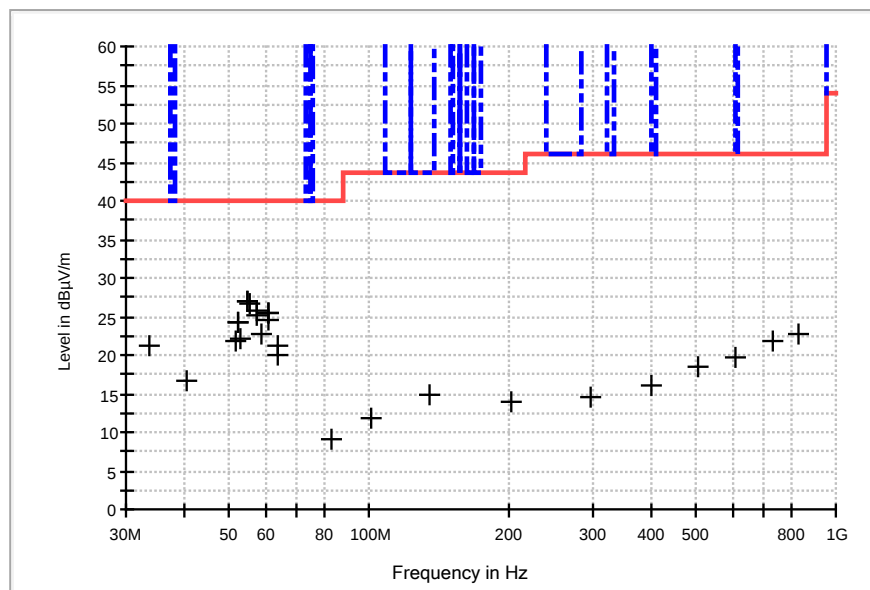
**UNII 3, 5.7 GHz, OFDM54 20M, Radiated Spurious Emissions:
High Channel, 30 MHz to 1000 MHz, Horizontal**





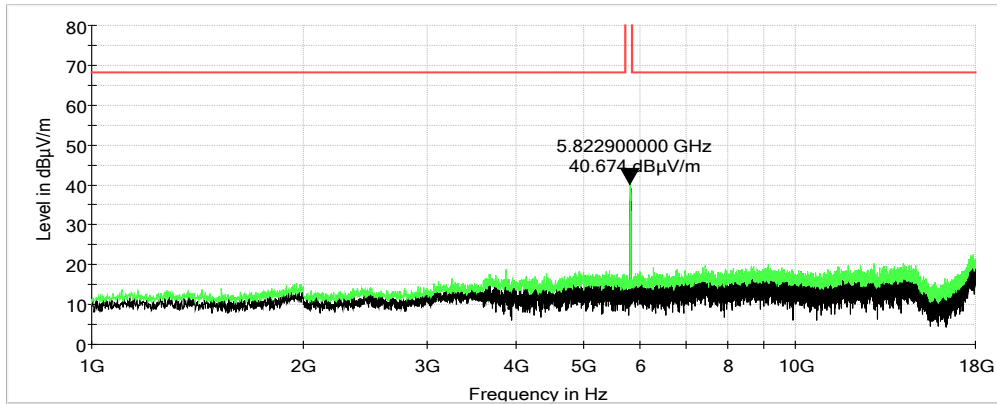
UNII 3, 5.7 GHz, OFDM54 20M, 30 MHz to 1000 MHz: Data from all channels

Frequency (MHz)	Antenna Polarization	Antenna Height (cm)	Azimuth (deg)	Reading (dBμV)	Correction Factors (dB)	Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
33.680000	V	100.00	0.00	17.0	4.3	21.3	40.0	-18.7
40.280000	H	100.00	0.00	17.2	-0.6	16.6	40.0	-23.4
51.720000	V	100.00	0.00	28.5	-6.8	21.7	40.0	-18.3
52.120000	V	100.00	0.00	31.2	-6.9	24.3	40.0	-15.7
52.120000	V	100.00	0.00	31.1	-6.9	24.2	40.0	-15.8
52.680000	V	100.00	0.00	29.2	-7.0	22.2	40.0	-17.8
54.640000	V	100.00	0.00	34.1	-7.2	26.9	40.0	-13.1
54.840000	V	100.00	0.00	34.3	-7.2	27.1	40.0	-12.9
55.040000	V	100.00	0.00	33.7	-7.2	26.5	40.0	-13.5
57.360000	V	100.00	0.00	33.1	-7.2	25.9	40.0	-14.1
57.560000	V	100.00	0.00	32.5	-7.2	25.3	40.0	-14.7
58.720000	V	100.00	0.00	29.8	-7.1	22.7	40.0	-17.3
60.440000	V	100.00	0.00	31.5	-7.0	24.5	40.0	-15.5
60.640000	V	100.00	0.00	32.5	-7.0	25.5	40.0	-14.5
60.840000	V	100.00	0.00	32.2	-6.9	25.3	40.0	-14.7
63.160000	V	100.00	0.00	28.0	-6.8	21.2	40.0	-18.8
63.160000	V	100.00	0.00	26.8	-6.8	20.0	40.0	-20.0
82.760000	H	100.00	0.00	15.9	-6.8	9.1	40.0	-30.9
101.000000	V	100.00	0.00	15.4	-3.7	11.7	43.5	-31.8
134.160000	V	100.00	0.00	14.8	0.0	14.8	43.5	-28.7
200.920000	V	100.00	0.00	14.0	0.0	14.0	43.5	-29.5
298.880000	H	100.00	0.00	13.4	1.3	14.7	46.0	-31.3
402.280000	V	100.00	0.00	12.0	4.0	16.0	46.0	-30.0
506.080000	H	100.00	0.00	11.9	6.6	18.5	46.0	-27.5
609.480000	V	100.00	0.00	11.8	8.0	19.8	46.0	-26.2
732.280000	H	100.00	0.00	12.0	10.0	22.0	46.0	-24.0
836.280000	V	100.00	0.00	11.4	11.5	22.9	46.0	-23.1

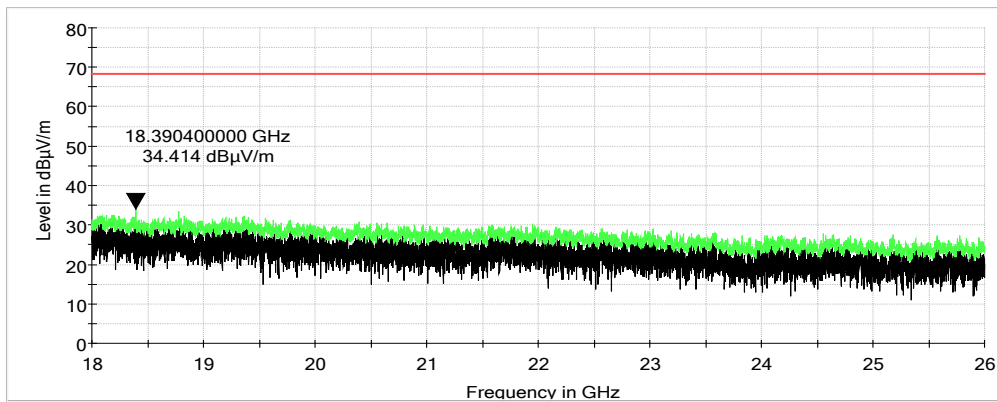




**UNII 3, 5.7 GHz, OFDM54 40M, Radiated Spurious Emissions:
High Channel, 1 GHz to 18 GHz, Vertical**



**UNII 3, 5.7 GHz, OFDM54 40M, Radiated Spurious Emissions:
High Channel, 18 GHz to 26 GHz, Vertical**

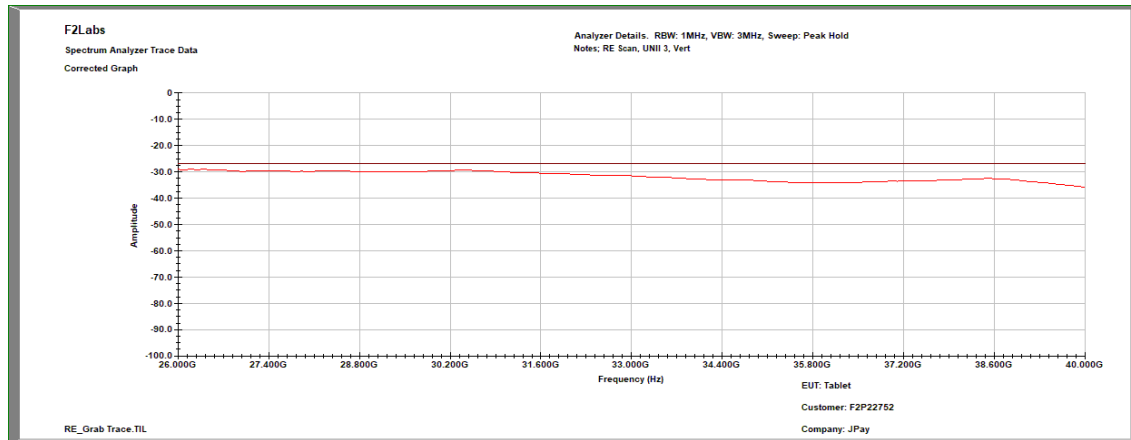




Order Number: F2P22752

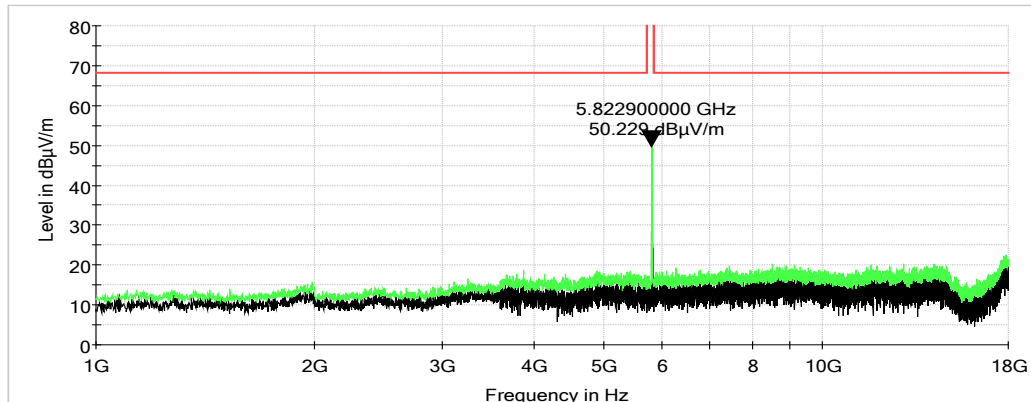
Applicant: Securus Technologies
Model: JP6Mini

**UNII 3, 5.7 GHz, OFDM54 40M, Radiated Spurious Emissions:
High Channel, 26 GHz to 40 GHz, Vertical**

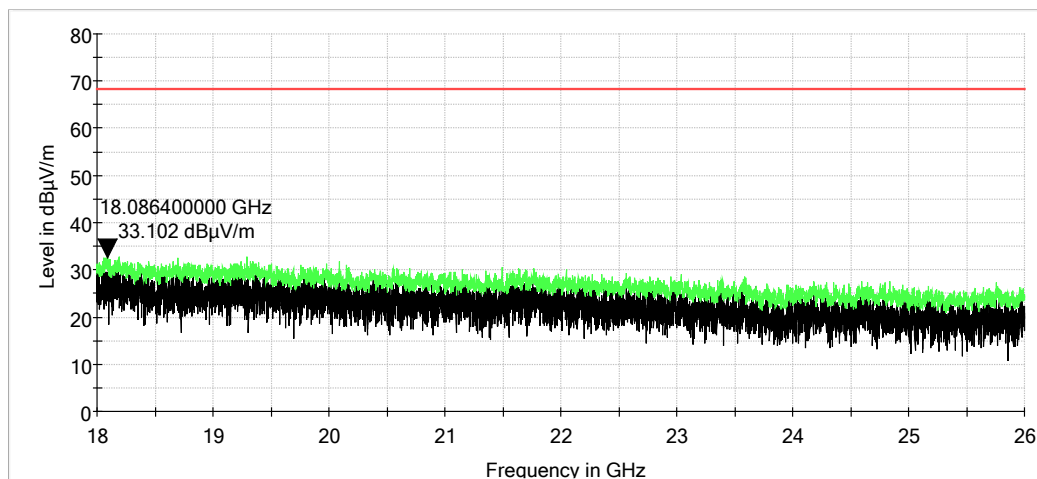




**UNII 3, 5.7 GHz, OFDM54 40M, Radiated Spurious Emissions:
High Channel, 1 GHz to 18 GHz, Horizontal**



**UNII 3, 5.7 GHz, OFDM54 40M, Radiated Spurious Emissions:
High Channel, 18 GHz to 26 GHz, Horizontal**

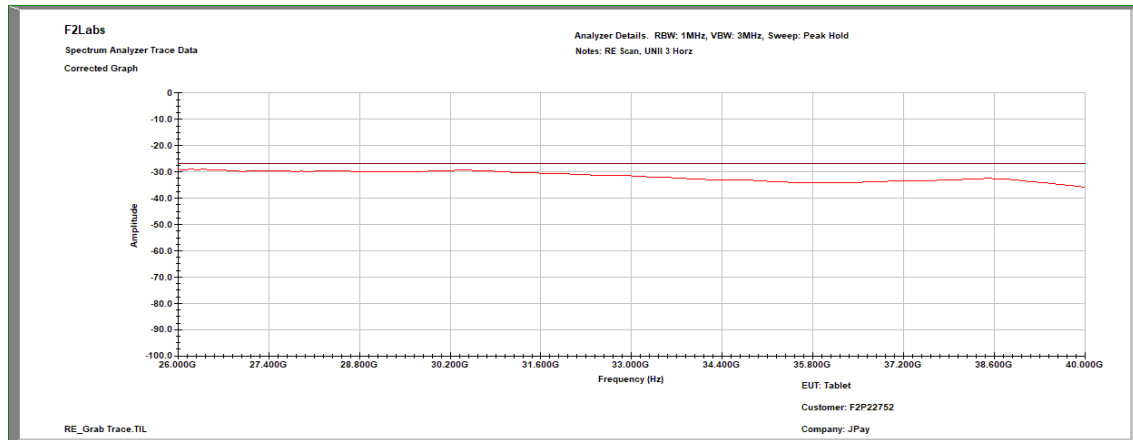




Order Number: F2P22752

Applicant: Securus Technologies
Model: JP6Mini

**UNII 3, 5.7 GHz, OFDM54 40M, Radiated Spurious Emissions:
High Channel, 26 GHz to 40 GHz, Horizontal**





11 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.

11.1 Requirements:

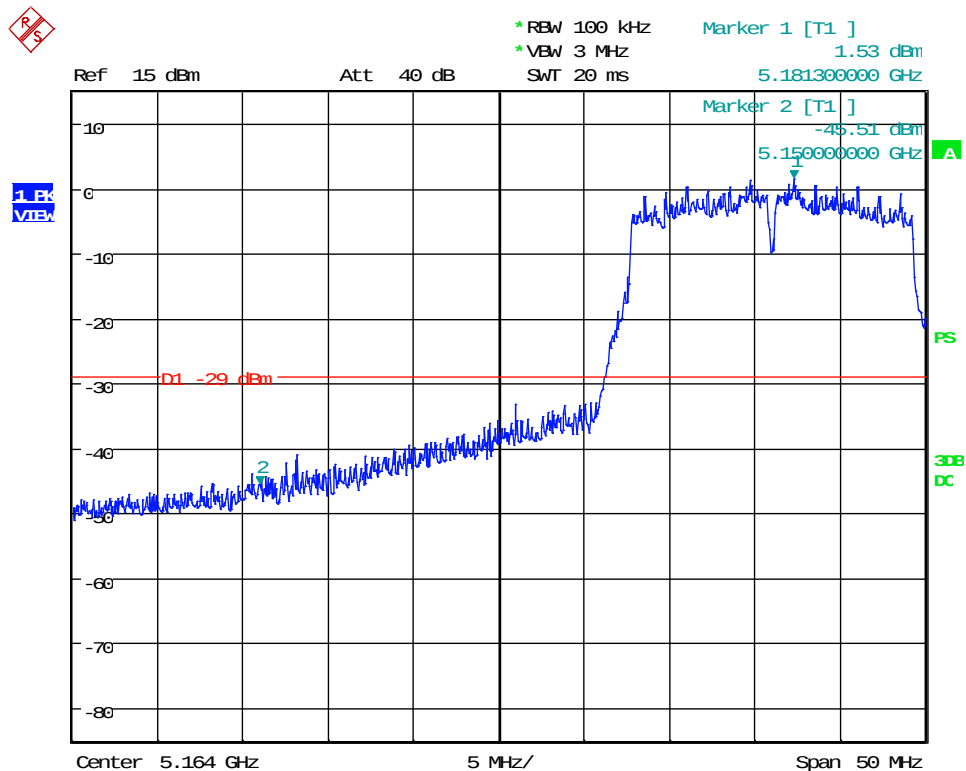
- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band:
 - (i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.



11.2 Conducted Spurious Emissions Test Data

Test Date:	2020-04-14, 2020-07-17	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.407(b)(1,4)	Air Temperature:	22.1°C
		Relative Humidity:	%33

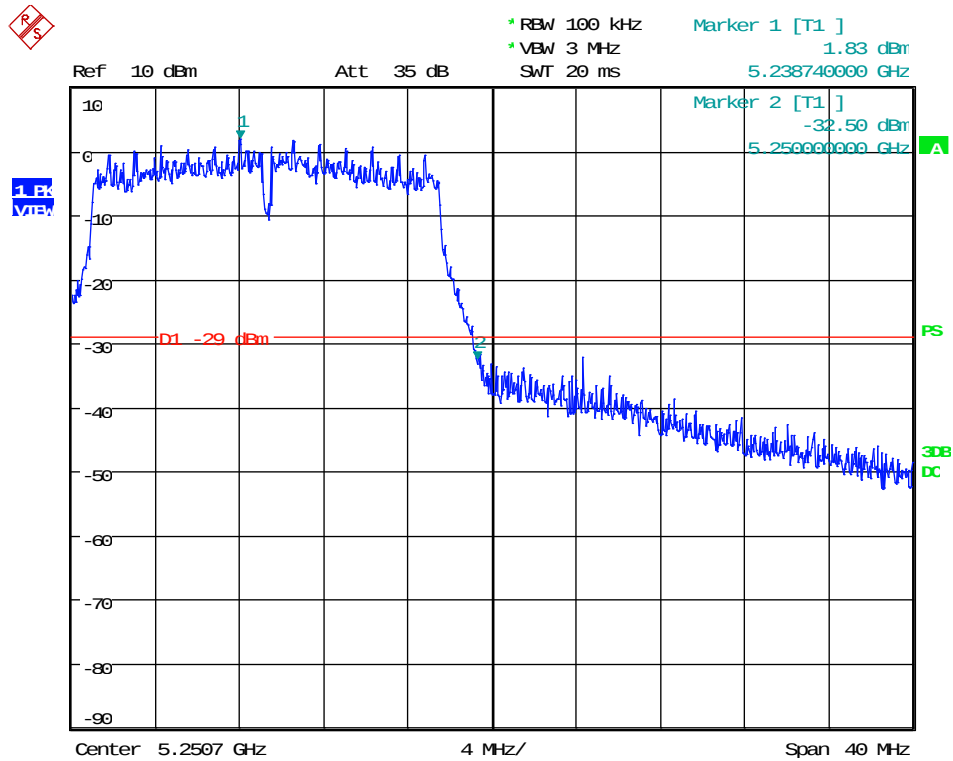
UNII 1, 5.1 GHz, OFDM54 20M: Lower Band Edge



Date: 14.APR.2020 13:59:17



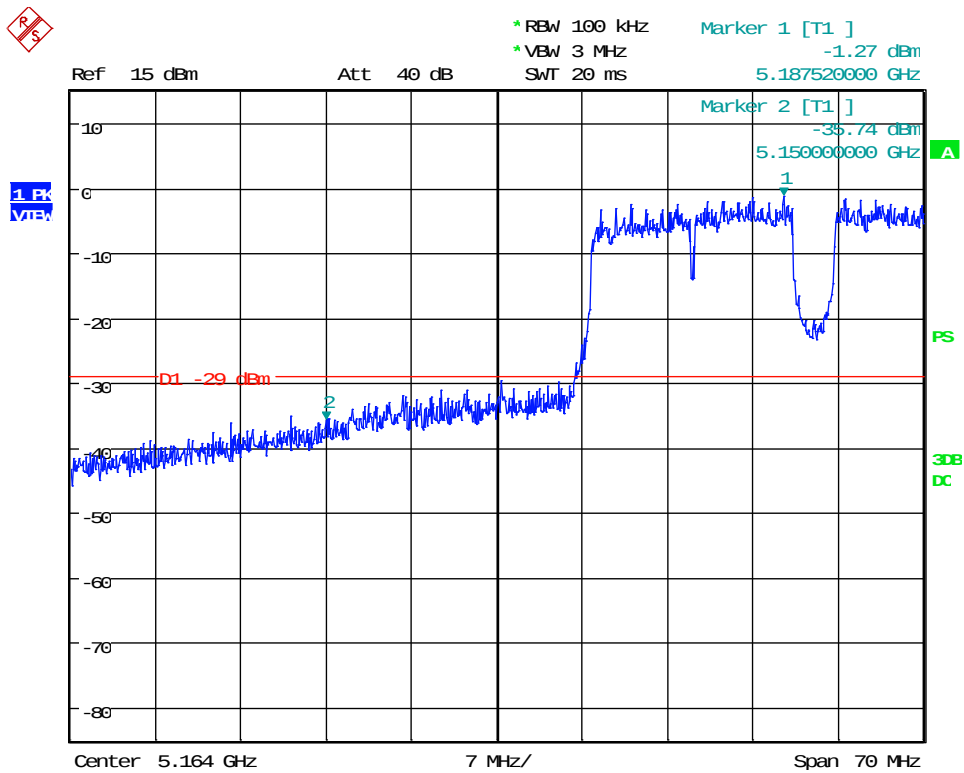
UNII 1, 5.1 GHz, OFDM54 20M: Upper Band Edge



Date: 14.APR.2020 14:05:26



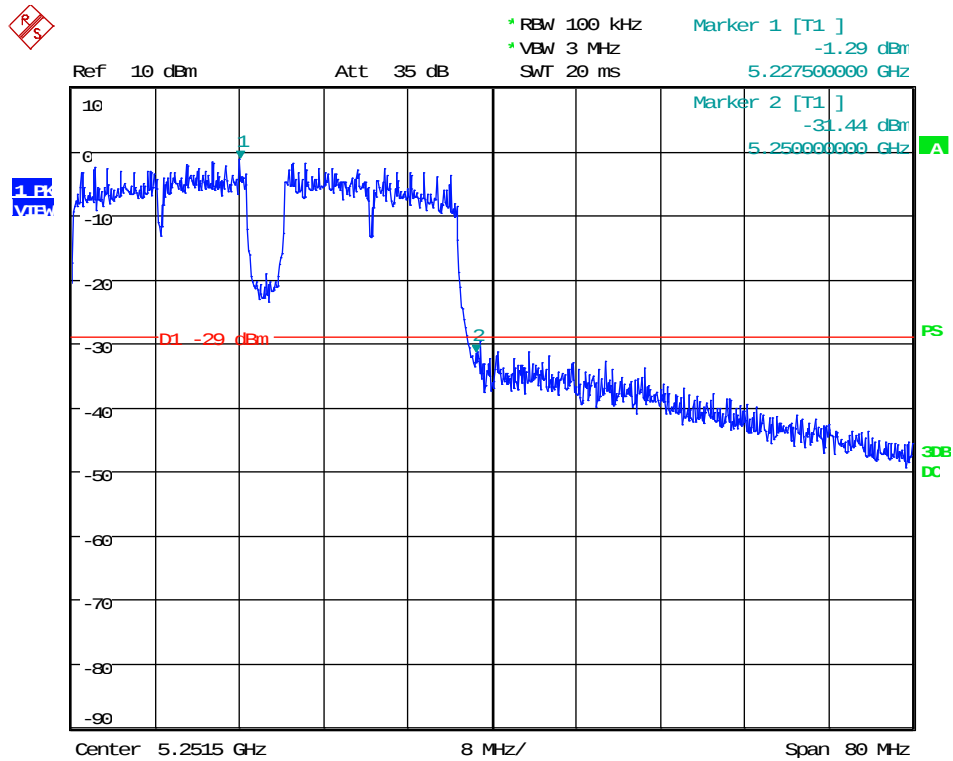
UNII 1, 5.1 GHz, OFDM54 40M: Lower Band Edge



Date: 14.APR.2020 14:00:53



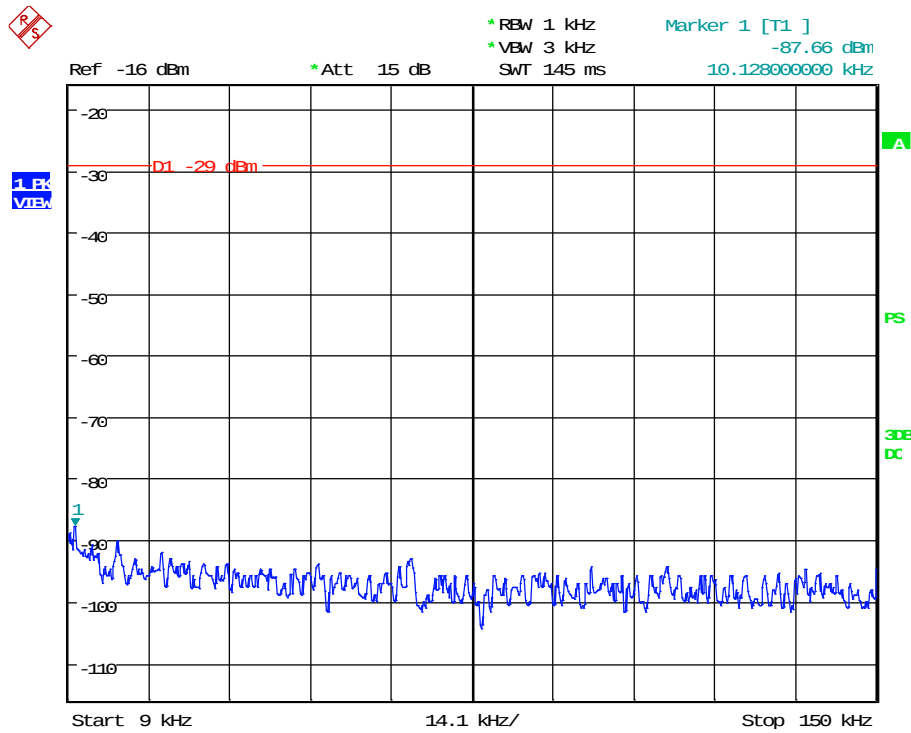
UNII 1, 5.1 GHz, OFDM54 40M: Upper Band Edge



Date: 14.APR.2020 14:03:46



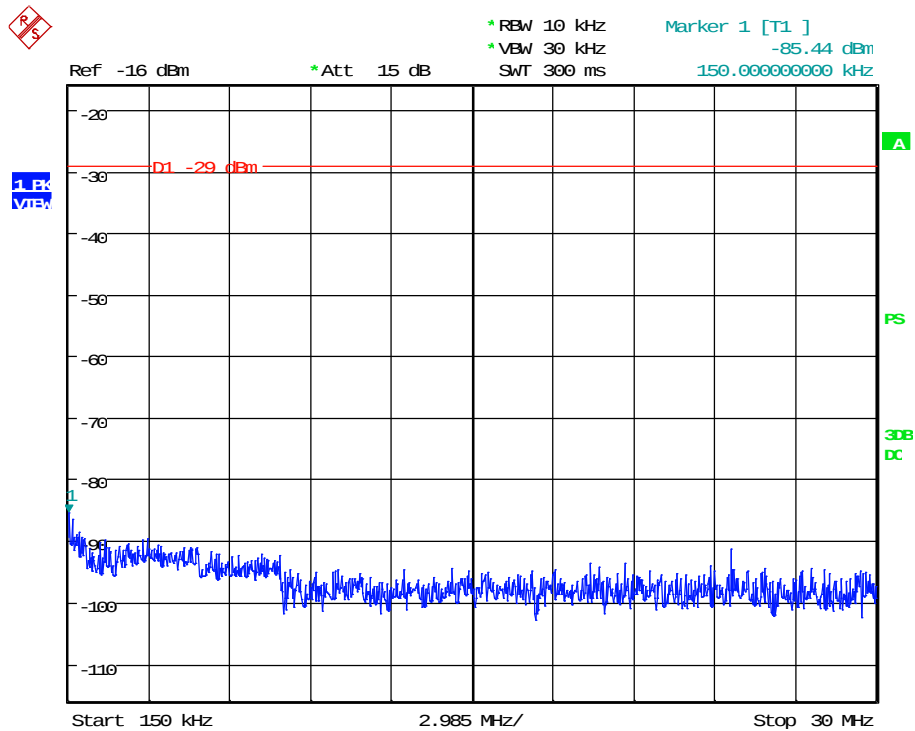
UNII 1, 5.1 GHz, OFDM54 20M: Low Channel, 0.009 MHz to 0.15 MHz



Date: 14.APR.2020 13:36:09



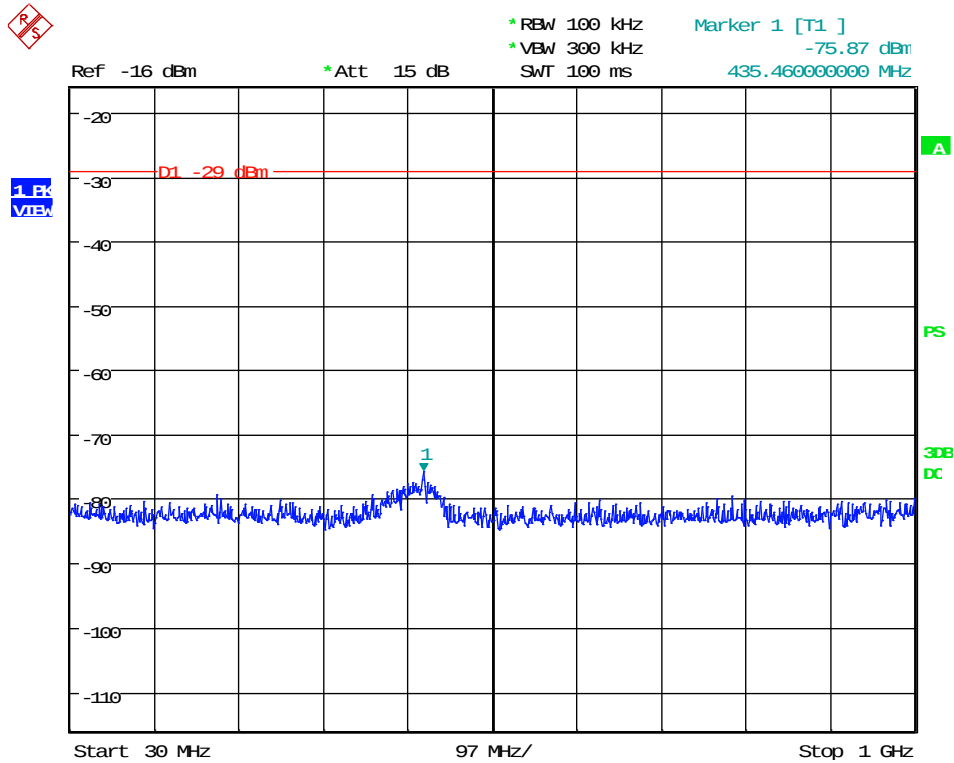
UNII 1, 5.1 GHz, OFDM54 20M: Low Channel, 0.15 MHz to 30 MHz



Date: 14.APR.2020 13:39:31



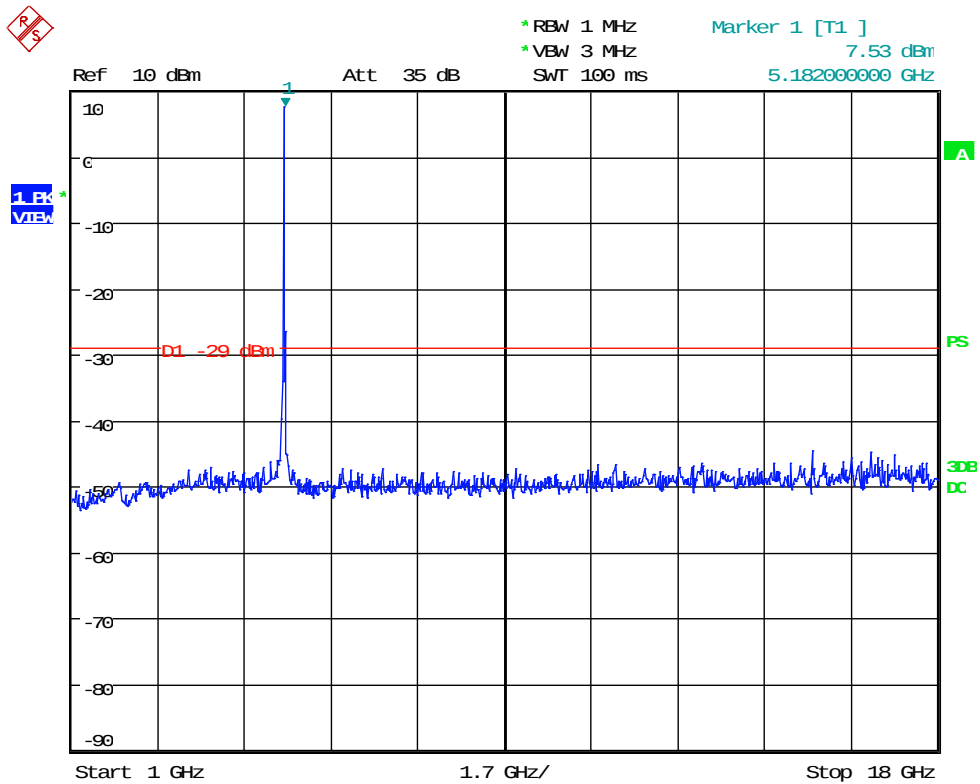
UNII 1, 5.1 GHz, OFDM54 20M: Low Channel, 30 MHz to 1000 MHz



Date: 14.APR.2020 13:43:32



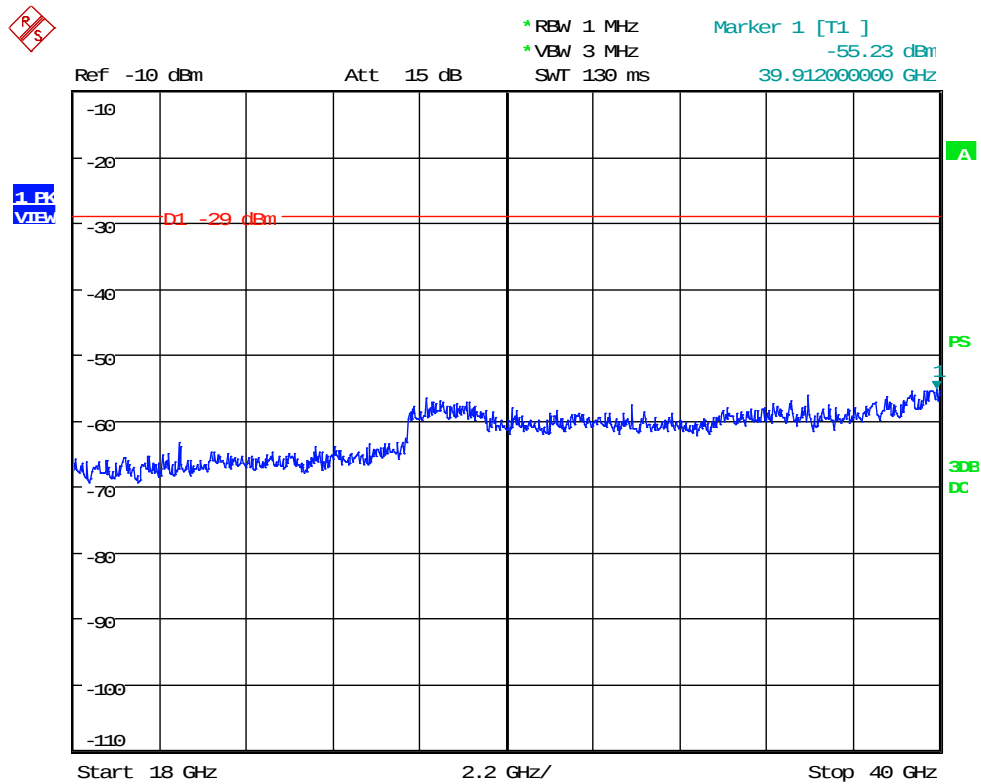
UNII 1, 5.1 GHz, OFDM54 20M: Low Channel, 1 GHz to 18 GHz



Date: 14.APR.2020 13:48:12



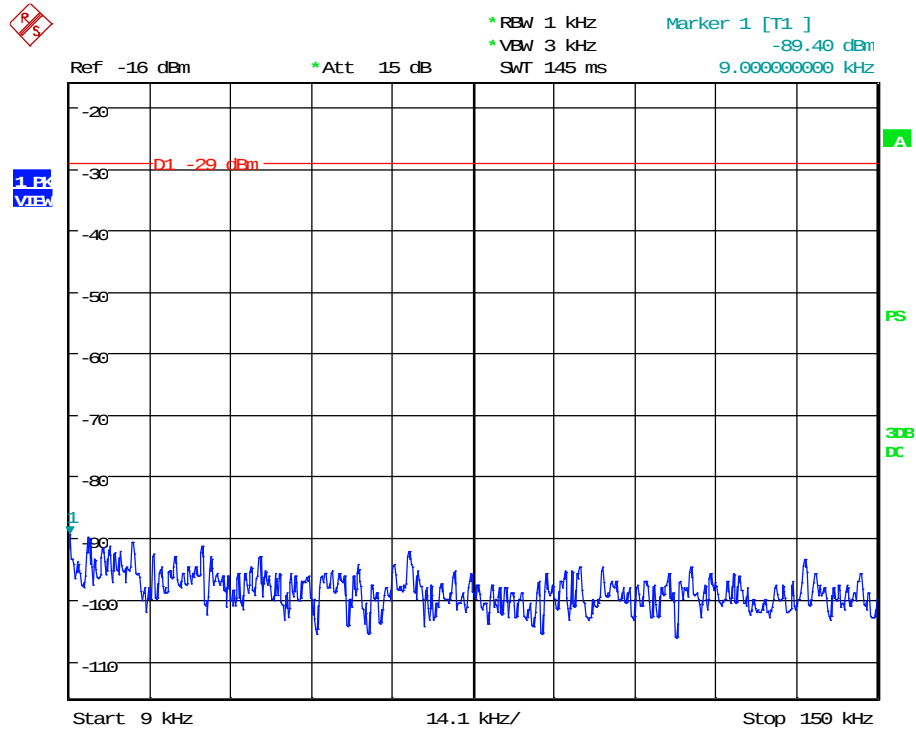
UNII 1, 5.1 GHz, OFDM54 20M: Low Channel, 18 GHz to 40 GHz



Date: 14.APR.2020 13:55:36



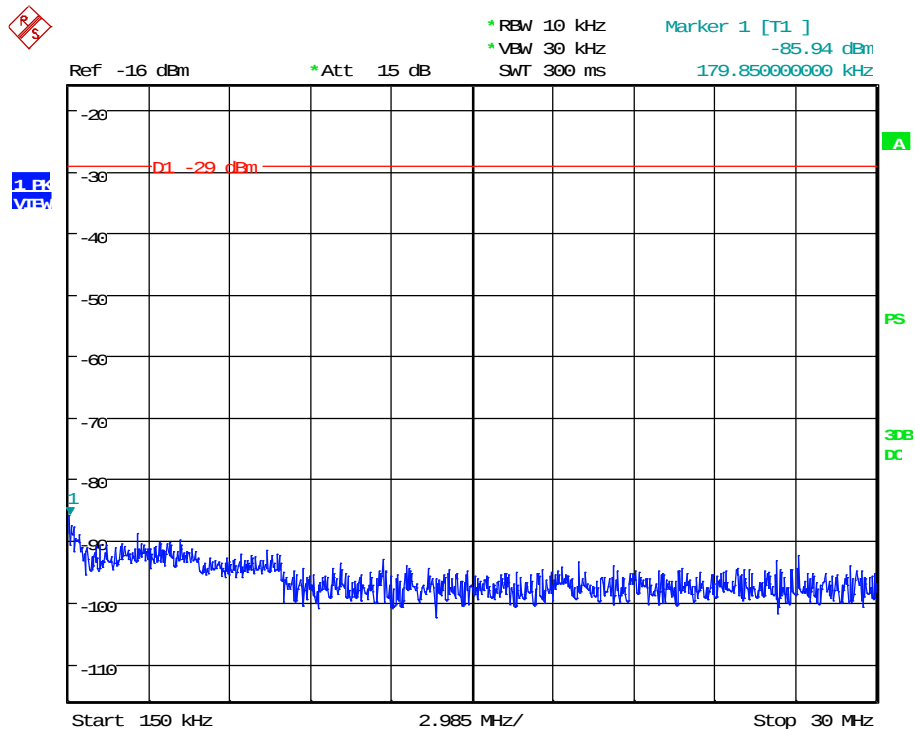
UNII 1, 5.1 GHz, OFDM54 20M: Mid Channel, 0.009 MHz to 0.15 MHz



Date: 14.APR.2020 13:36:41



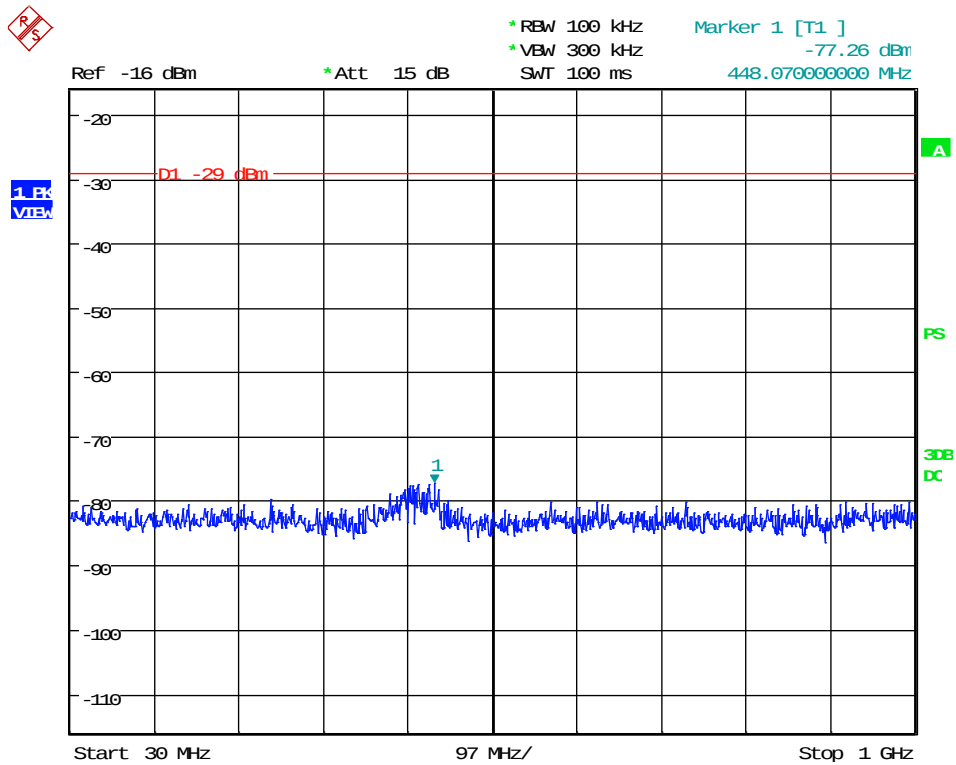
UNII 1, 5.1 GHz, OFDM54 20M: Mid Channel, 0.15 MHz to 30 MHz



Date: 14.APR.2020 13:40:01



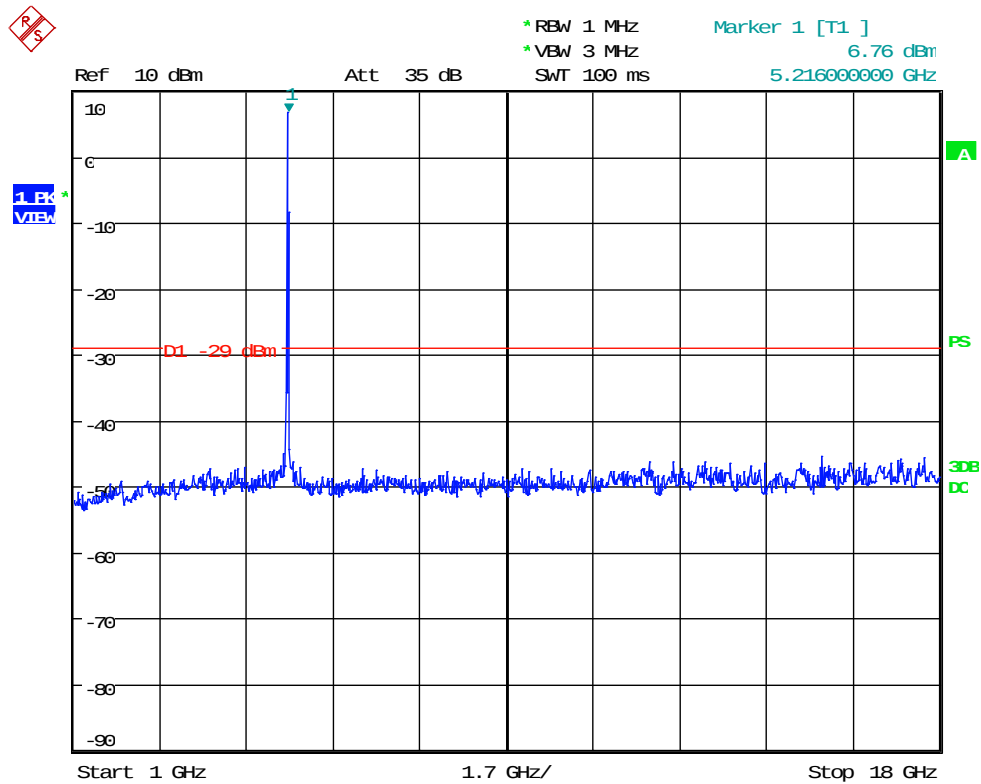
UNII 1, 5.1 GHz, OFDM54 20M: Mid Channel, 30 MHz to 1000 MHz



Date: 14.APR.2020 13:43:58



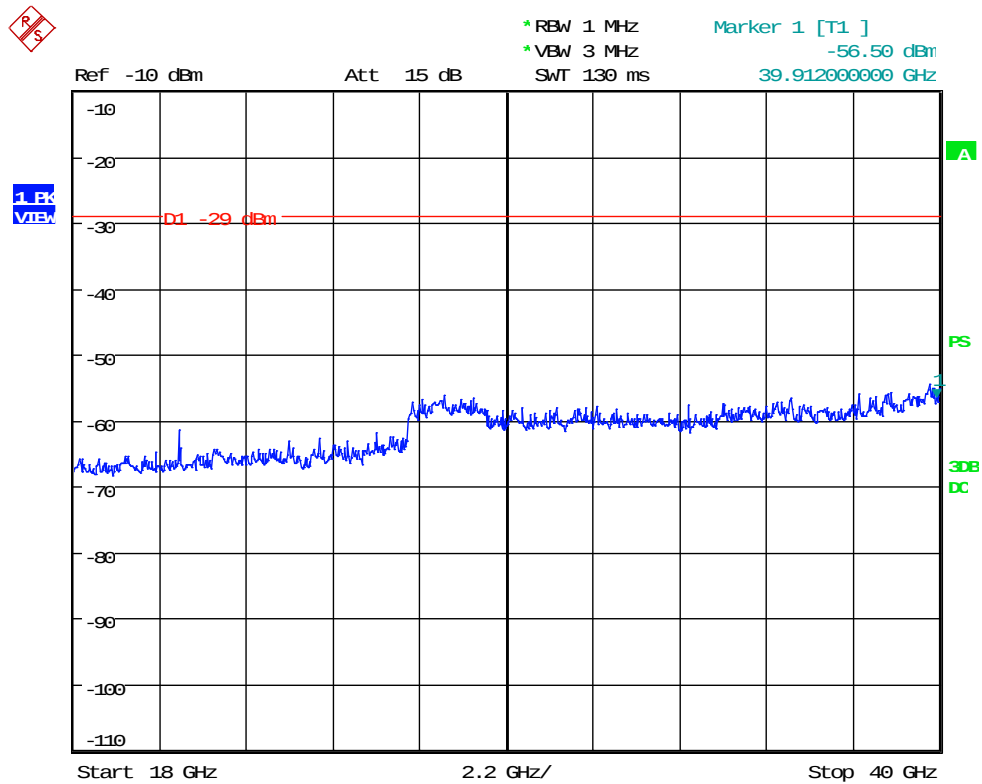
UNII 1, 5.1 GHz, OFDM54 20M: Mid Channel, 1 GHz to 18 GHz



Date: 14.APR.2020 13:48:56



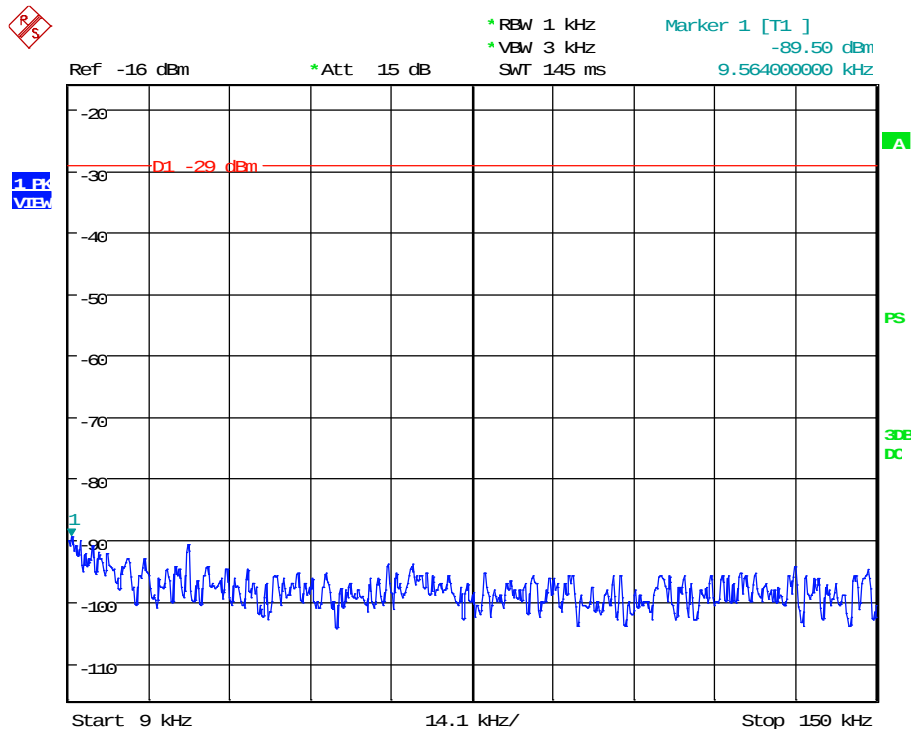
UNII 1, 5.1 GHz, OFDM54 20M: Mid Channel, 18 GHz to 40 GHz



Date: 14.APR.2020 13:56:04



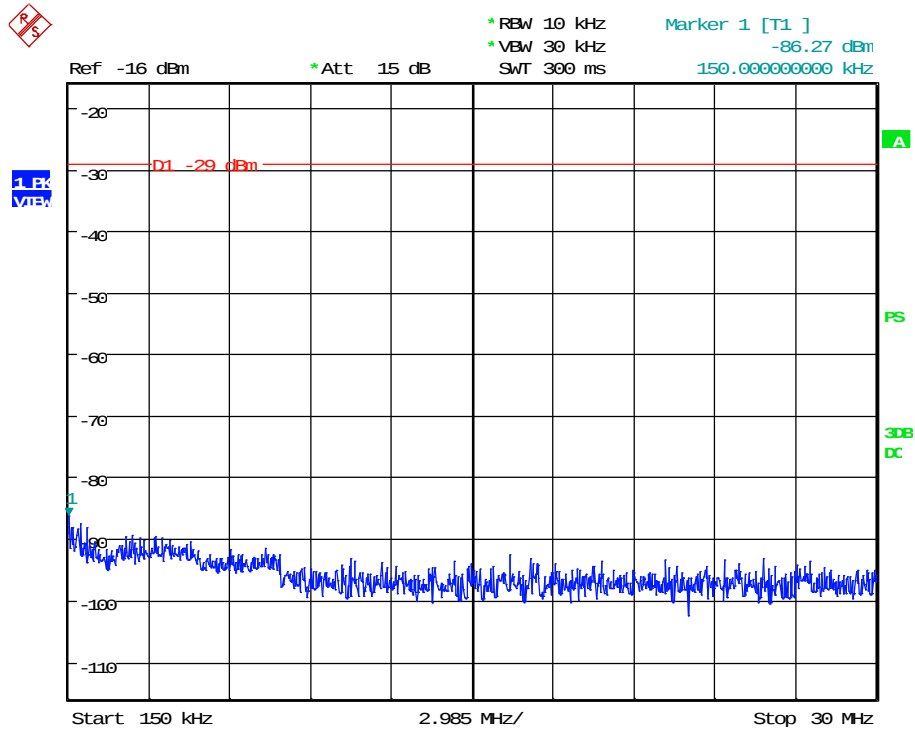
UNII 1, 5.1 GHz, OFDM54 20M: High Channel, 0.009 MHz to 0.15 MHz



Date: 14.APR.2020 13:37:15



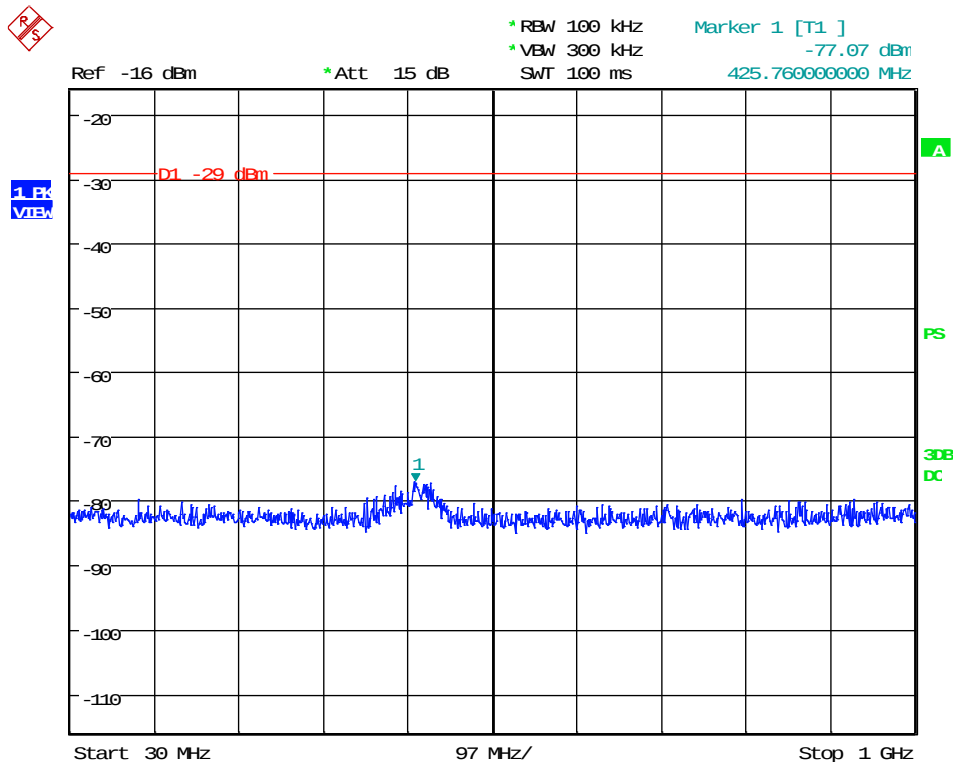
UNII 1, 5.1 GHz, OFDM54 20M: High Channel, 0.15 MHz to 30 MHz



Date: 14.APR.2020 13:40:40



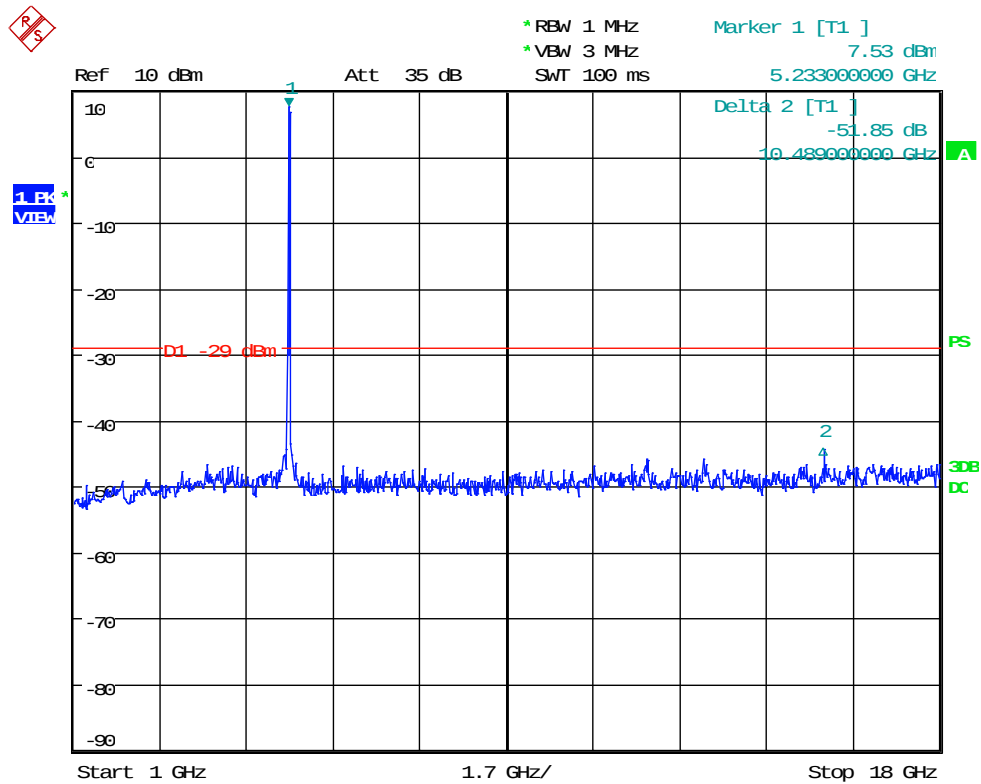
UNII 1, 5.1 GHz, OFDM54 20M: High Channel, 30 MHz to 1000 MHz



Date: 14.APR.2020 13:44:28



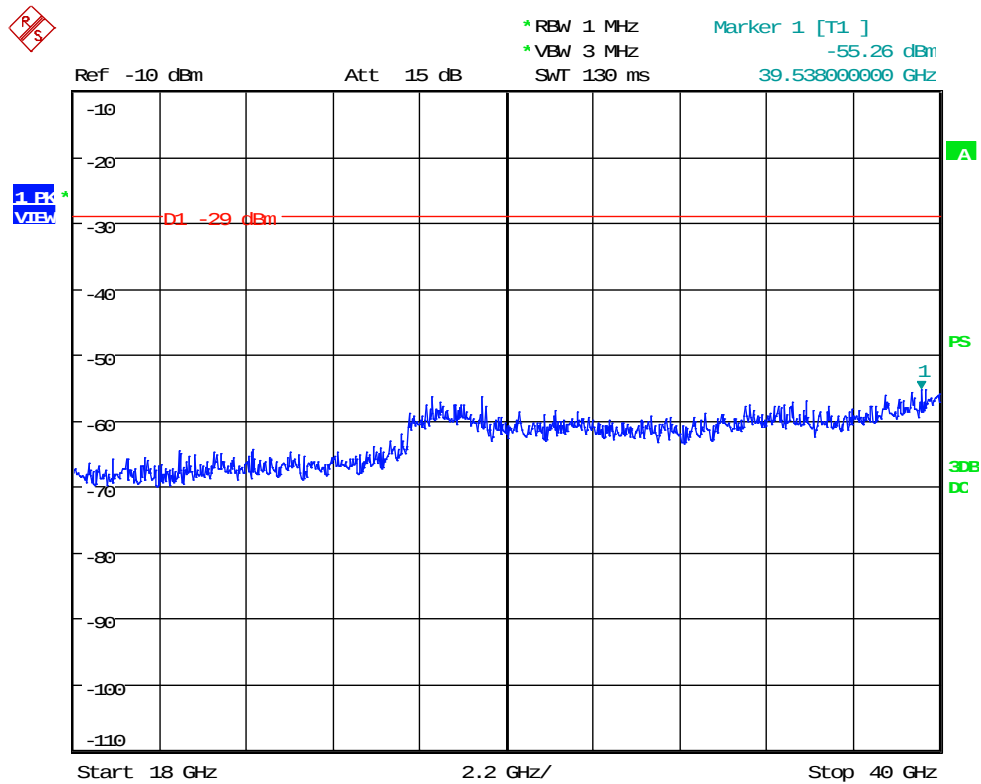
UNII 1, 5.1 GHz, OFDM54 20M: High Channel, 1 GHz to 18 GHz



Date: 14.APR.2020 13:49:49



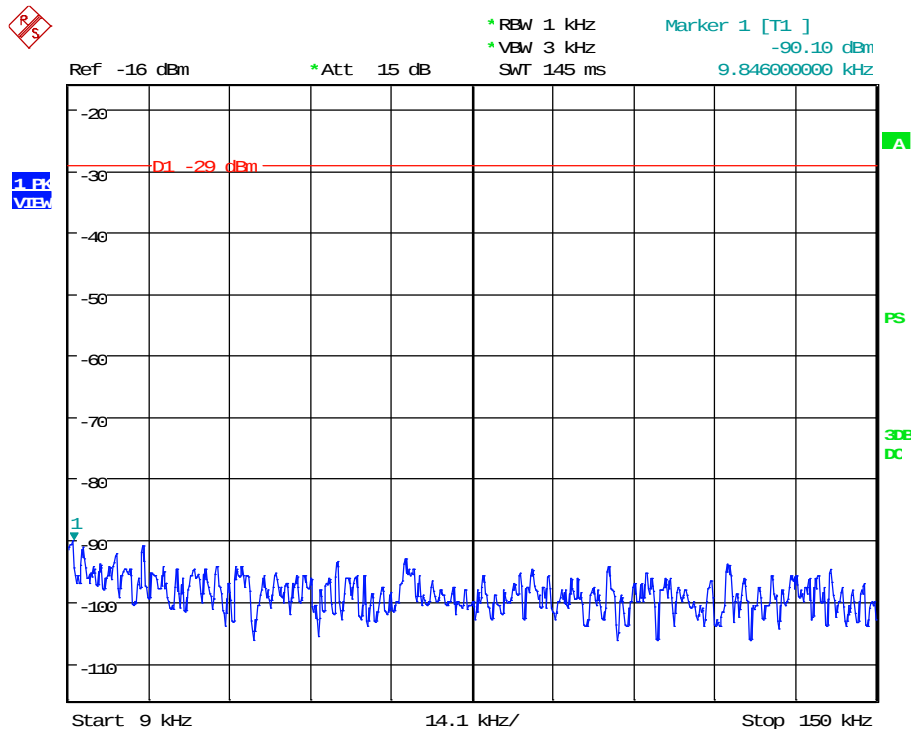
UNII 1, 5.1 GHz, OFDM54 20M: High Channel, 18 GHz to 40 GHz



Date: 14.APR.2020 13:56:38



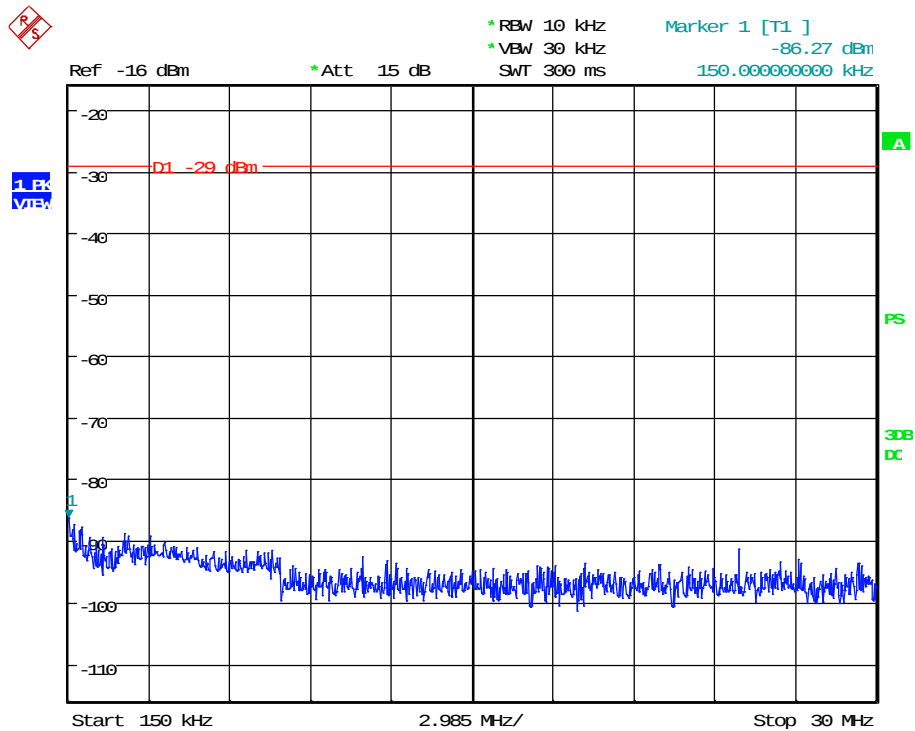
UNII 1, 5.1 GHz, OFDM54 40M: Low Channel, 0.009 MHz to 0.15 MHz



Date: 14.APR.2020 13:37:49



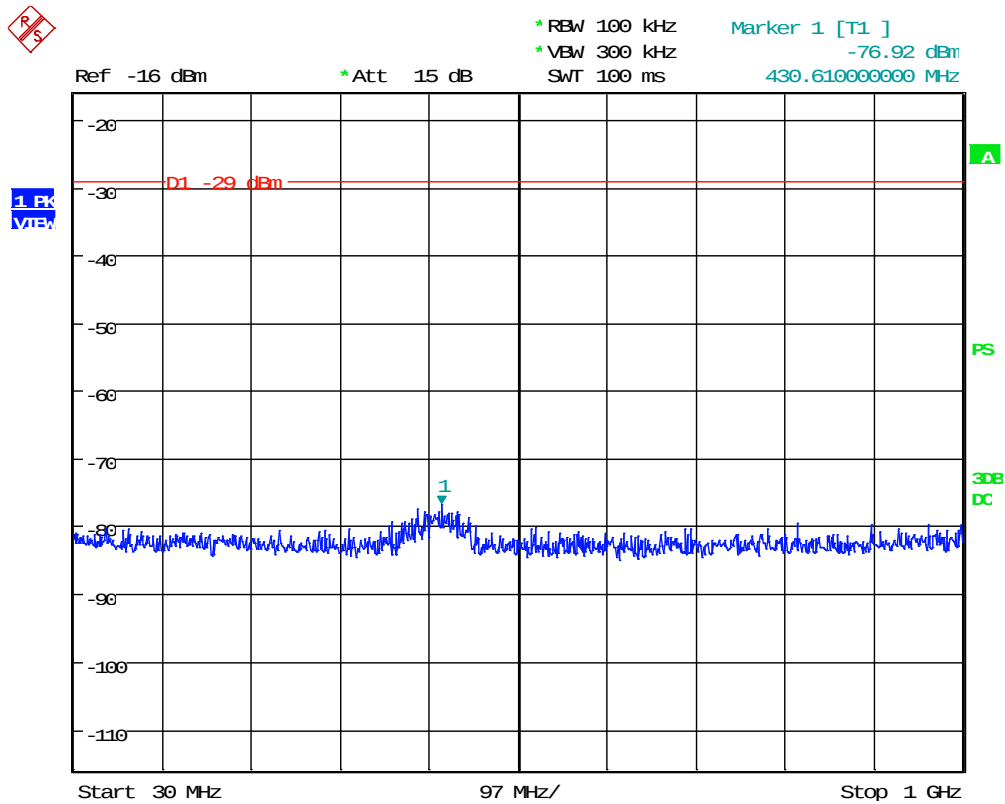
UNII 1, 5.1 GHz, OFDM54 40M: Low Channel, 0.15 MHz to 30 MHz



Date: 14.APR.2020 13:41:33



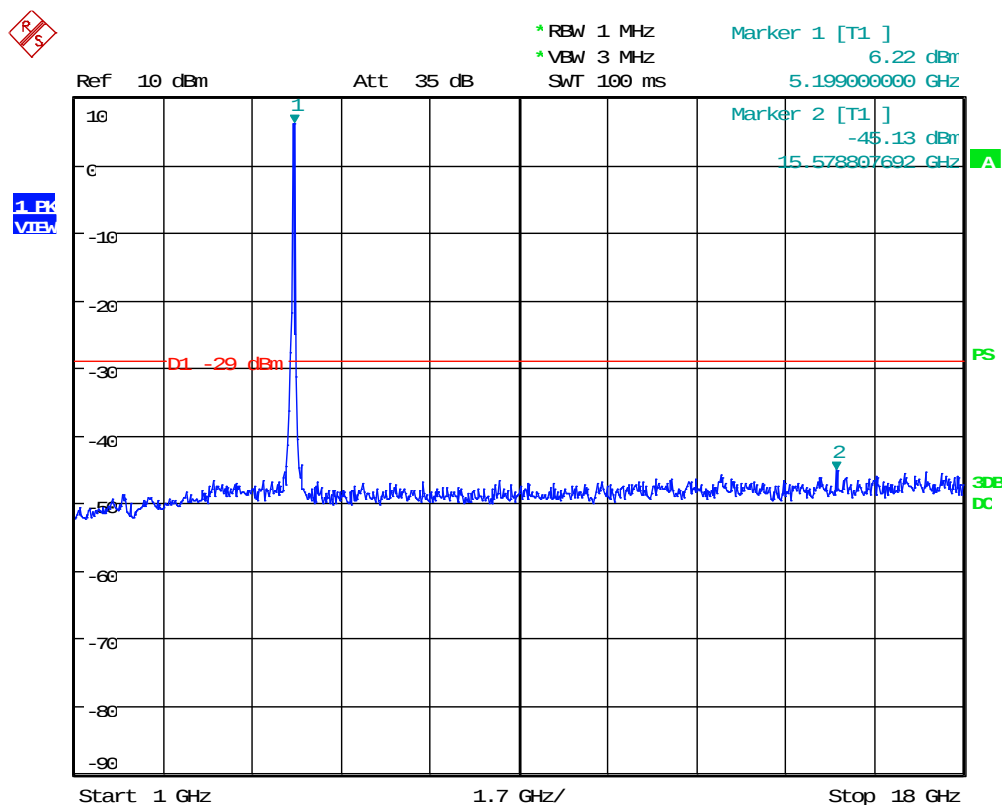
UNII 1, 5.1 GHz, OFDM54 40M: Low Channel, 30 MHz to 1000 MHz



Date: 14.APR.2020 13:44:54



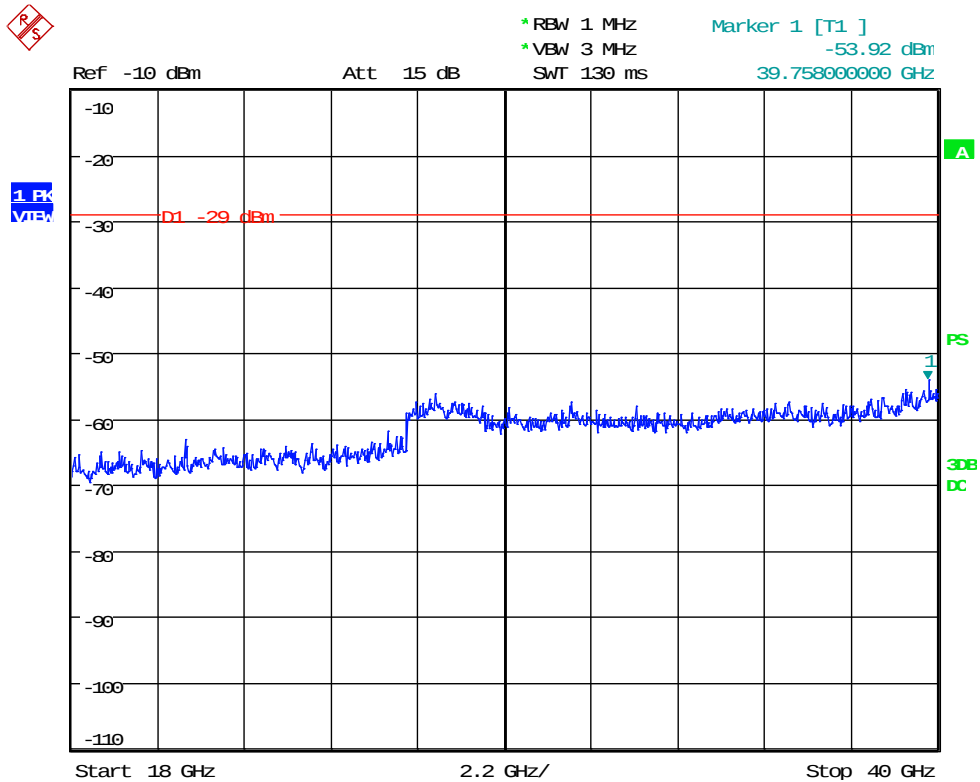
UNII 1, 5.1 GHz, OFDM54 40M: Low Channel, 1 GHz to 18 GHz



Date: 14.APR.2020 13:51:20



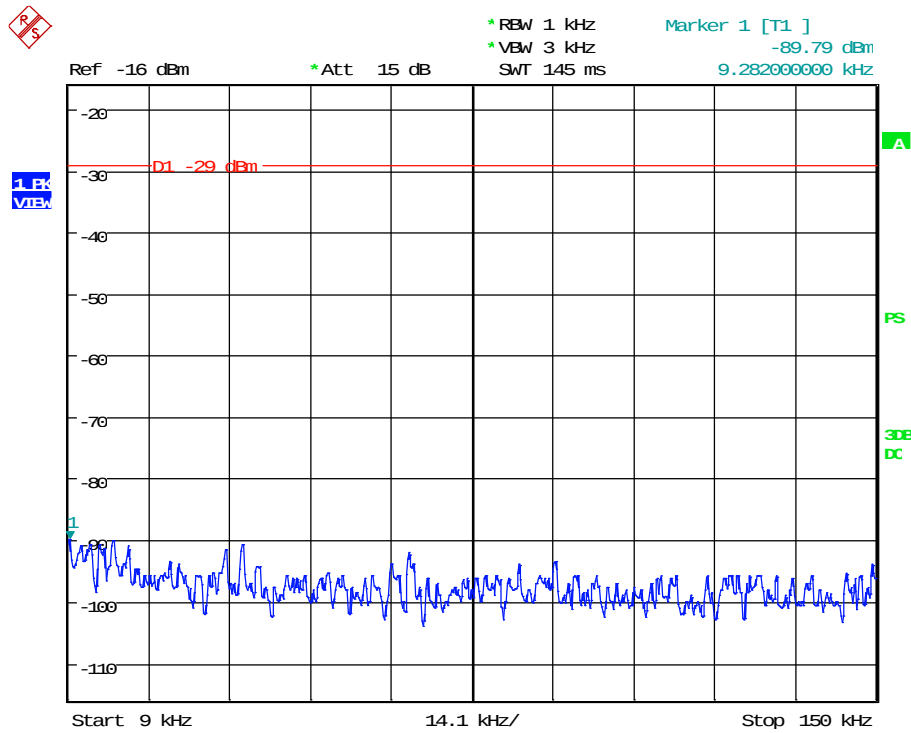
UNII 1, 5.1 GHz, OFDM54 40M: Low Channel, 18 GHz to 40 GHz



Date: 14.APR.2020 13:54:47



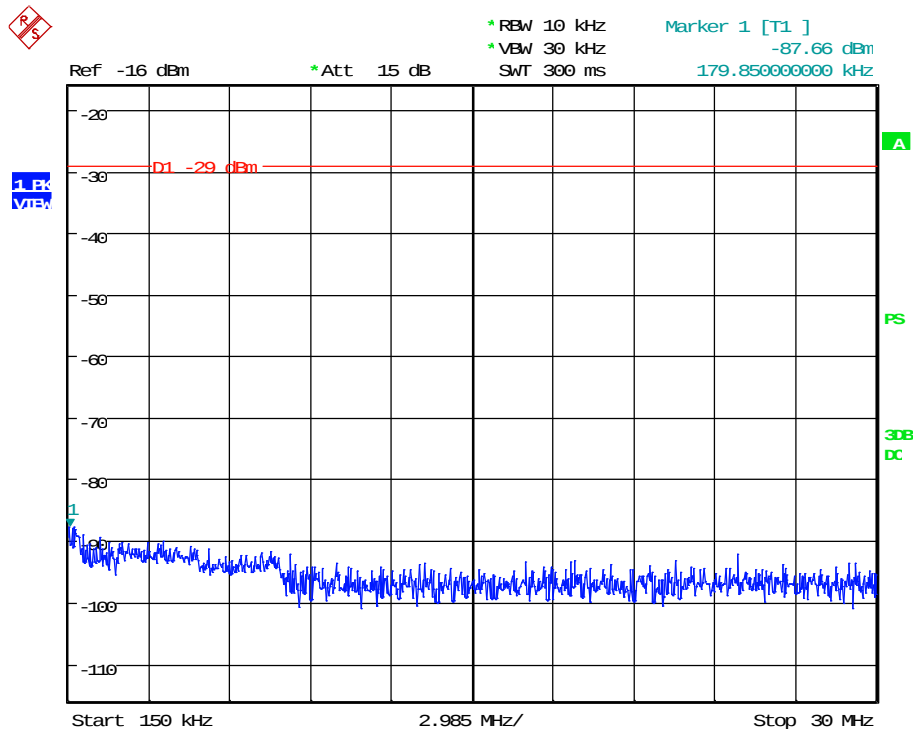
UNII 1, 5.1 GHz, OFDM54 40M: High Channel, 0.009 MHz to 0.15 MHz



Date: 14.APR.2020 13:38:21



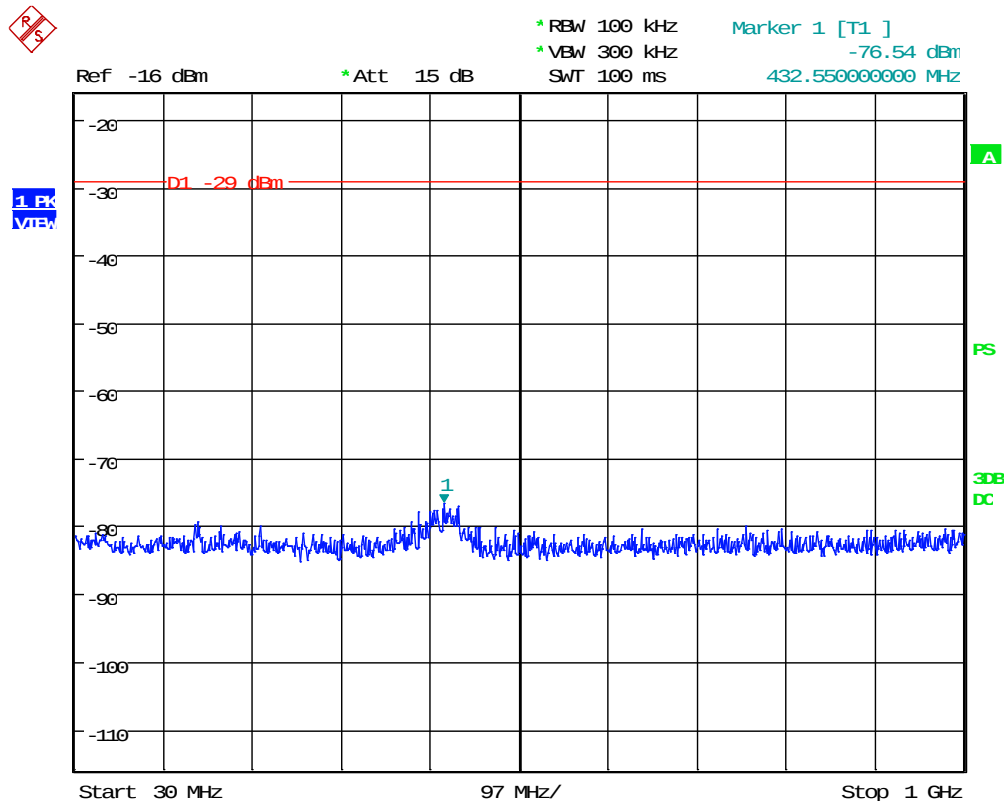
UNII 1, 5.1 GHz, OFDM54 40M: High Channel, 0.15 MHz to 30 MHz



Date: 14.APR.2020 13:41:59



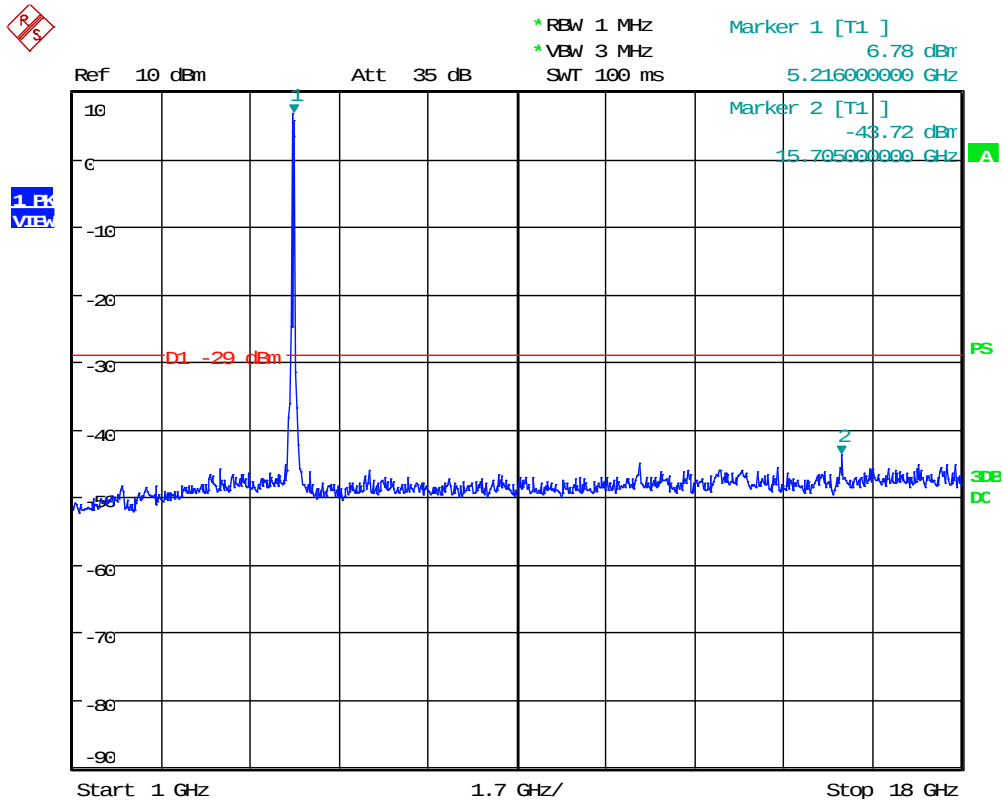
UNII 1, 5.1 GHz, OFDM54 40M: High Channel, 30 MHz to 1000 MHz



Date: 14.APR.2020 13:45:18



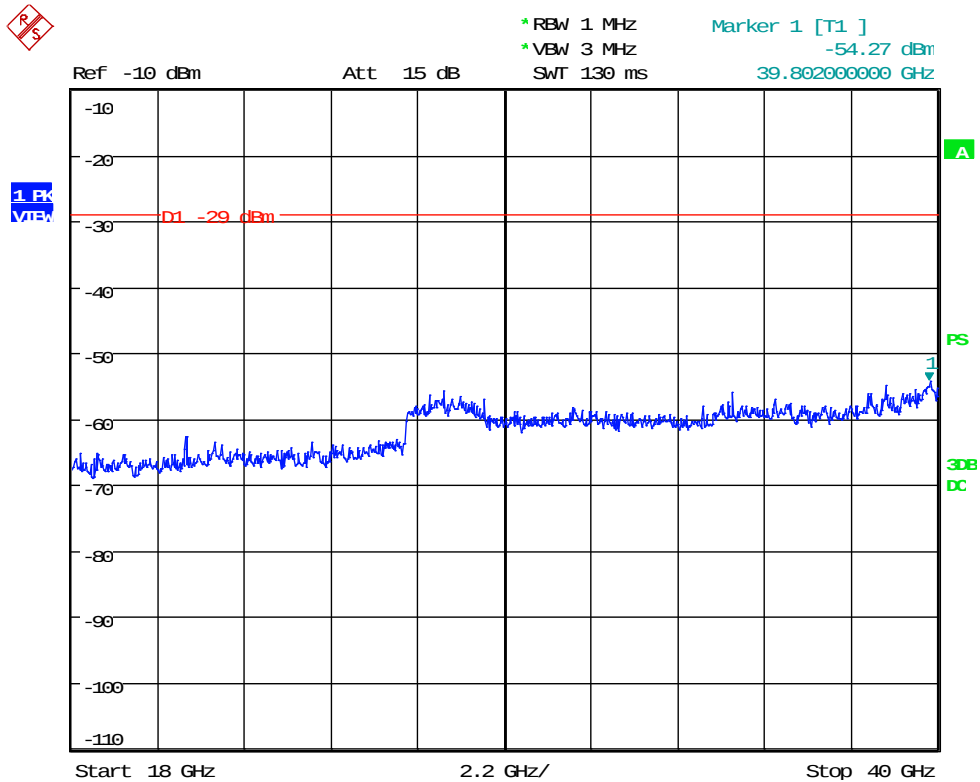
UNII 1, 5.1 GHz, OFDM54 40M: High Channel, 1 GHz to 18 GHz



Date: 14.APR.2020 13:52:49



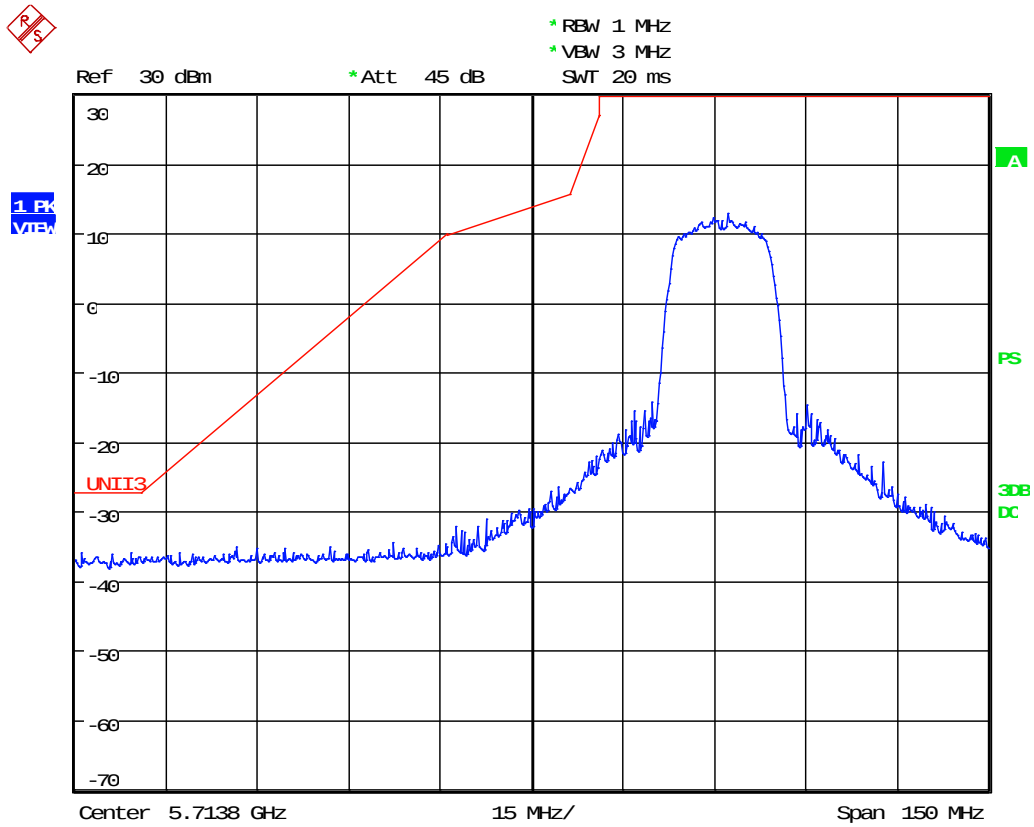
UNII 1, 5.1 GHz, OFDM54 40M: High Channel, 18 GHz to 40 GHz



Date: 14.APR.2020 13:54:17



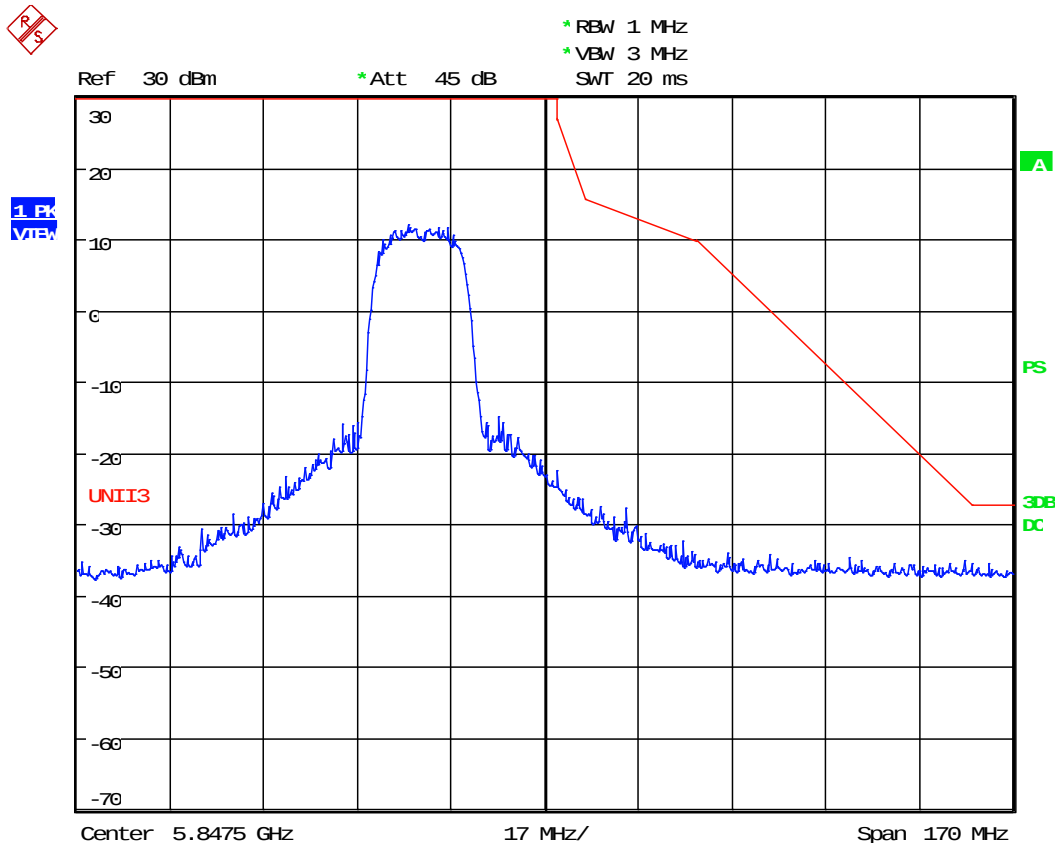
UNII 3, 5.7 GHz, OFDM54 20M: Lower Band Edge



Date: 17.JUL.2020 12:29:29



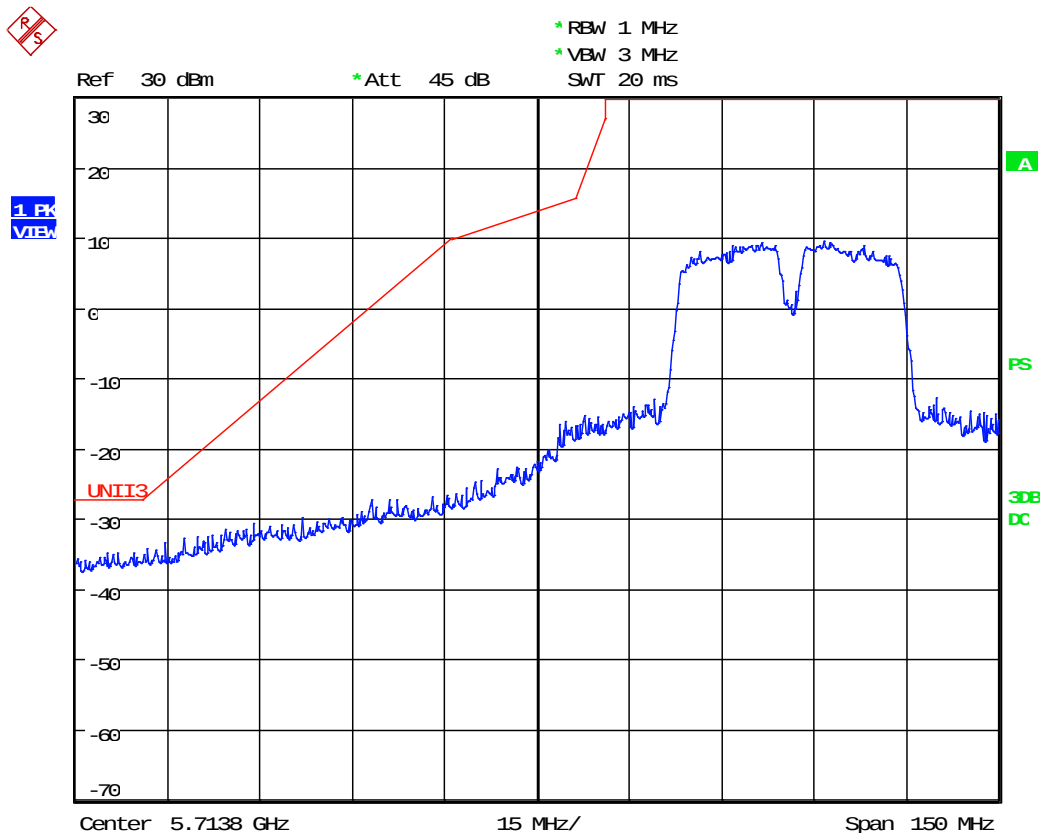
UNII 3, 5.7 GHz, OFDM54 20M: Upper Band Edge



Date: 17.JUL.2020 12:34:30



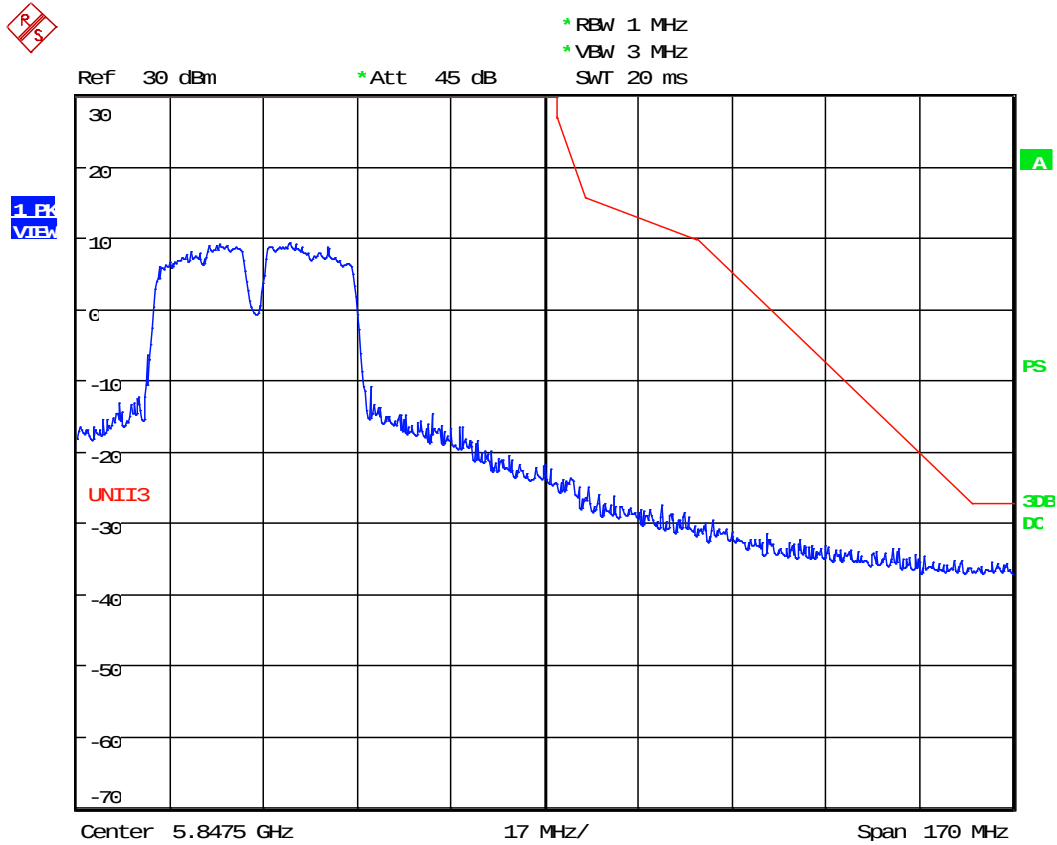
UNII 3, 5.7 GHz, OFDM54 40M: Lower Band Edge



Date: 17.JUL.2020 12:30:53



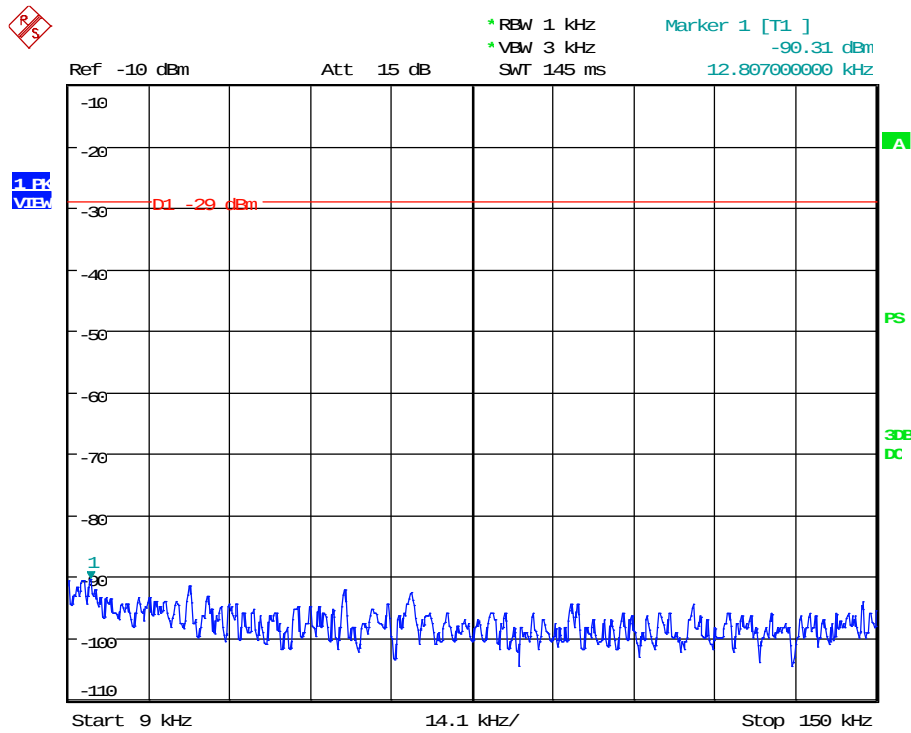
UNII 3, 5.7 GHz, OFDM54 40M: Upper Band Edge



Date: 17.JUL.2020 12:33:22



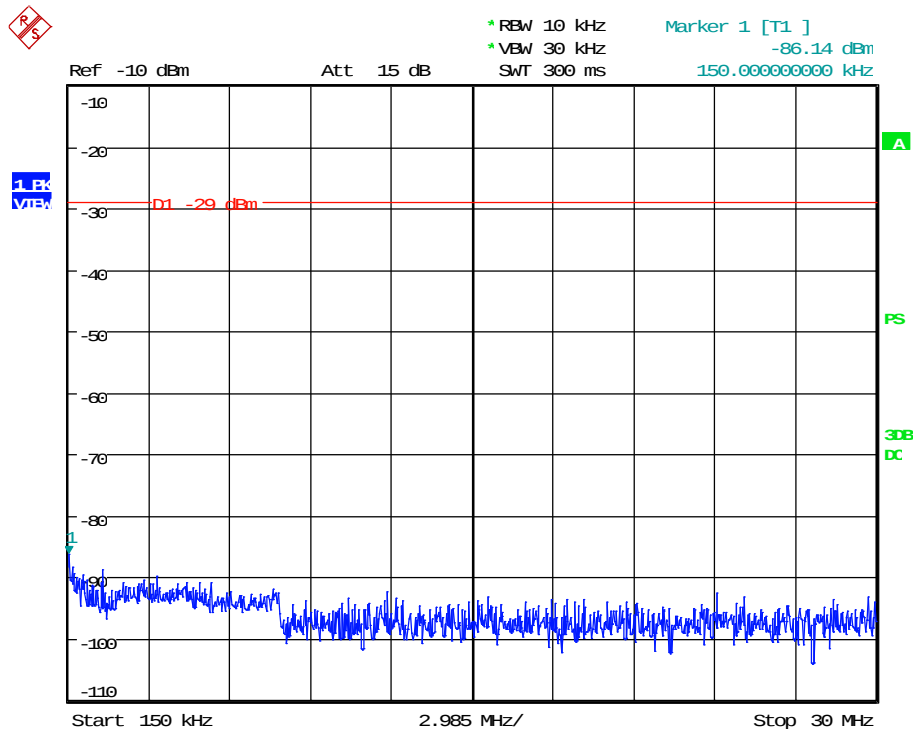
UNII 3, 5.7 GHz, OFDM54 20M: Low Channel, 0.009 MHz to 0.15 MHz



Date: 14.APR.2020 14:23:32



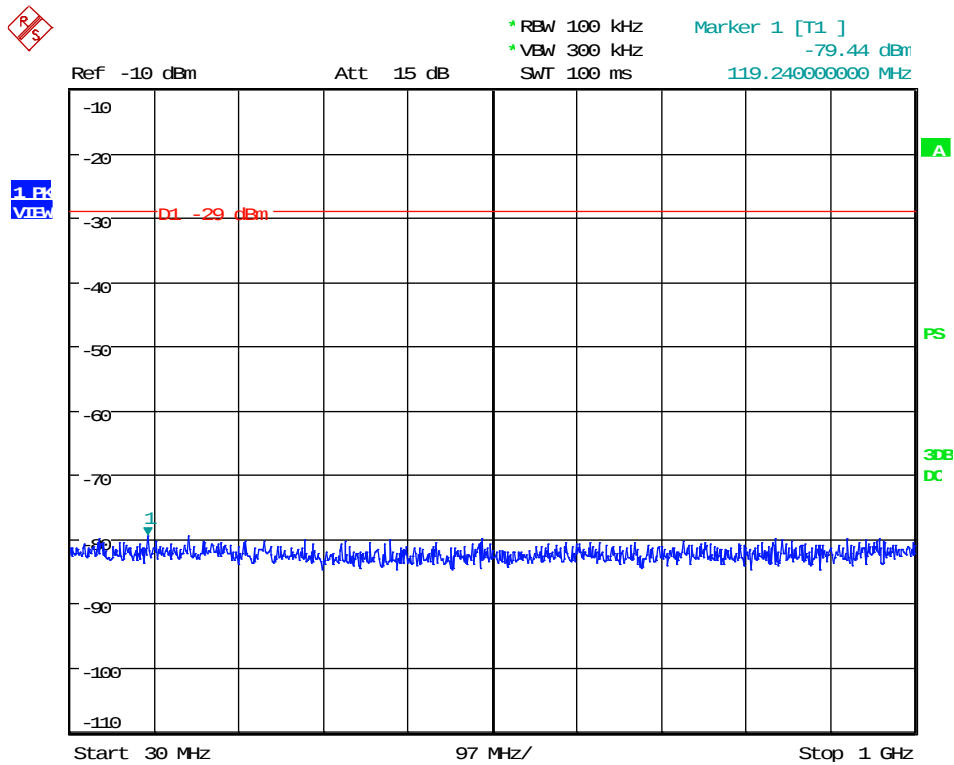
UNII 3, 5.7 GHz, OFDM54 20M: Low Channel, 0.15 MHz to 30 MHz



Date: 14.APR.2020 14:26:35



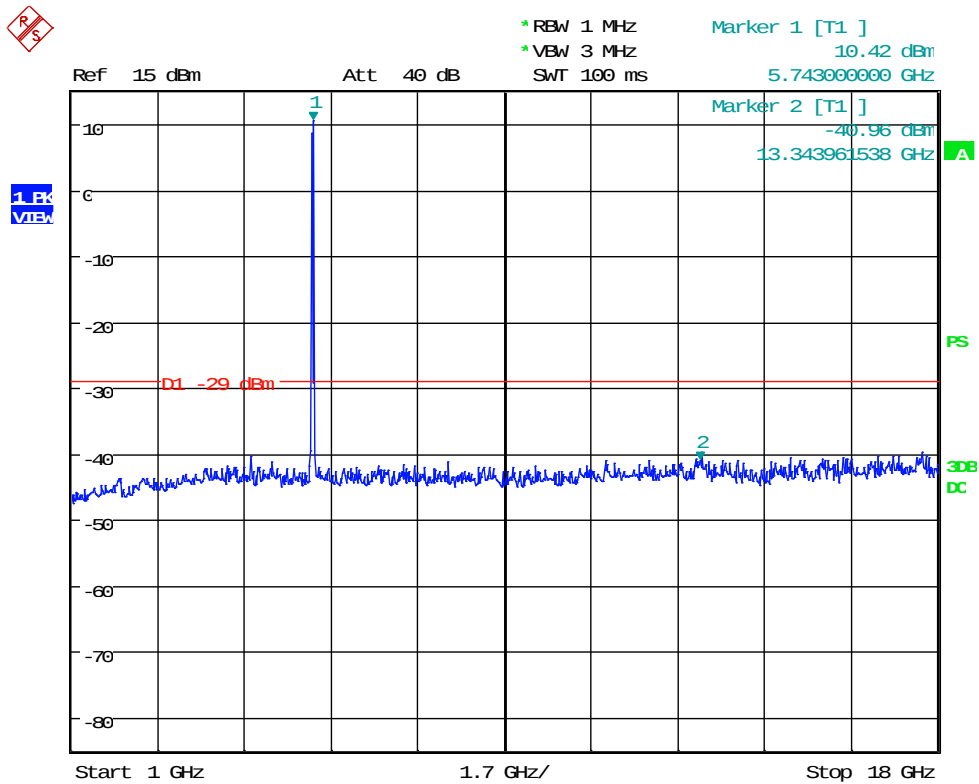
UNII 3, 5.7 GHz, OFDM54 20M: Low Channel, 30 MHz to 1000 MHz



Date: 14.APR.2020 14:30:07



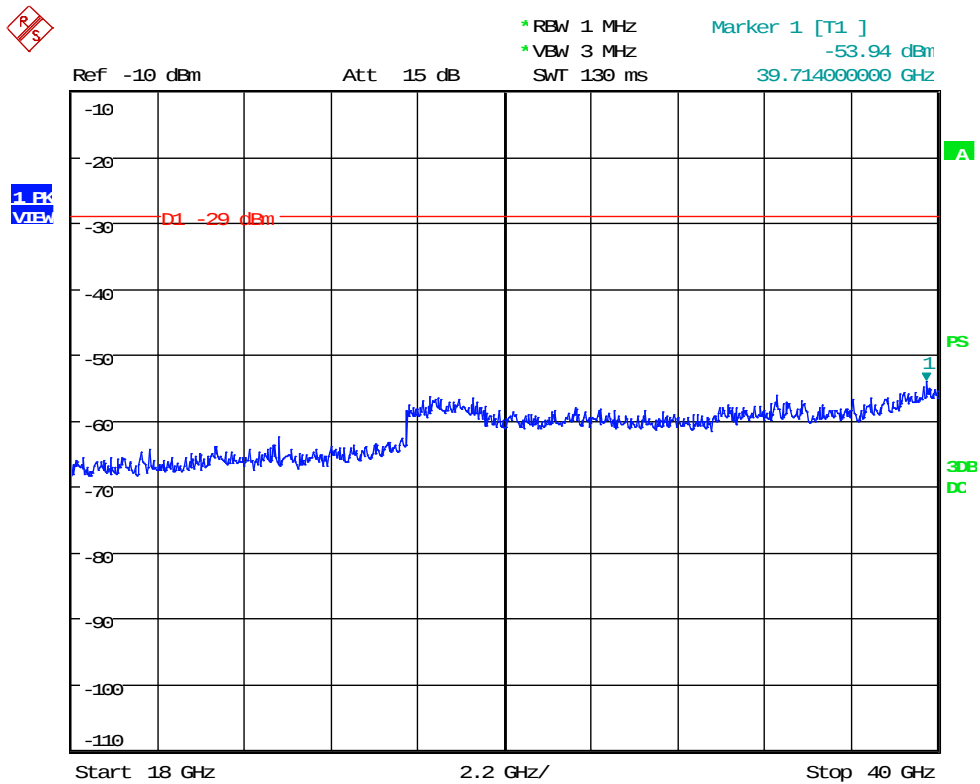
UNII 3, 5.7 GHz, OFDM54 20M: Low Channel, 1 GHz to 18 GHz



Date: 14.APR.2020 14:34:45



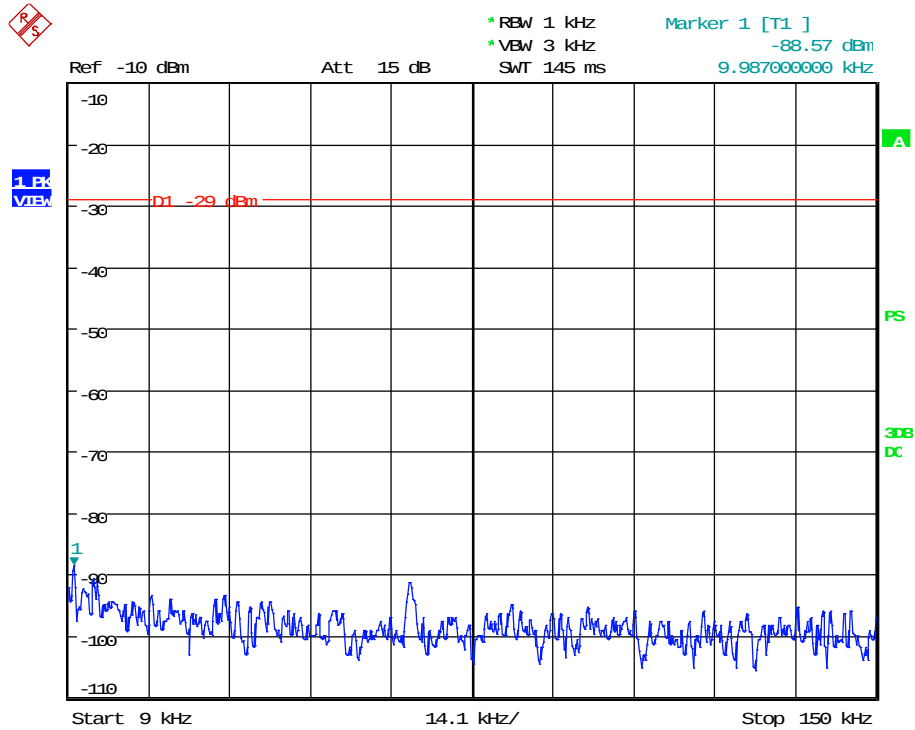
UNII 3, 5.7 GHz, OFDM54 20M: Low Channel, 18 GHz to 40 GHz



Date: 14.APR.2020 14:41:24



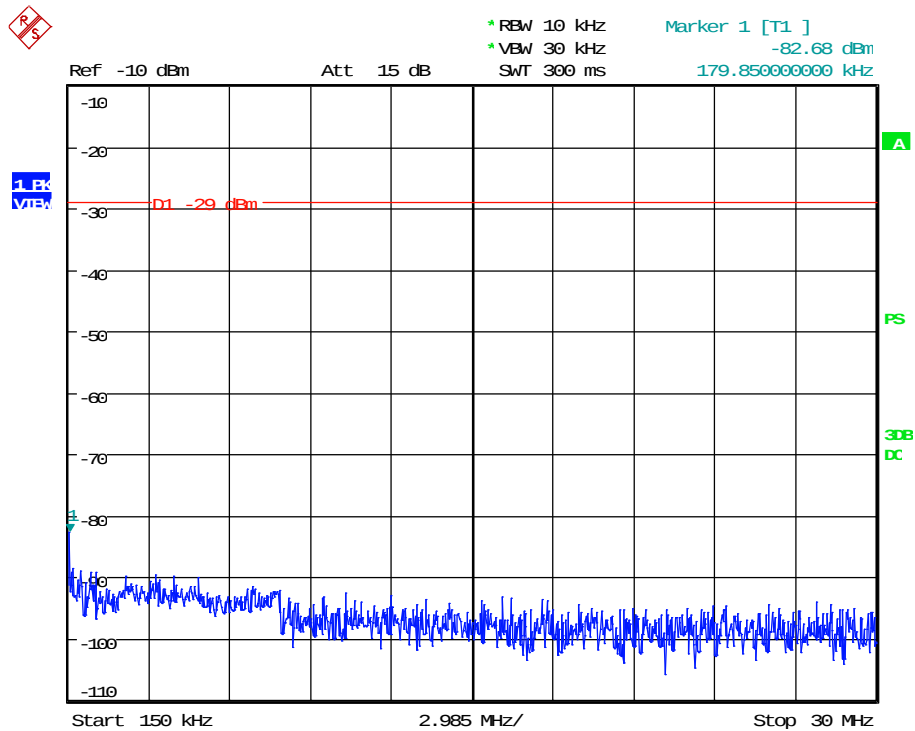
UNII 3, 5.7 GHz, OFDM54 20M: Mid Channel, 0.009 MHz to 0.15 MHz



Date: 14.APR.2020 14:23:58



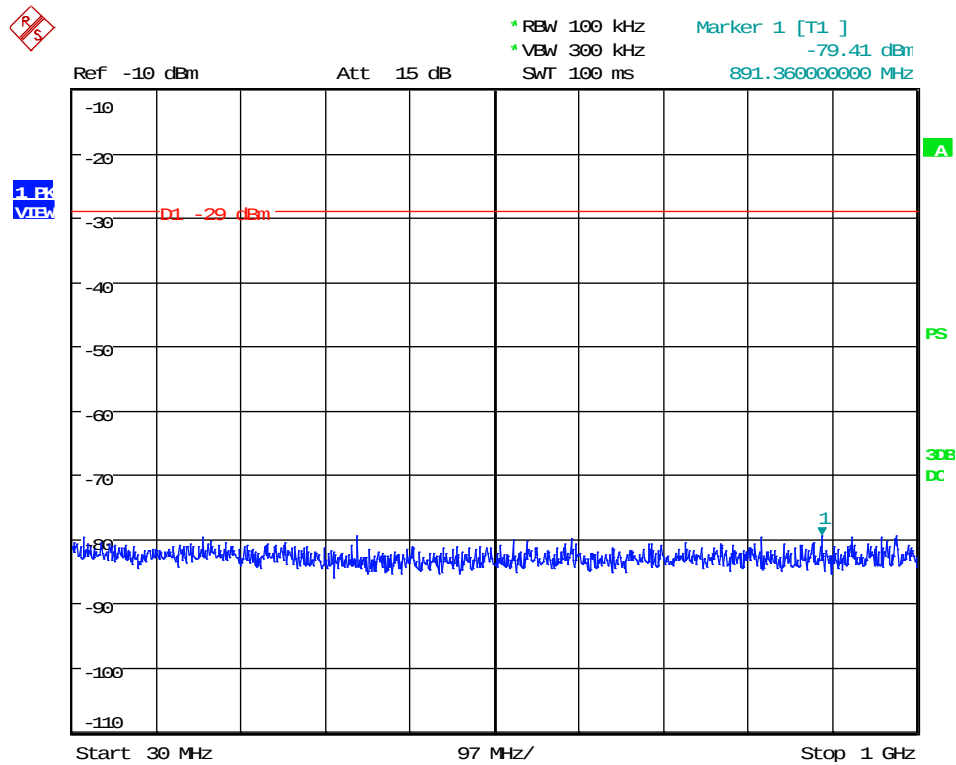
UNII 3, 5.7 GHz, OFDM54 20M: Mid Channel, 0.15 MHz to 30 MHz



Date: 14.APR.2020 14:27:11



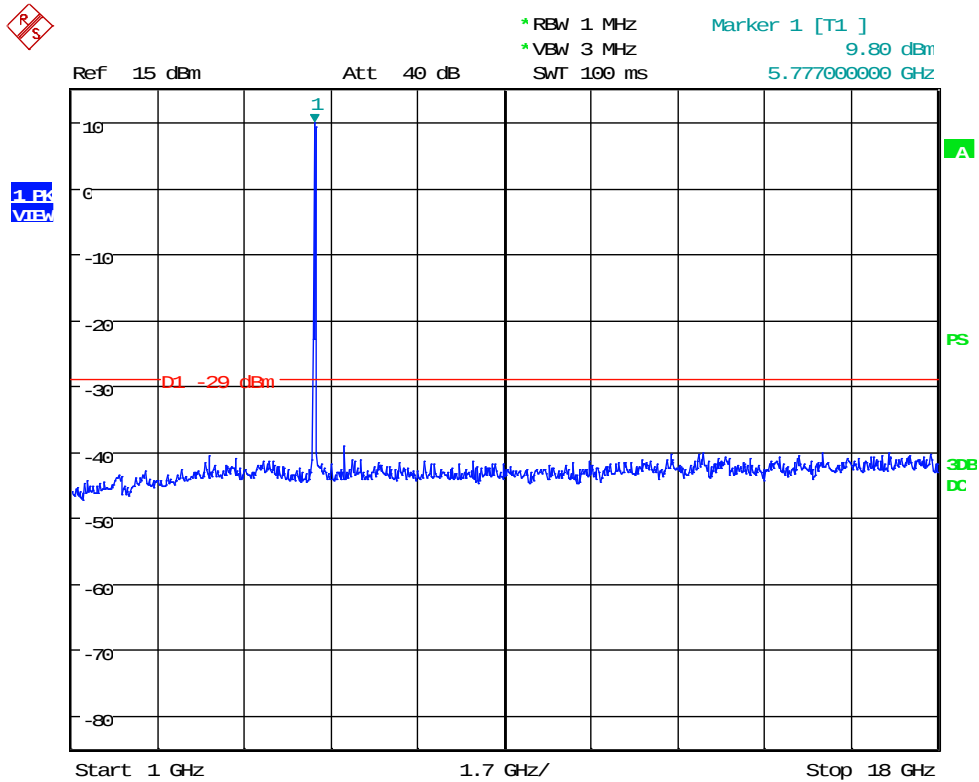
UNII 3, 5.7 GHz, OFDM54 20M: Mid Channel, 30 MHz to 1000 MHz



Date: 14.APR.2020 14:30:32



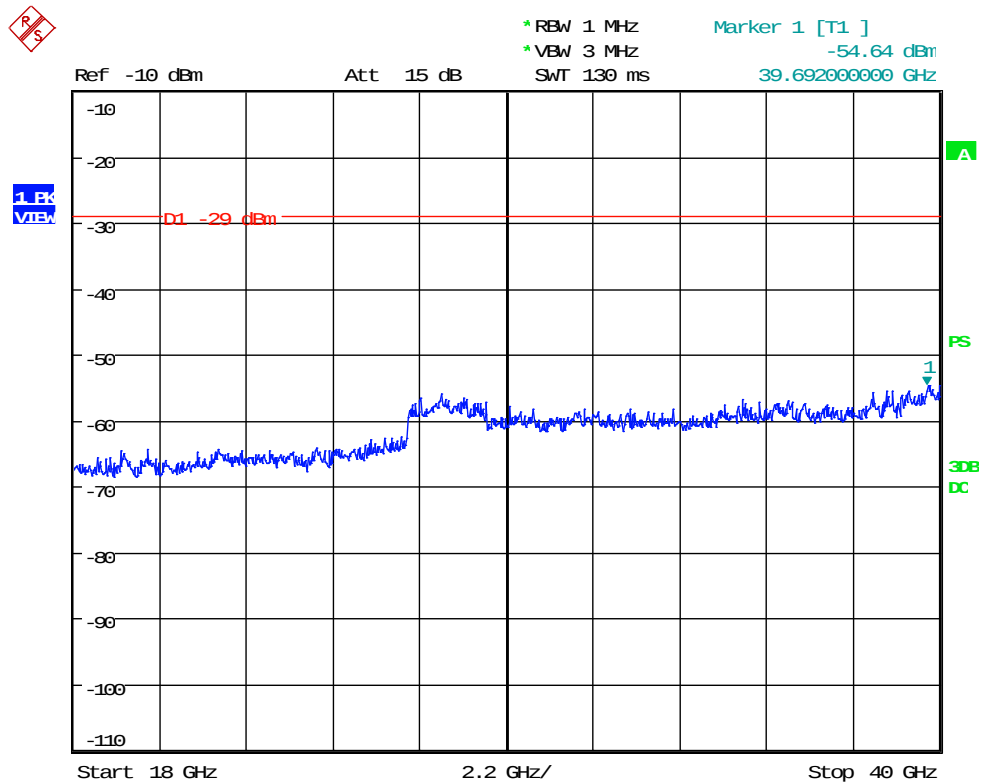
UNII 3, 5.7 GHz, OFDM54 20M: Mid Channel, 1 GHz to 18 GHz



Date: 14.APR.2020 14:37:05



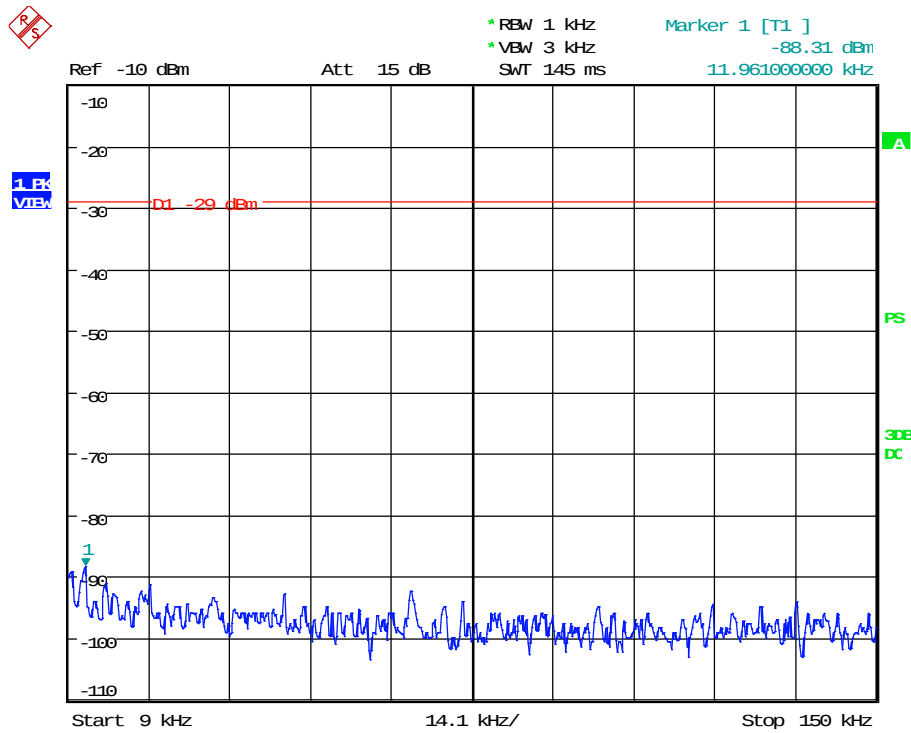
UNII 3, 5.7 GHz, OFDM54 20M: Mid Channel, 18 GHz to 40 GHz



Date: 14.APR.2020 14:41:54



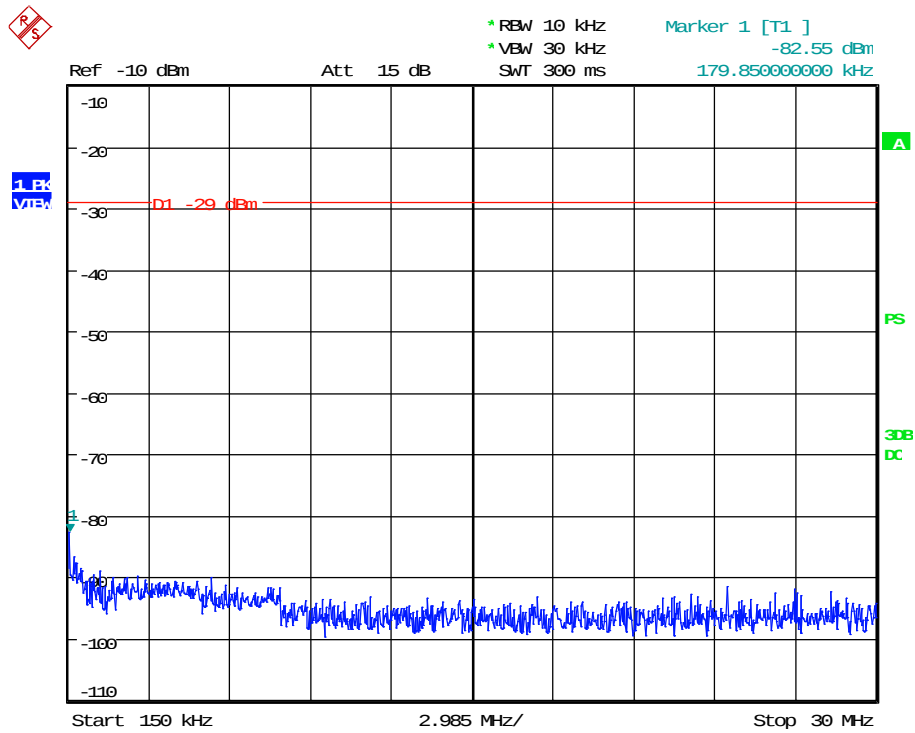
UNII 3, 5.7 GHz, OFDM54 20M: High Channel, 0.009 MHz to 0.15 MHz



Date: 14.APR.2020 14:24:23



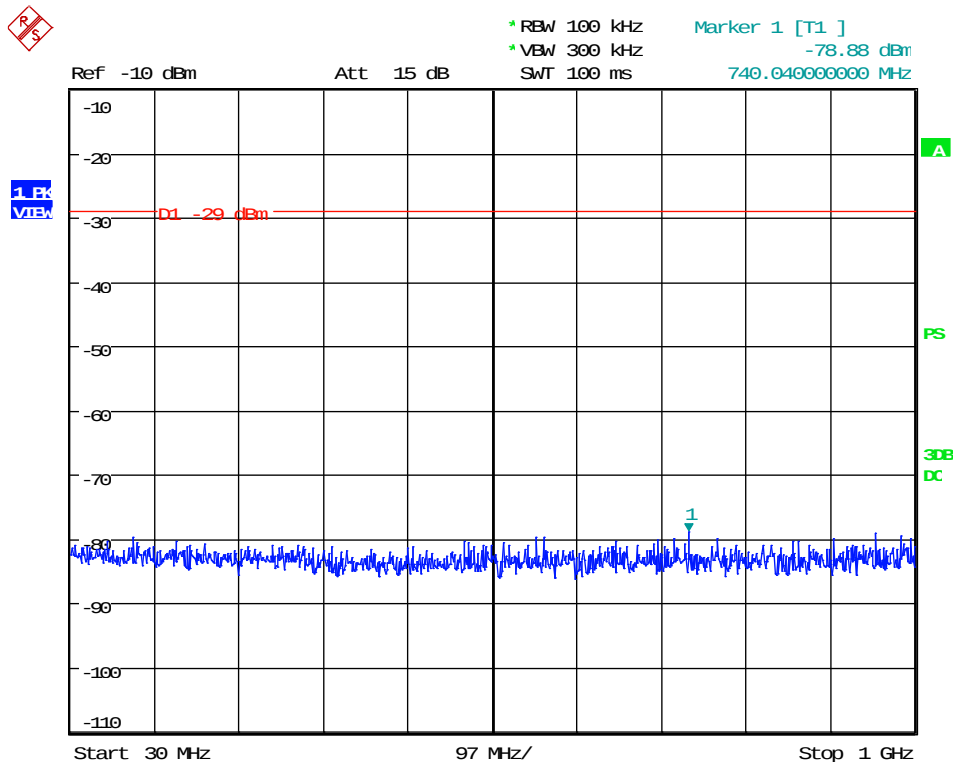
UNII 3, 5.7 GHz, OFDM54 20M: High Channel, 0.15 MHz to 30 MHz



Date: 14.APR.2020 14:27:40



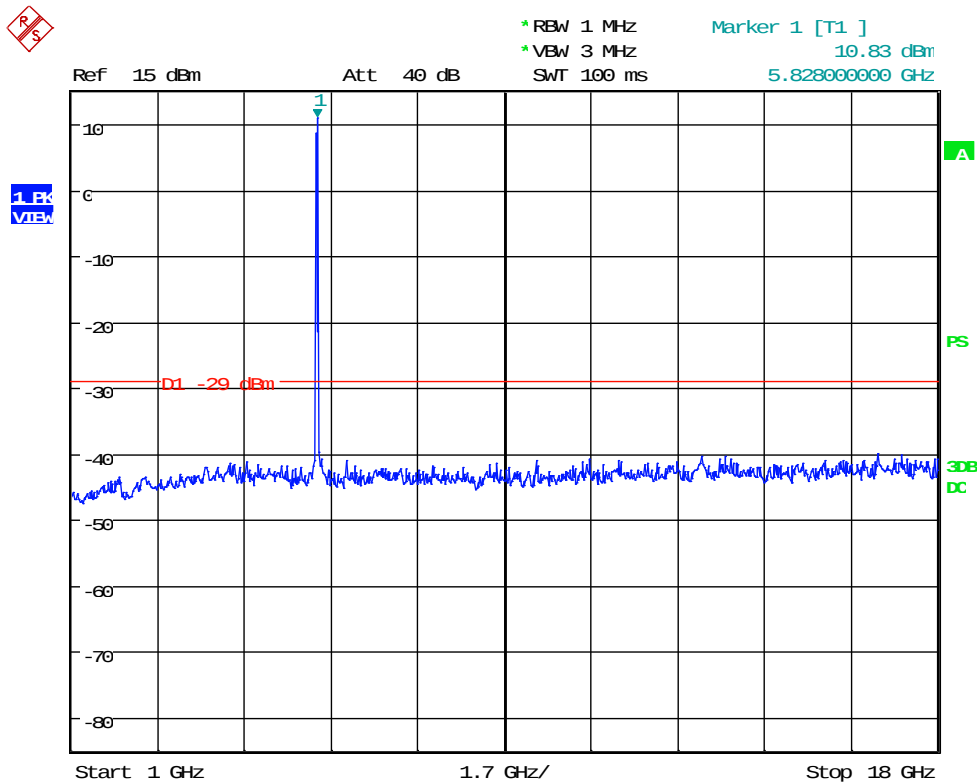
UNII 3, 5.7 GHz, OFDM54 20M: High Channel, 30 MHz to 1000 MHz



Date: 14.APR.2020 14:30:53



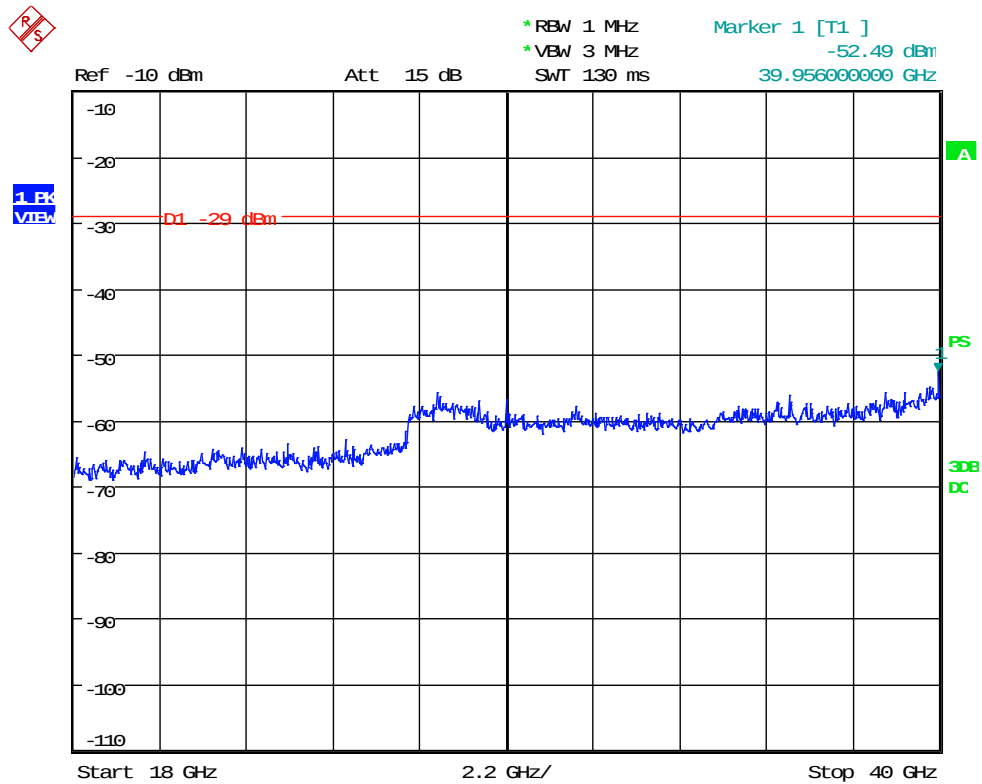
UNII 3, 5.7 GHz, OFDM54 20M: High Channel, 1 GHz to 18 GHz



Date: 14.APR.2020 14:38:14



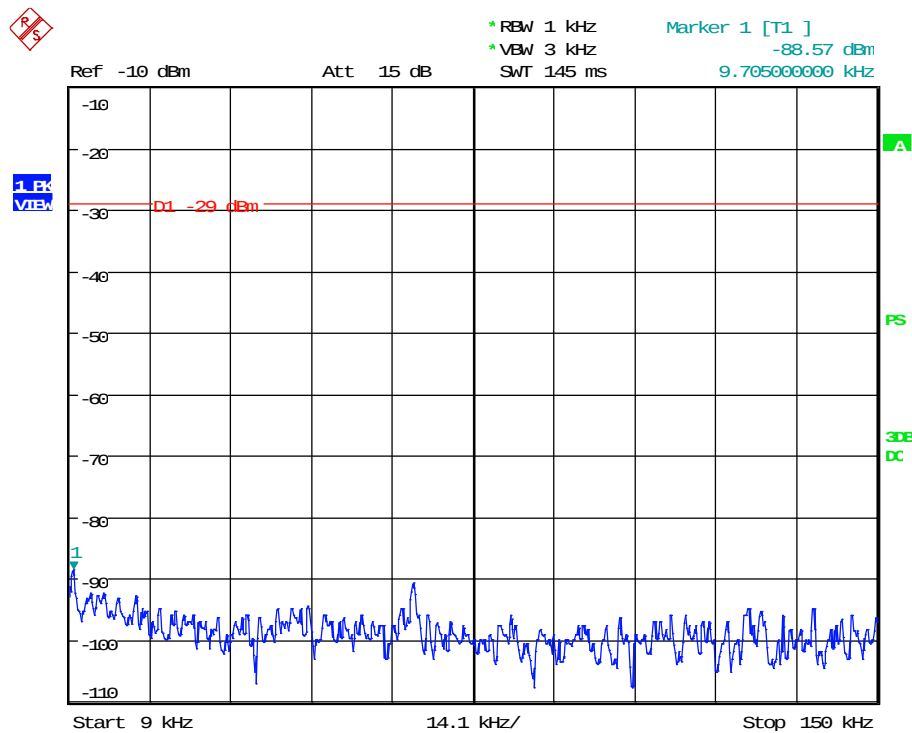
UNII 3, 5.7 GHz, OFDM54 20M: High Channel, 18 GHz to 40 GHz



Date: 14.APR.2020 14:42:22



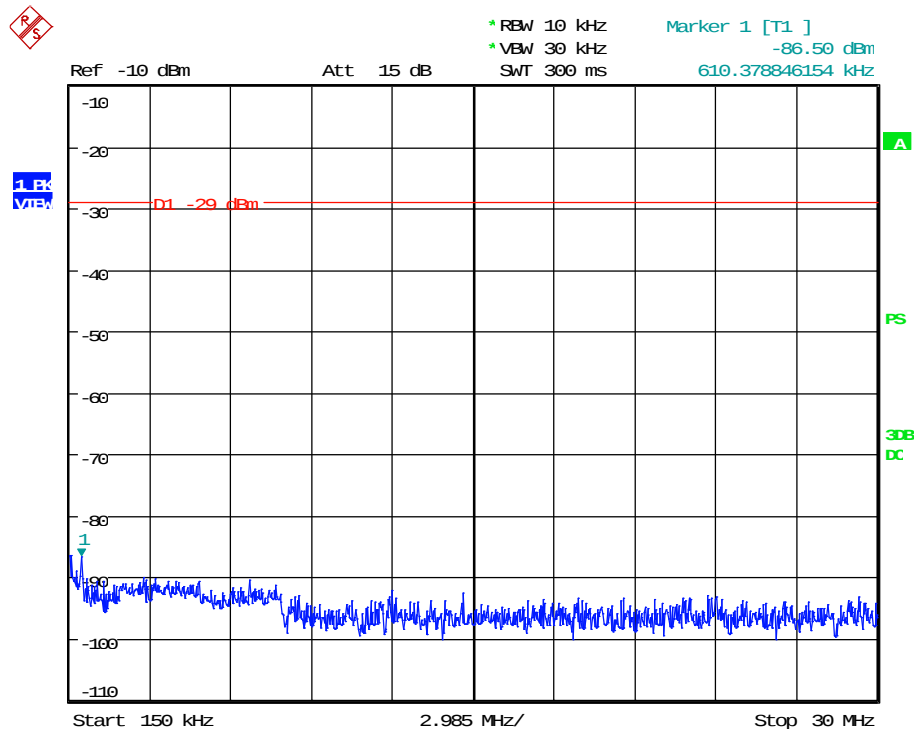
UNII 3, 5.7 GHz, OFDM54 40M: Low Channel, 0.009 MHz to 0.15 MHz



Date: 14.APR.2020 14:24:51



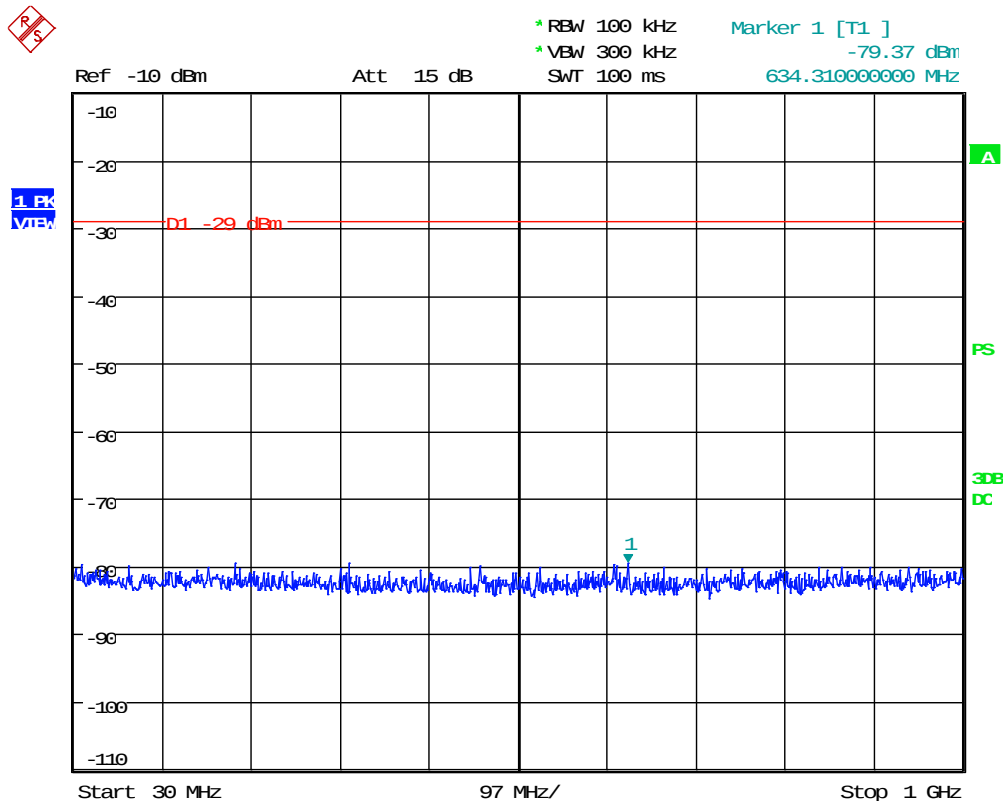
UNII 3, 5.7 GHz, OFDM54 40M: Low Channel, 0.15 MHz to 30 MHz



Date: 14.APR.2020 14:28:20



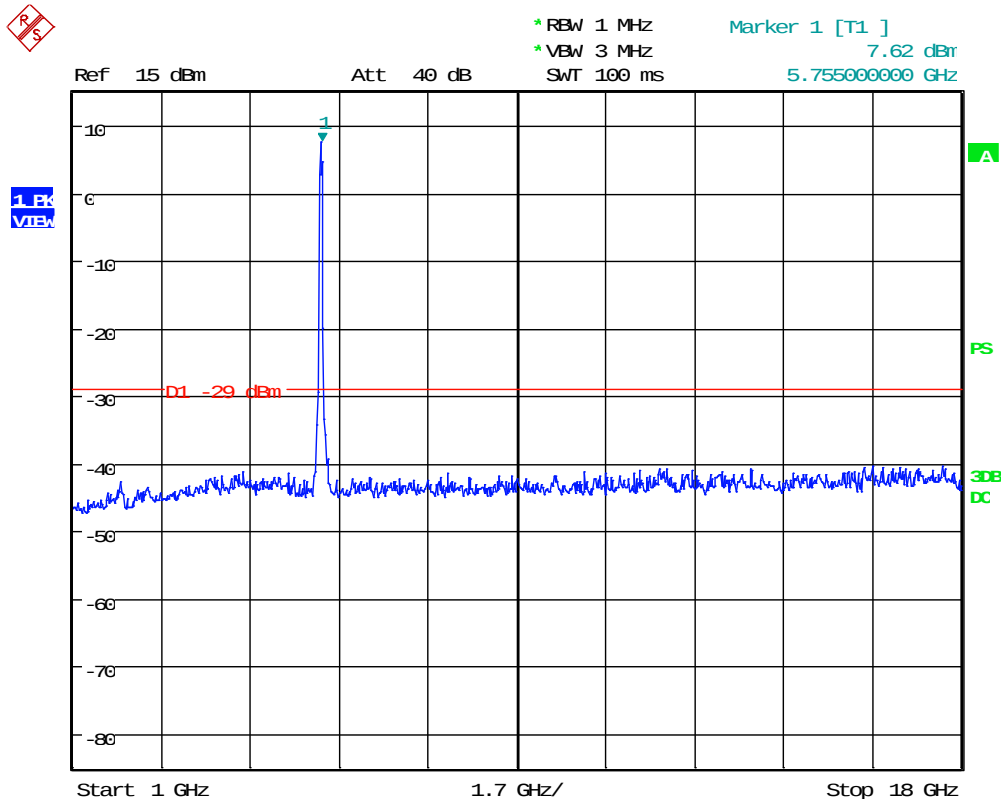
UNII 3, 5.7 GHz, OFDM54 40M: Low Channel, 30 MHz to 1000 MHz



Date: 14.APR.2020 14:31:19



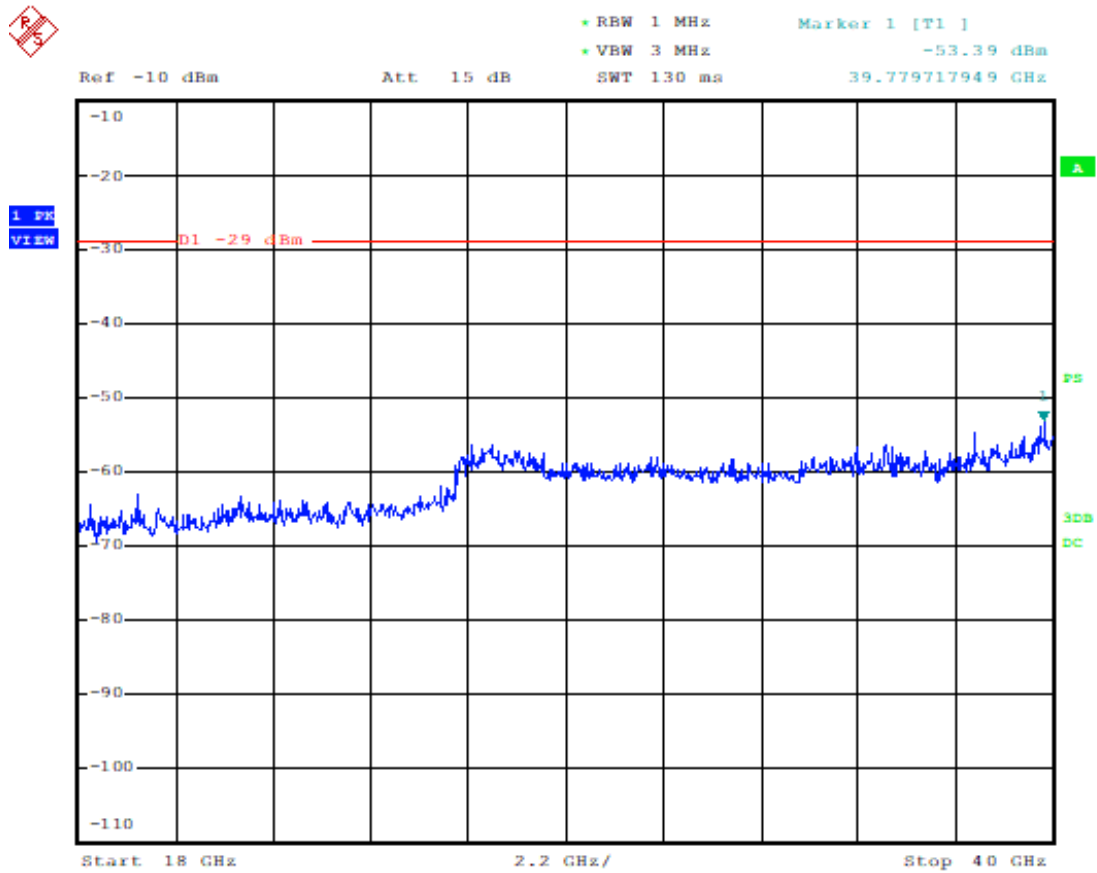
UNII 3, 5.7 GHz, OFDM54 40M: Low Channel, 1 GHz to 18 GHz



Date: 14.APR.2020 14:39:22

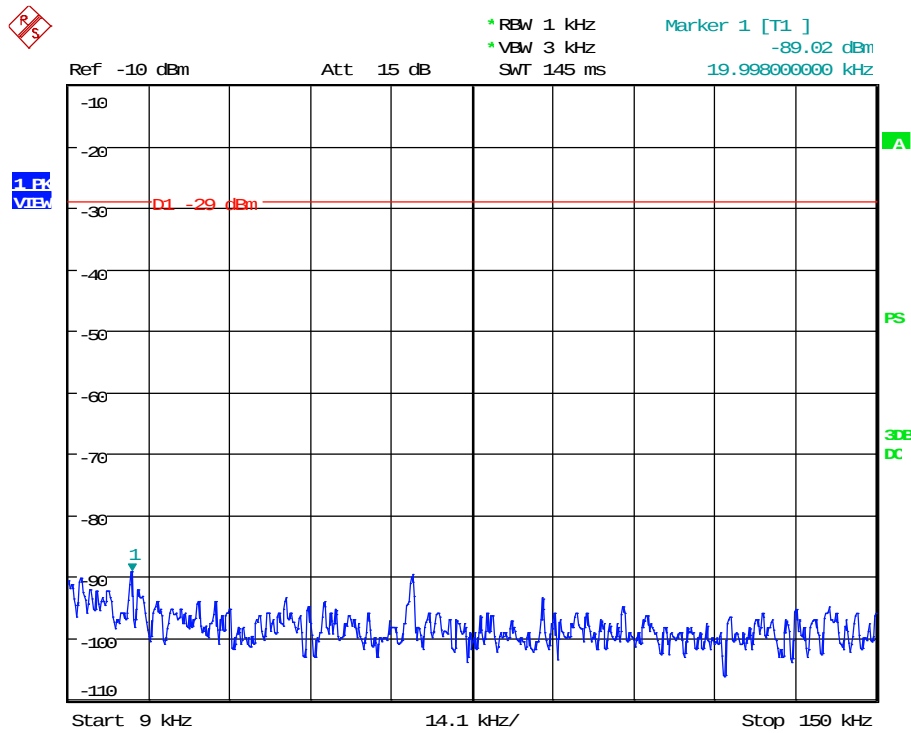


UNII 3, 5.7 GHz, OFDM54 40M: Low Channel, 18 GHz to 40 GHz





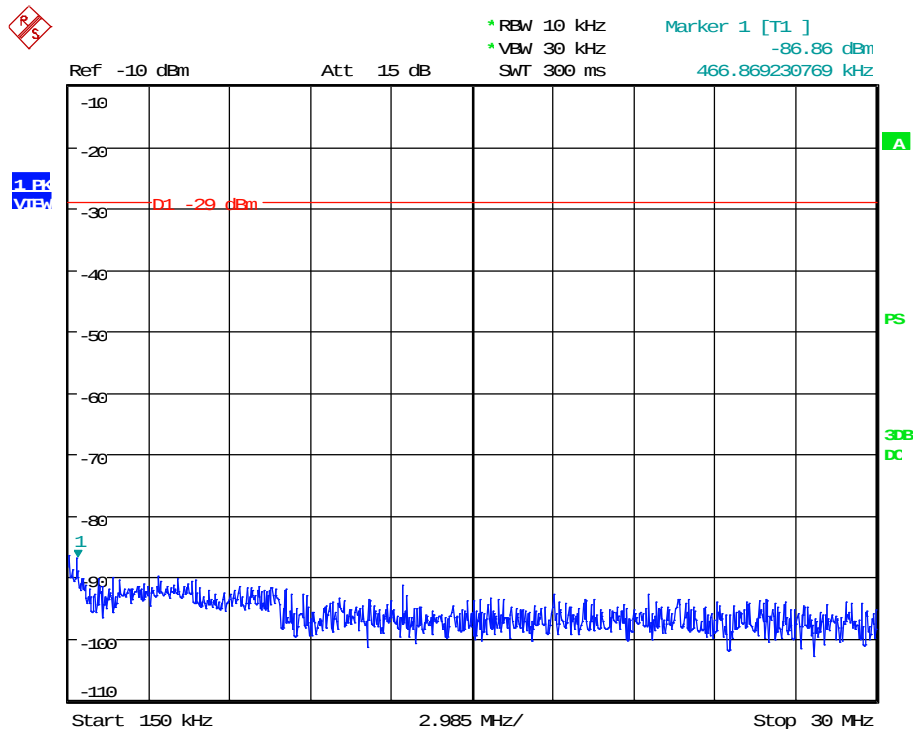
UNII 3, 5.7 GHz, OFDM54 40M: High Channel, 0.009 MHz to 0.15 MHz



Date: 14.APR.2020 14:25:19



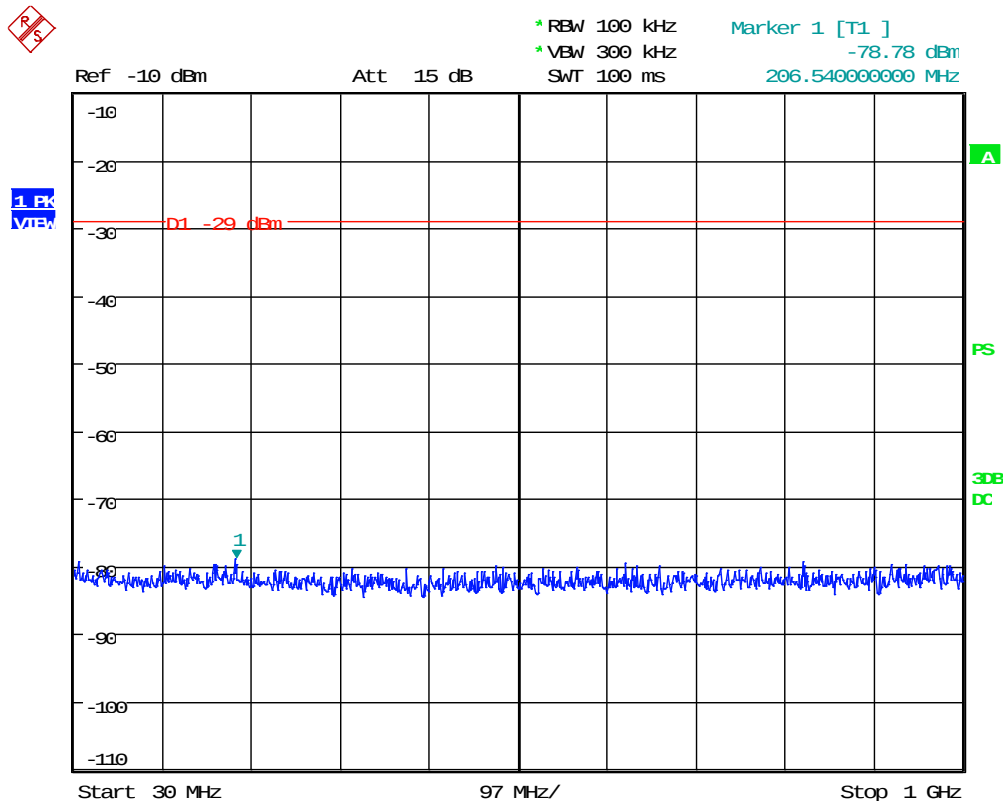
UNII 3, 5.7 GHz, OFDM54 40M: High Channel, 0.15 MHz to 30 MHz



Date: 14.APR.2020 14:28:52



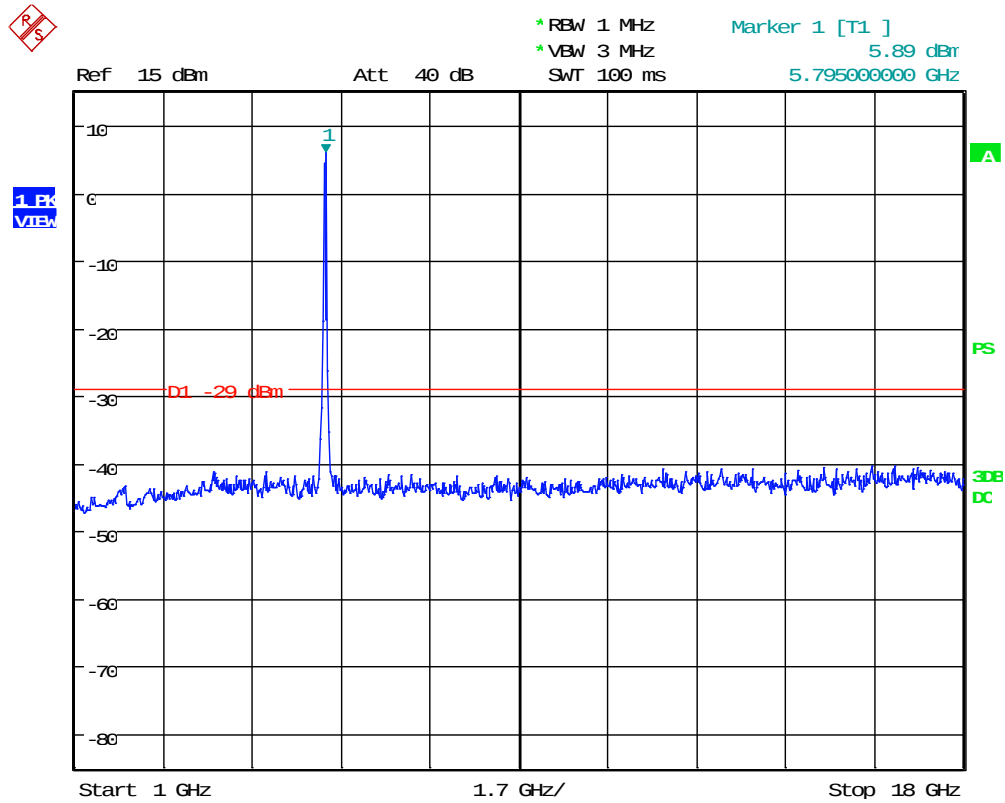
UNII 3, 5.7 GHz, OFDM54 40M: High Channel, 30 MHz to 1000 MHz



Date: 14.APR.2020 14:31:44



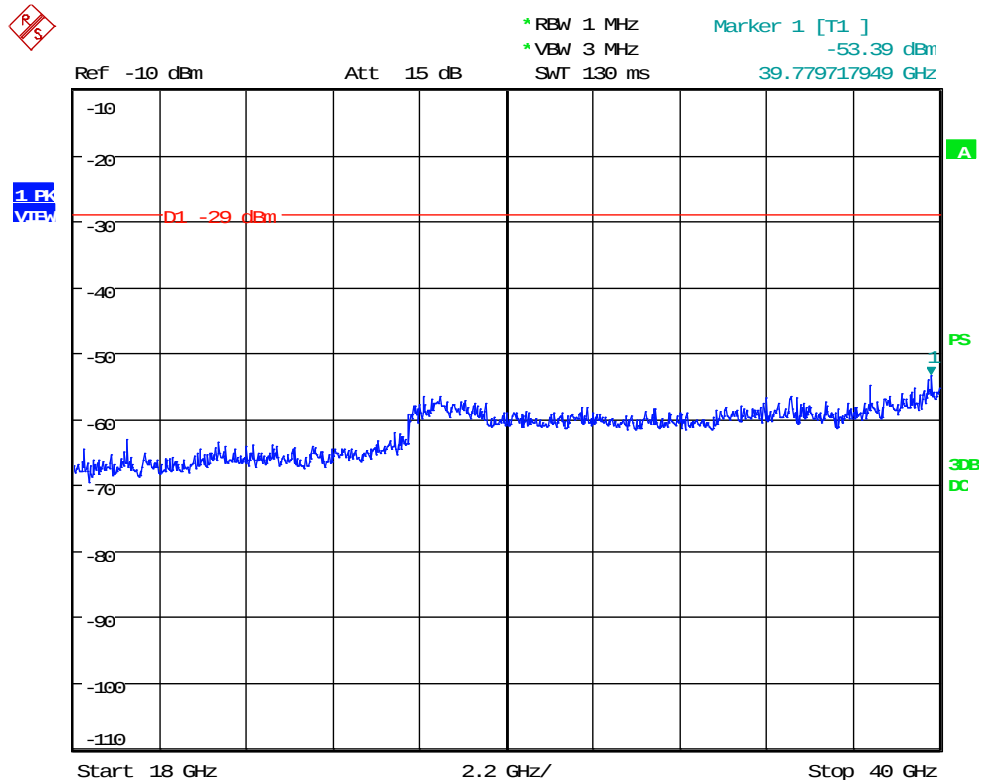
UNII 3, 5.7 GHz, OFDM54 40M: High Channel, 1 GHz to 18 GHz



Date: 14.APR.2020 14:40:10



UNII 3, 5.7 GHz, OFDM54 40M: High Channel, 18 GHz to 40 GHz



Date: 14.APR.2020 14:43:26



12 VOLTAGE VARIATIONS

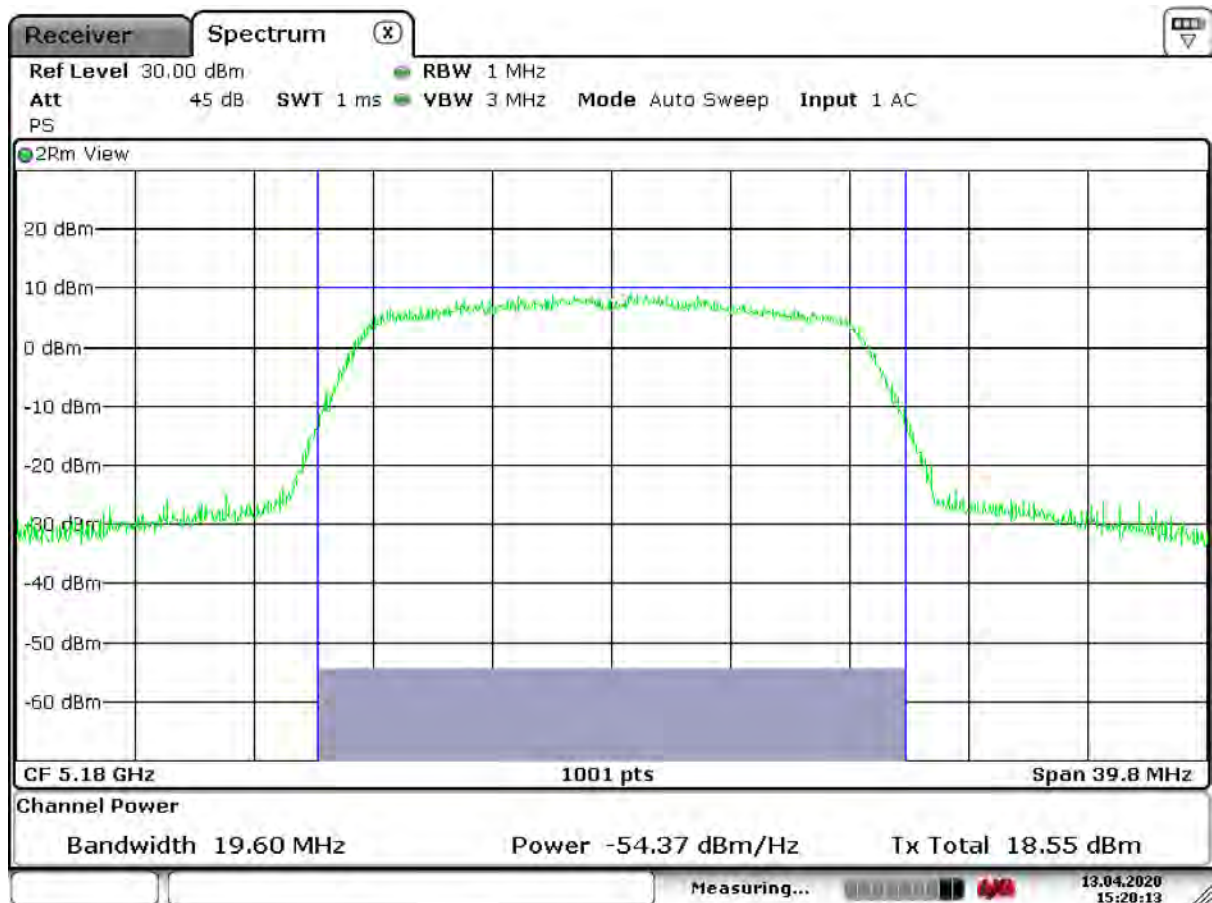
For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated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



Test Date:	2020-04-13	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.31(e)	Air Temperature:	22.1°C
Test Results:	Complies	Humidity;	36%

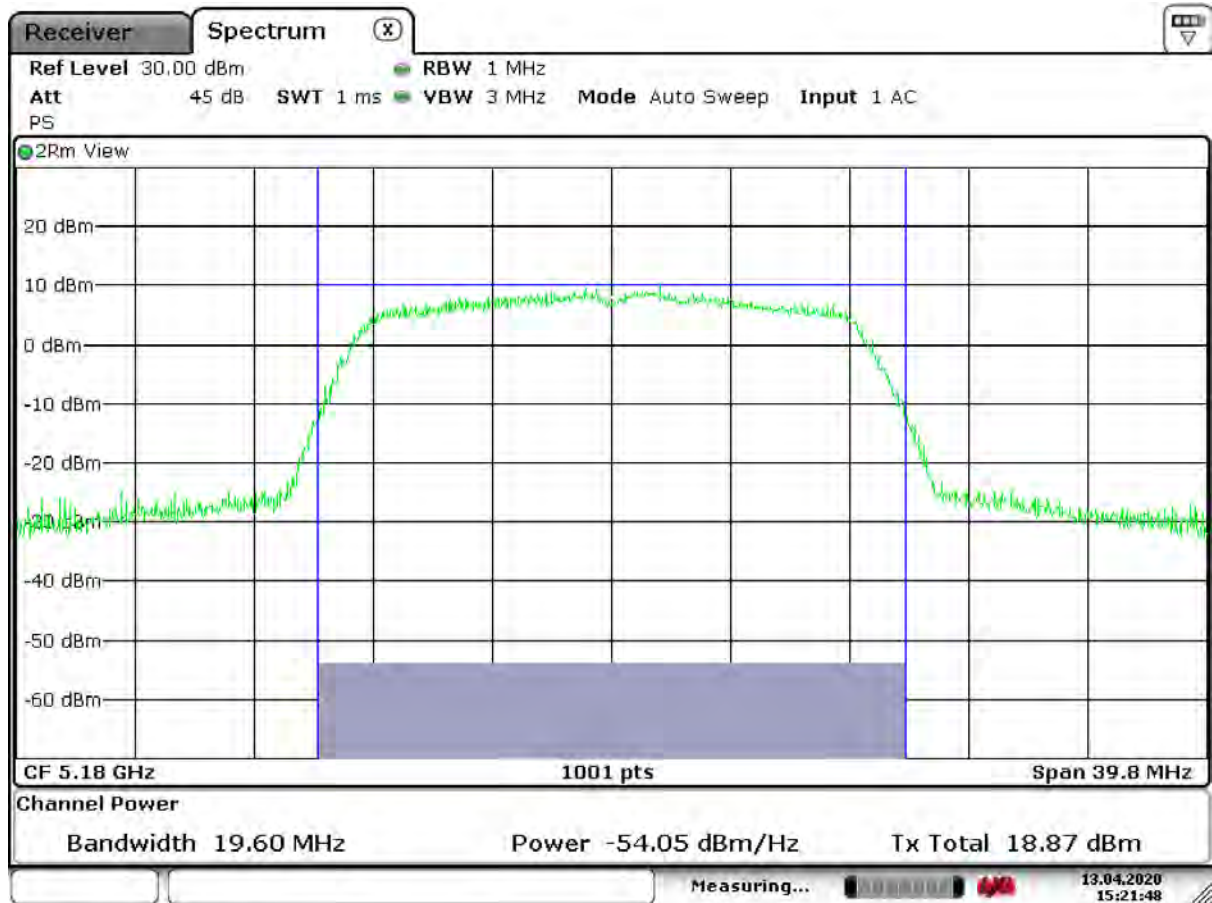
UNII 1, 5.1 GHz, OFDM 20M, Low Channel @ 85%



Date: 13.APR.2020 15:20:14

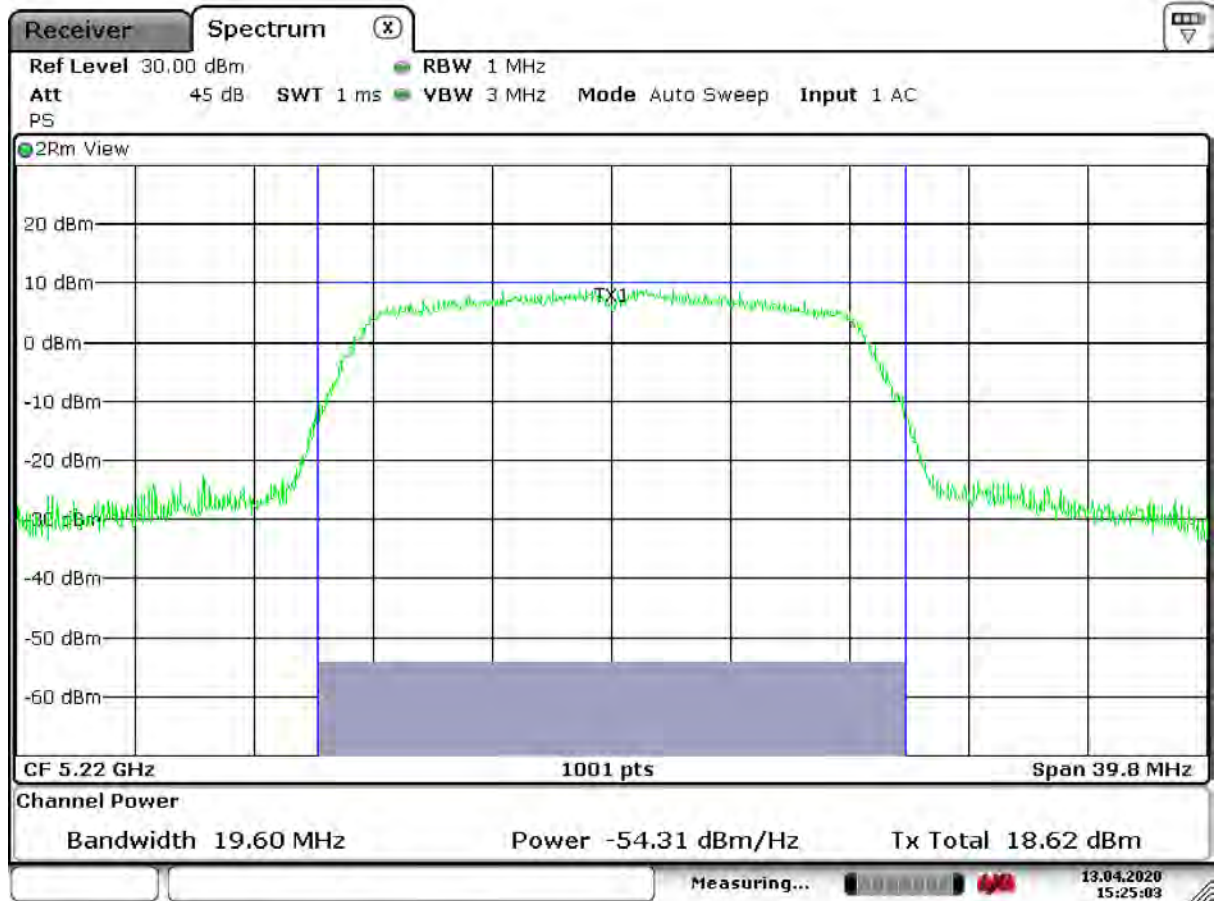


UNII 1, 5.1 GHz, OFDM 20M, Low Channel @ 115%





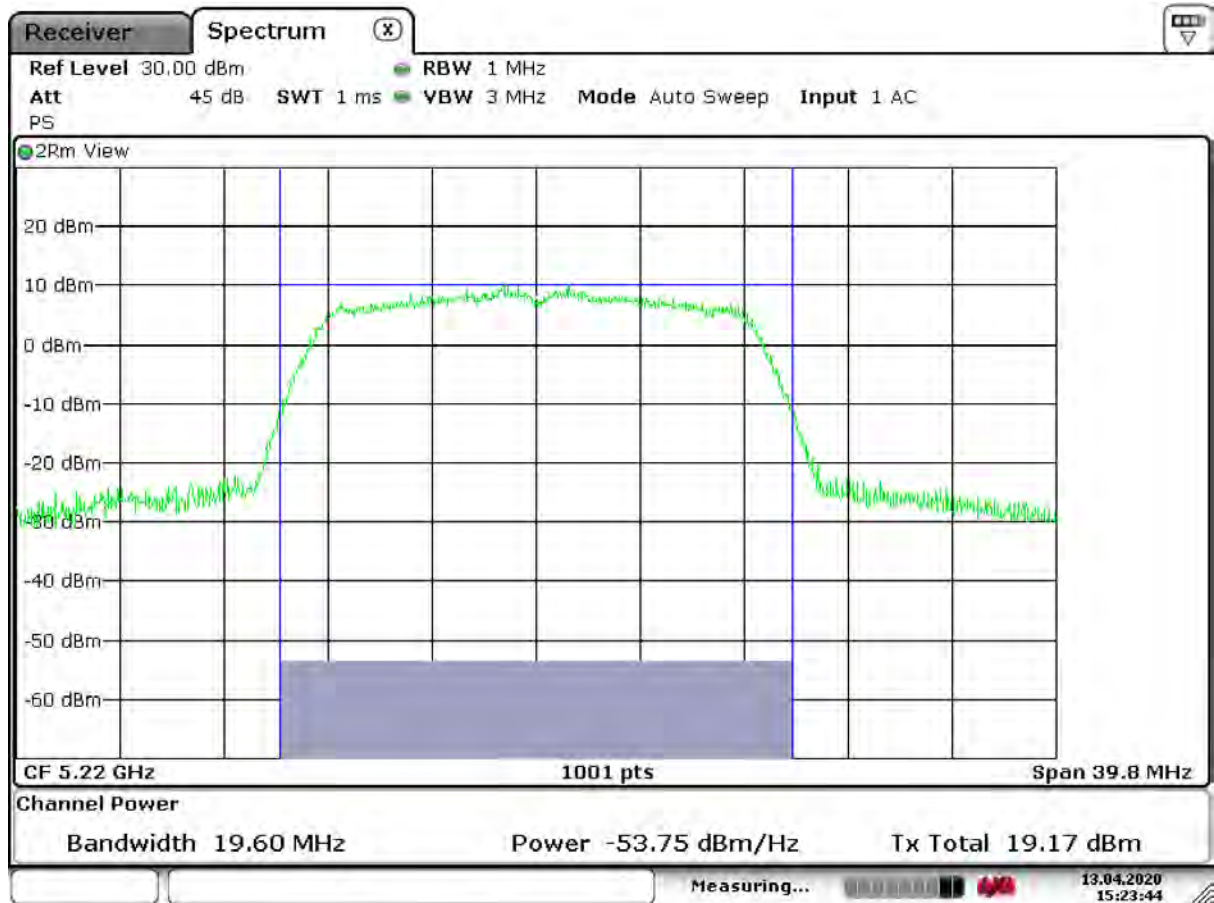
UNII 1, 5.1 GHz, OFDM 20M, Mid Channel @ 85%



Date: 13.APR.2020 15:25:03



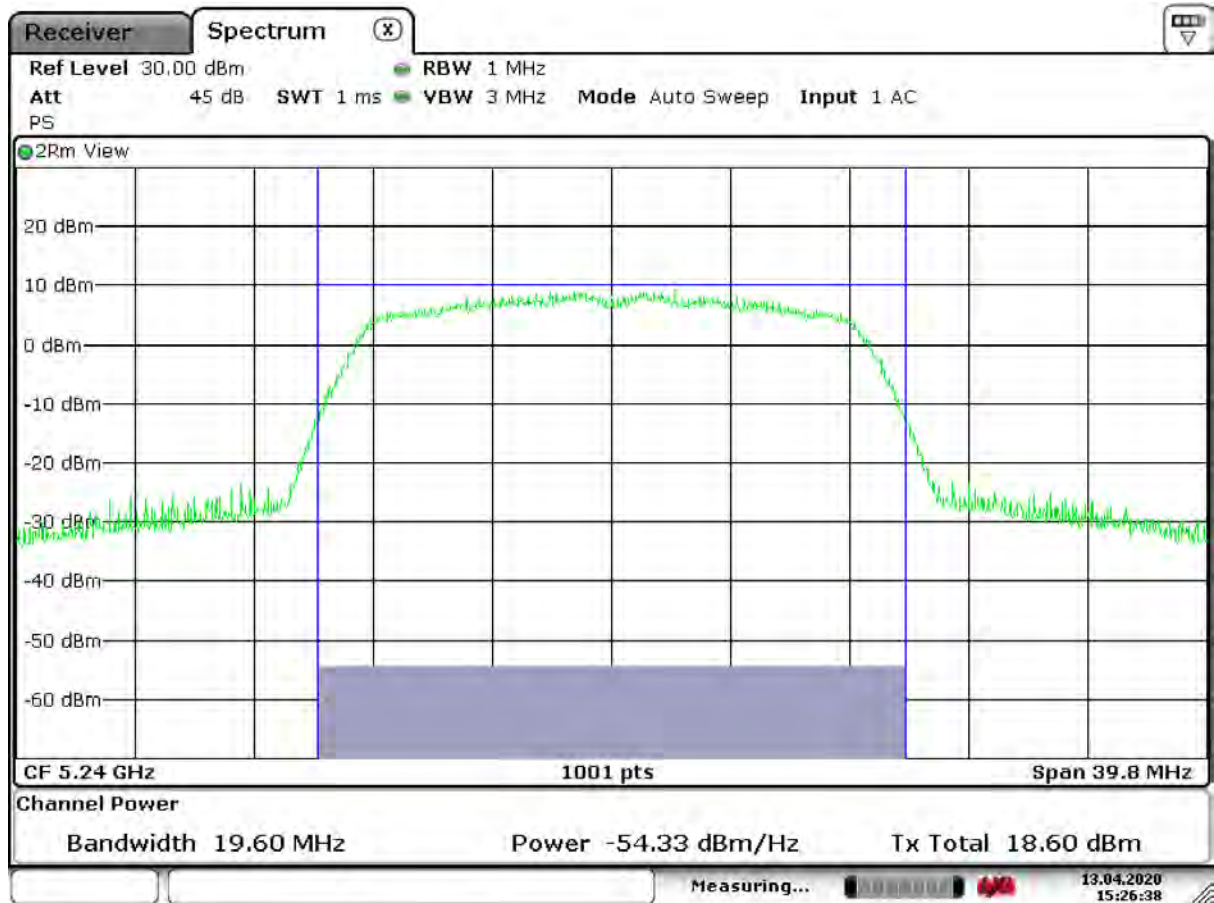
UNII 1, 5.1 GHz, OFDM 20M, Mid Channel @ 115%



Date: 13.APR.2020 15:23:44



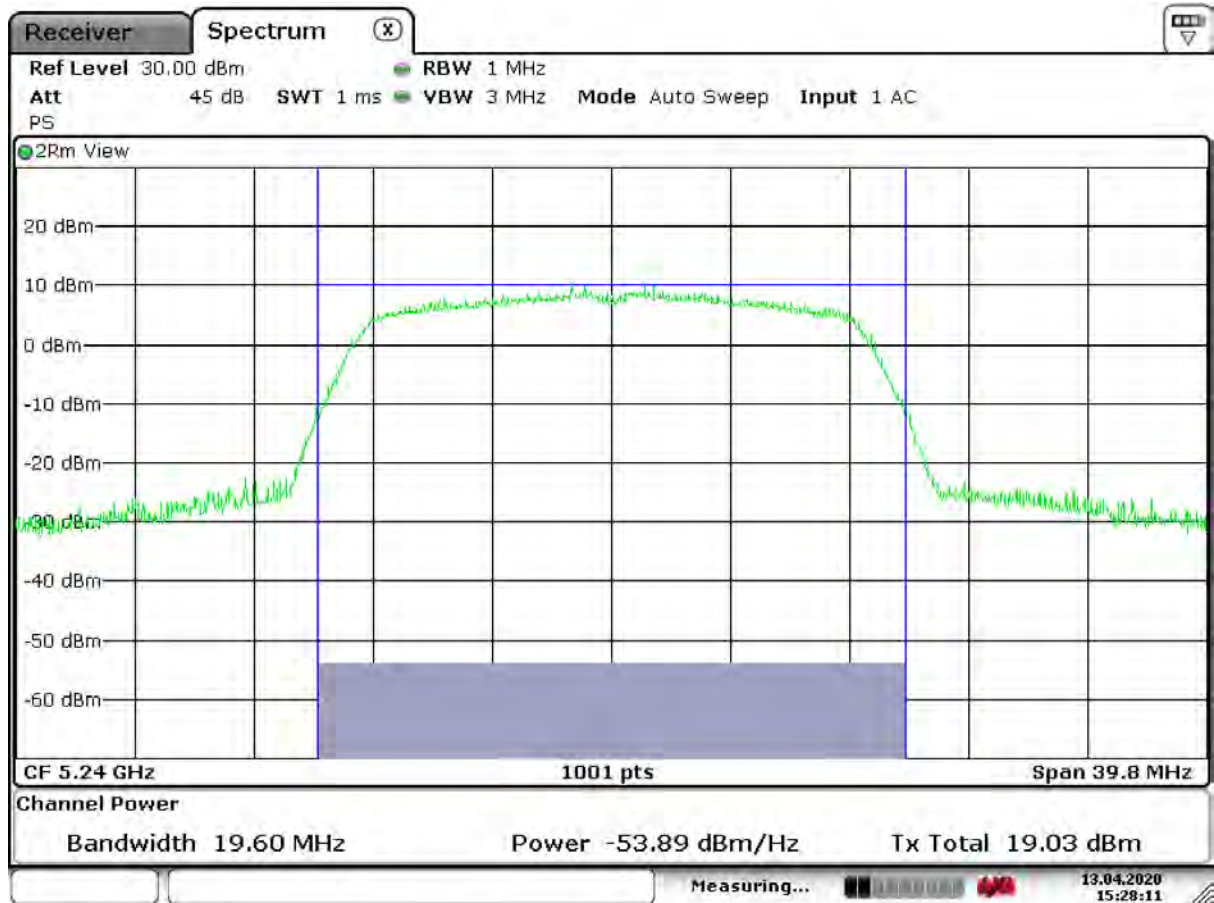
UNII 1, 5.1 GHz, OFDM 20M, High Channel @ 85%



Date: 13.APR.2020 15:26:37



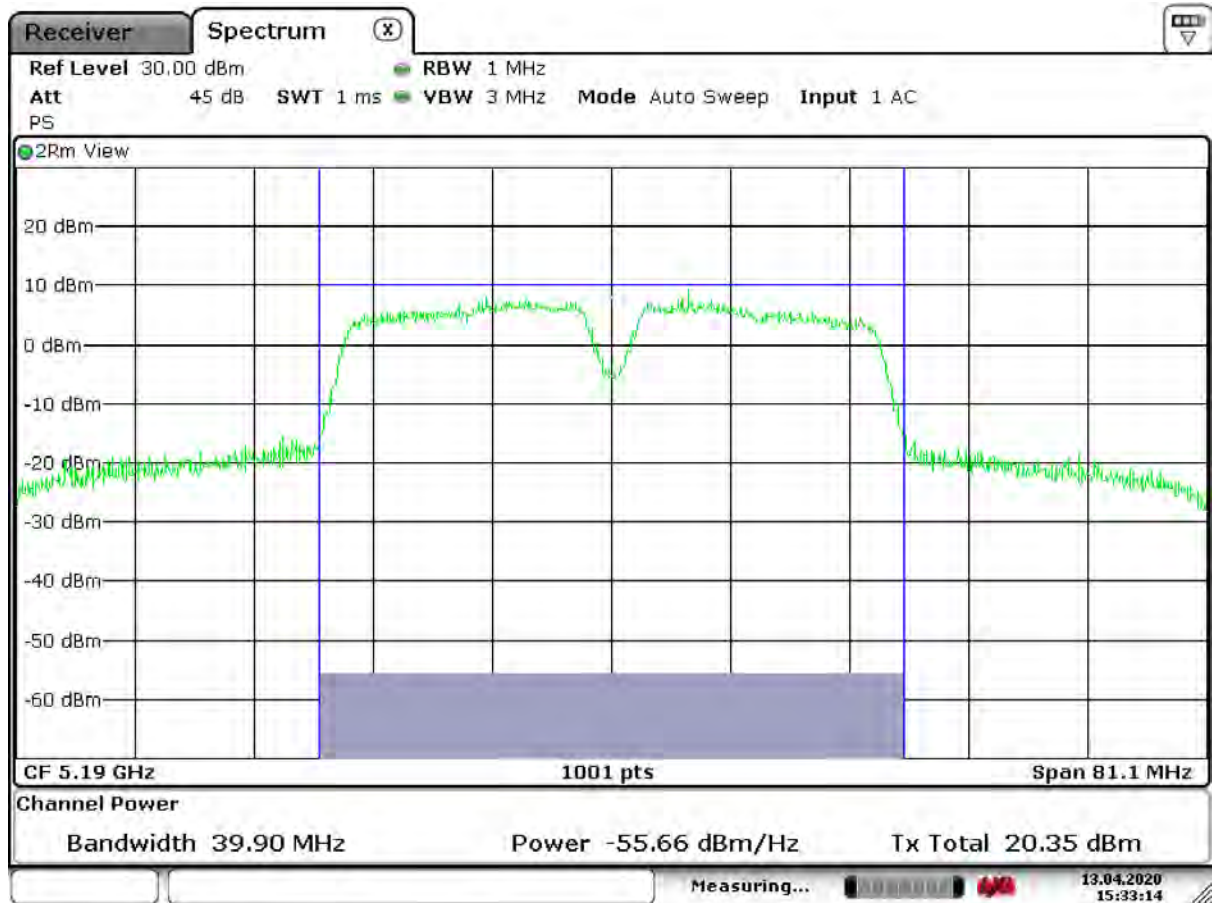
UNII 1, 5.1 GHz, OFDM 20M, High Channel @ 115%



Date: 13.APR.2020 15:28:11



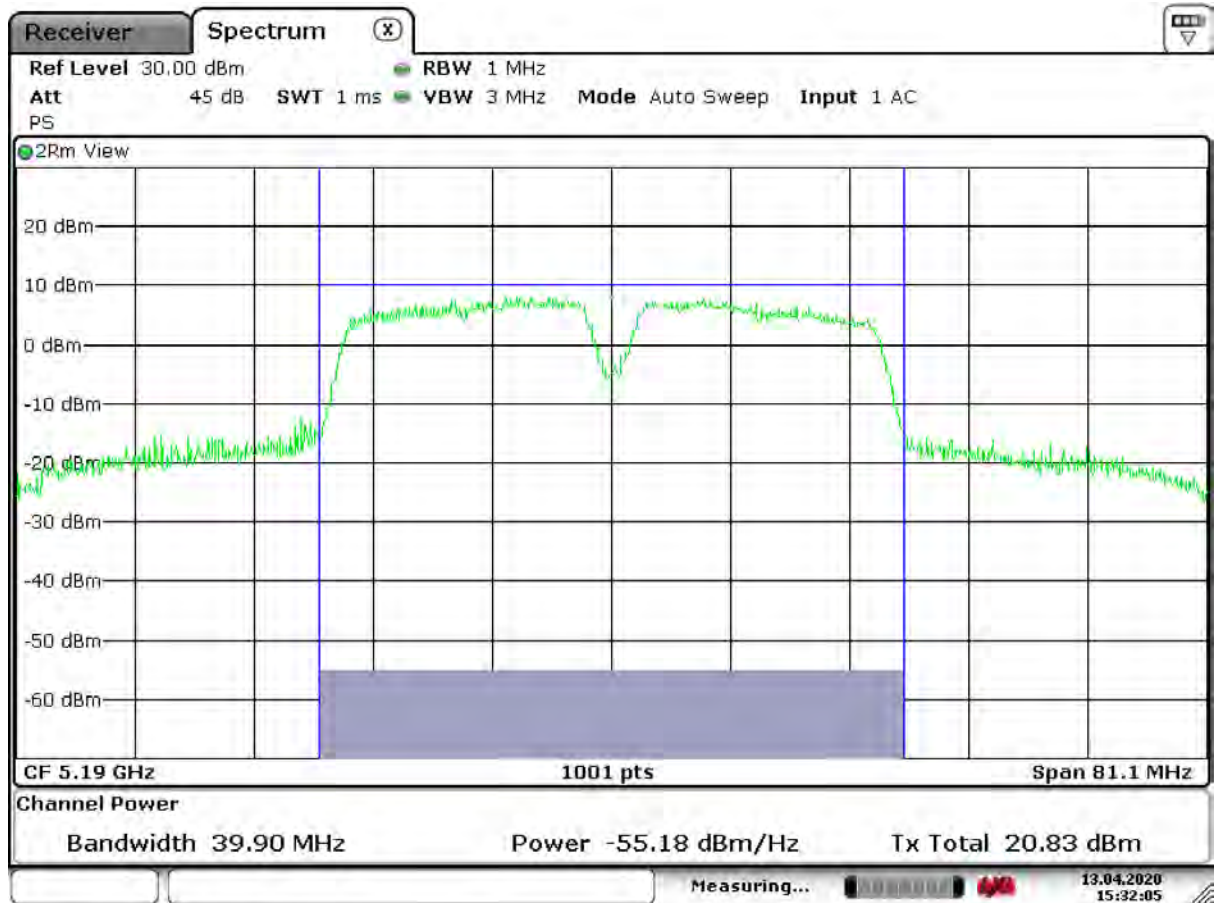
UNII 1, 5.1 GHz, OFDM 40M, Low Channel @ 85%



Date: 13.APR.2020 15:33:14

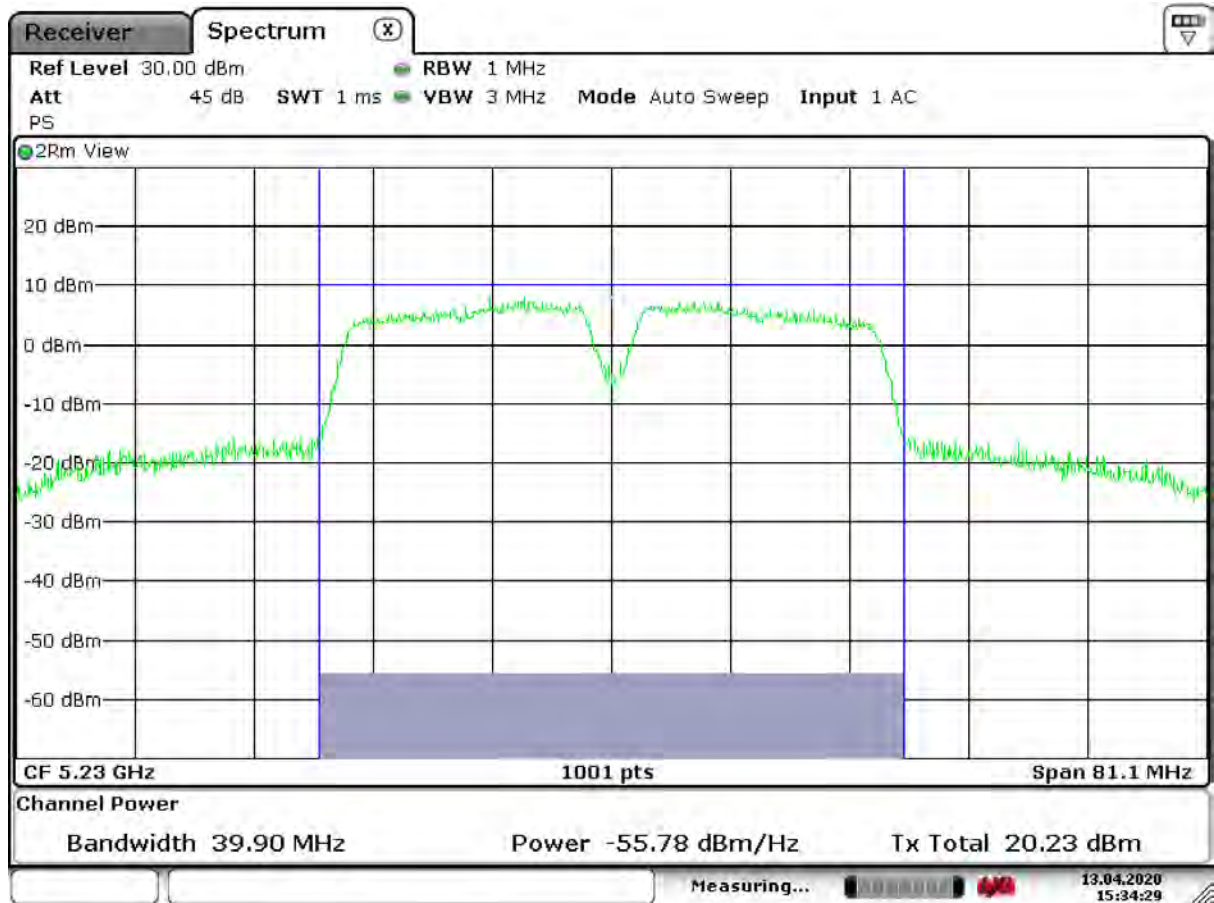


UNII 1, 5.1 GHz, OFDM 40M, Low Channel @115%



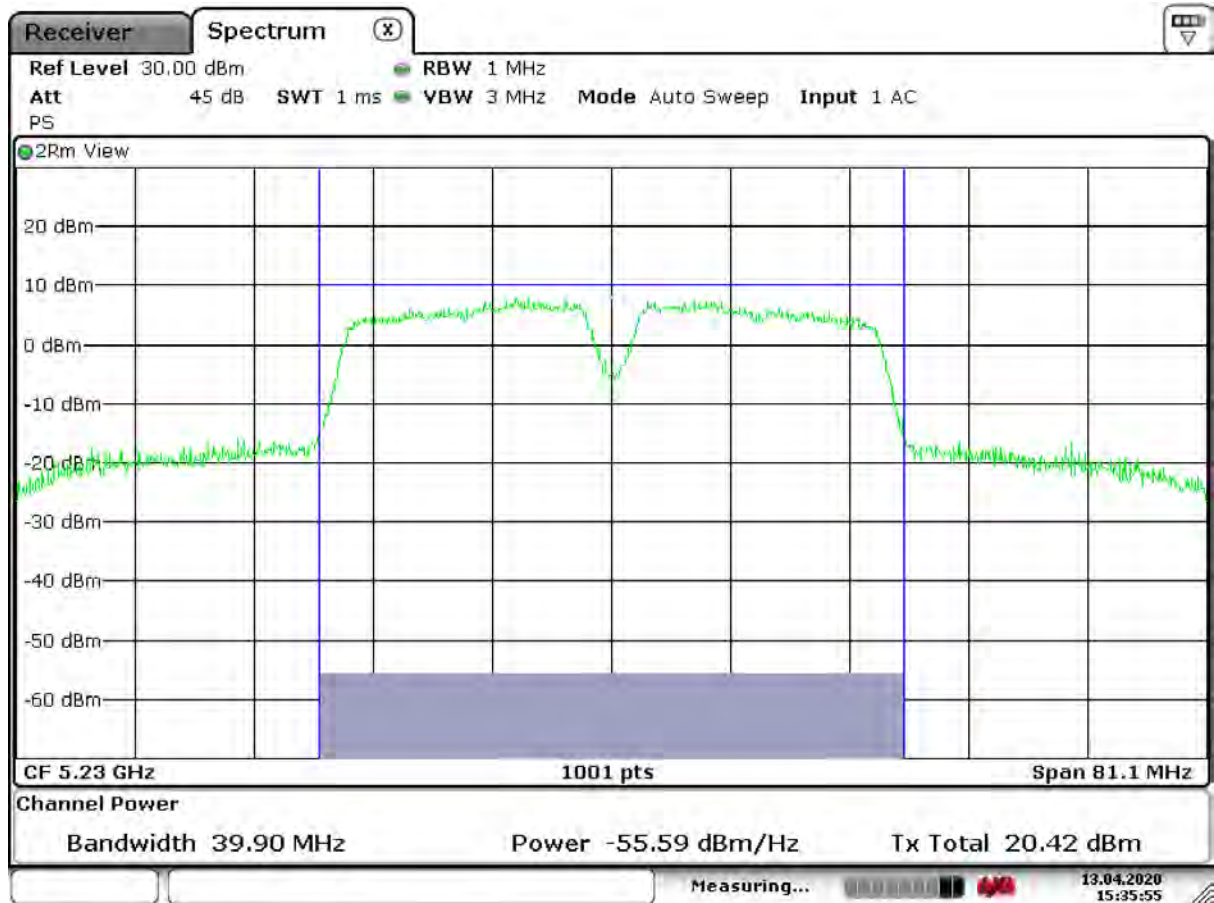


UNII 1, 5.1 GHz, OFDM 40M, High Channel @ 85%





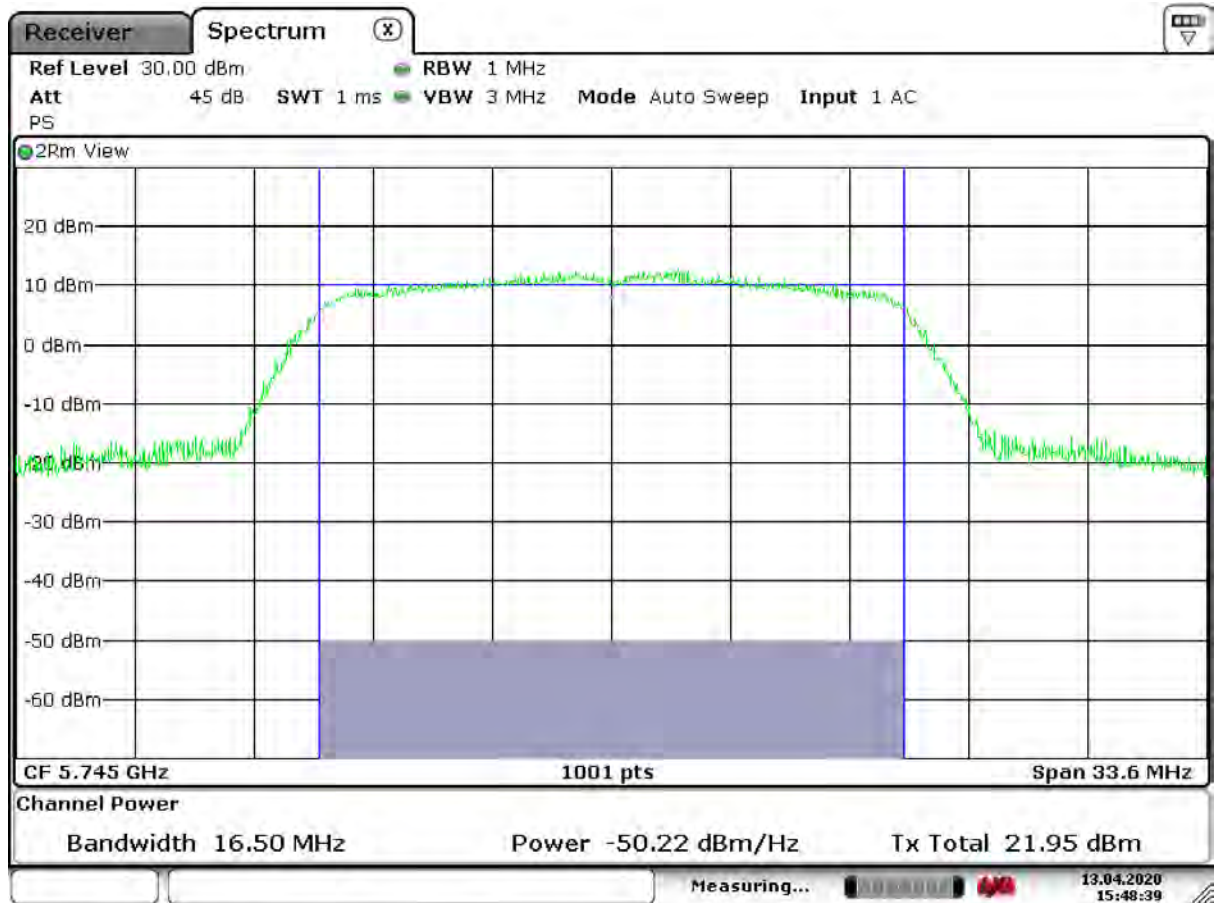
UNII 1, 5.1 GHz, OFDM 40M, High Channel @115%



Date: 13.APR.2020 15:35:56



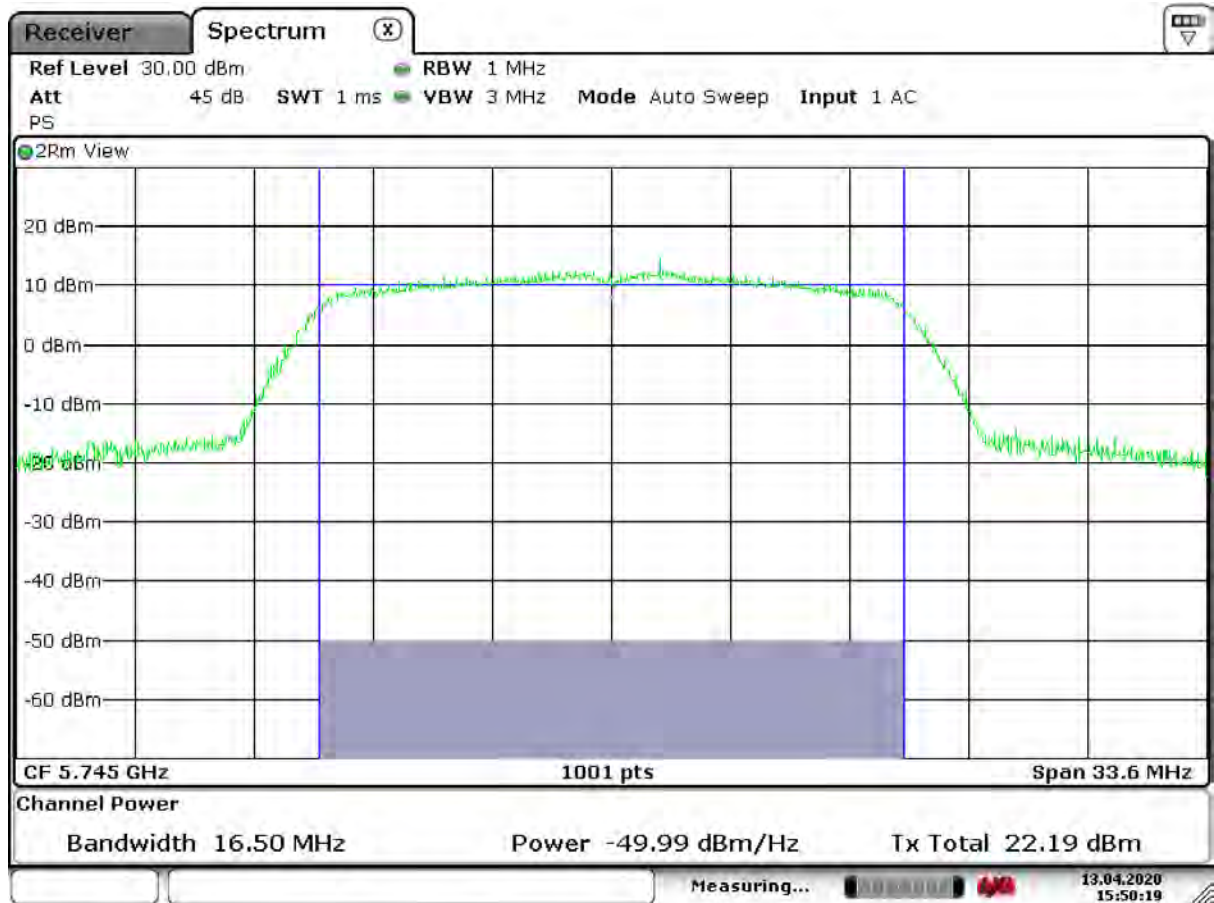
UNII 3, 5.7 GHz, OFDM 20M, Low Channel @ 85%



Date: 13.APR.2020 15:48:39

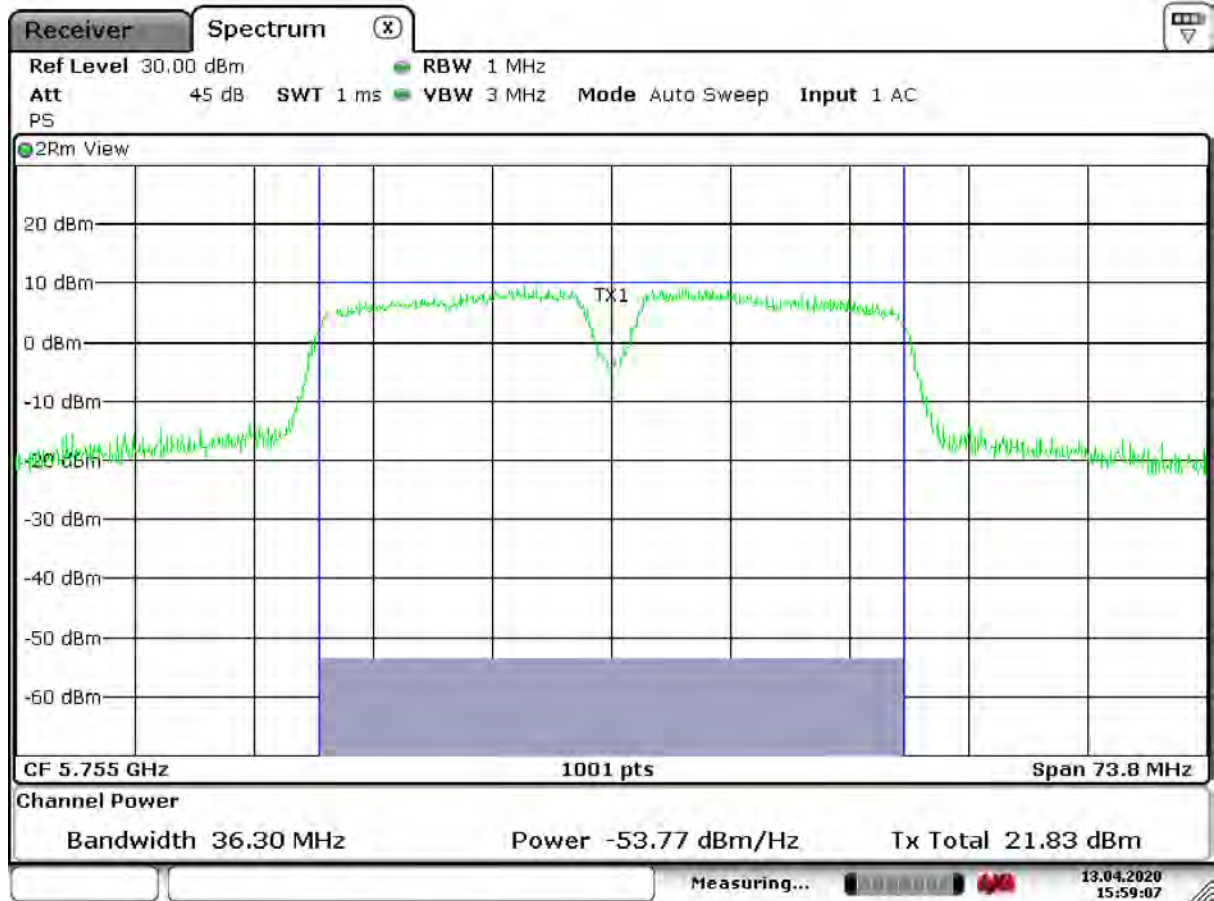


UNII 3, 5.7 GHz, OFDM 20M, Low Channel @ 115%





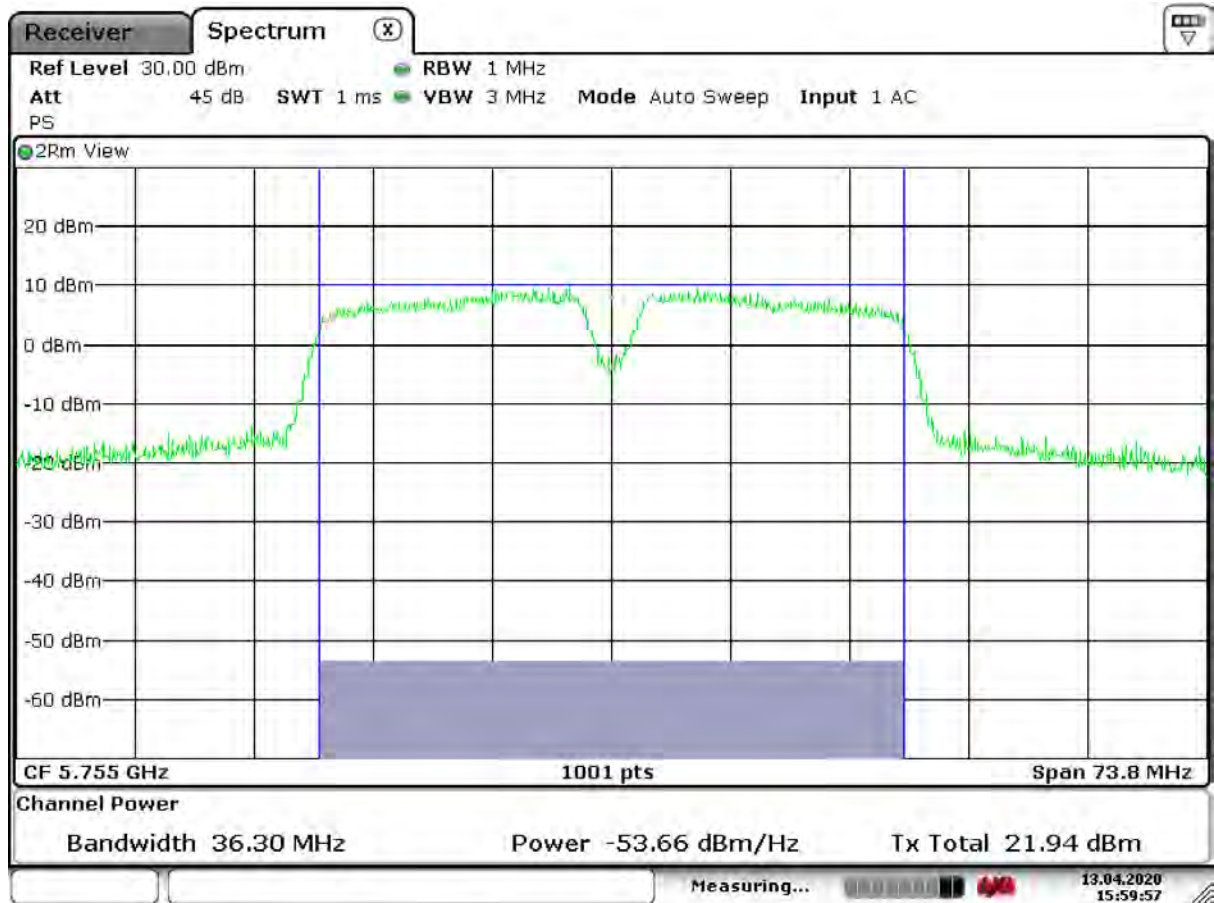
UNII 3, 5.7 GHz, OFDM 20M, Mid Channel @ 85%



Date: 13.APR.2020 15:59:07



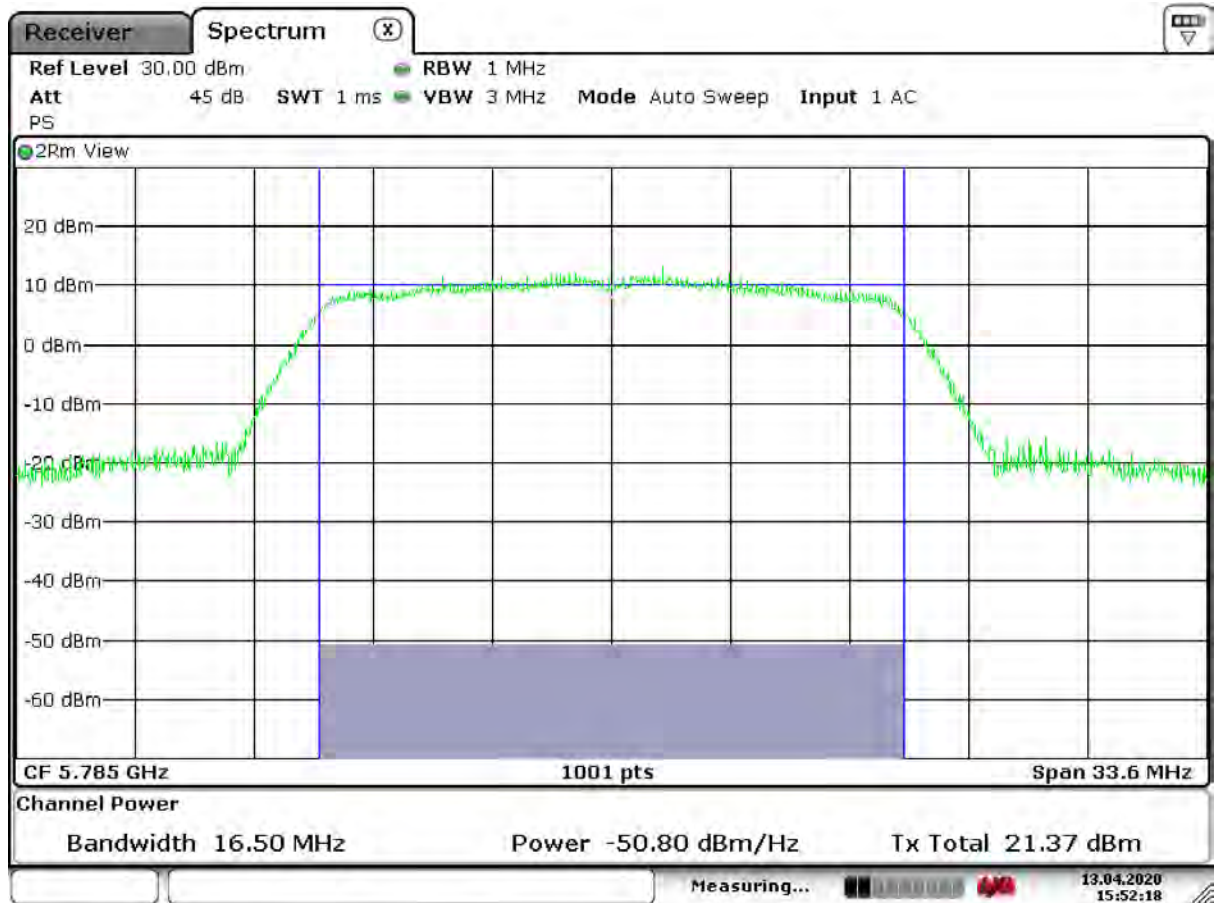
UNII 3, 5.7 GHz, OFDM 20M, Mid Channel @ 115%



Date: 13.APR.2020 15:59:57



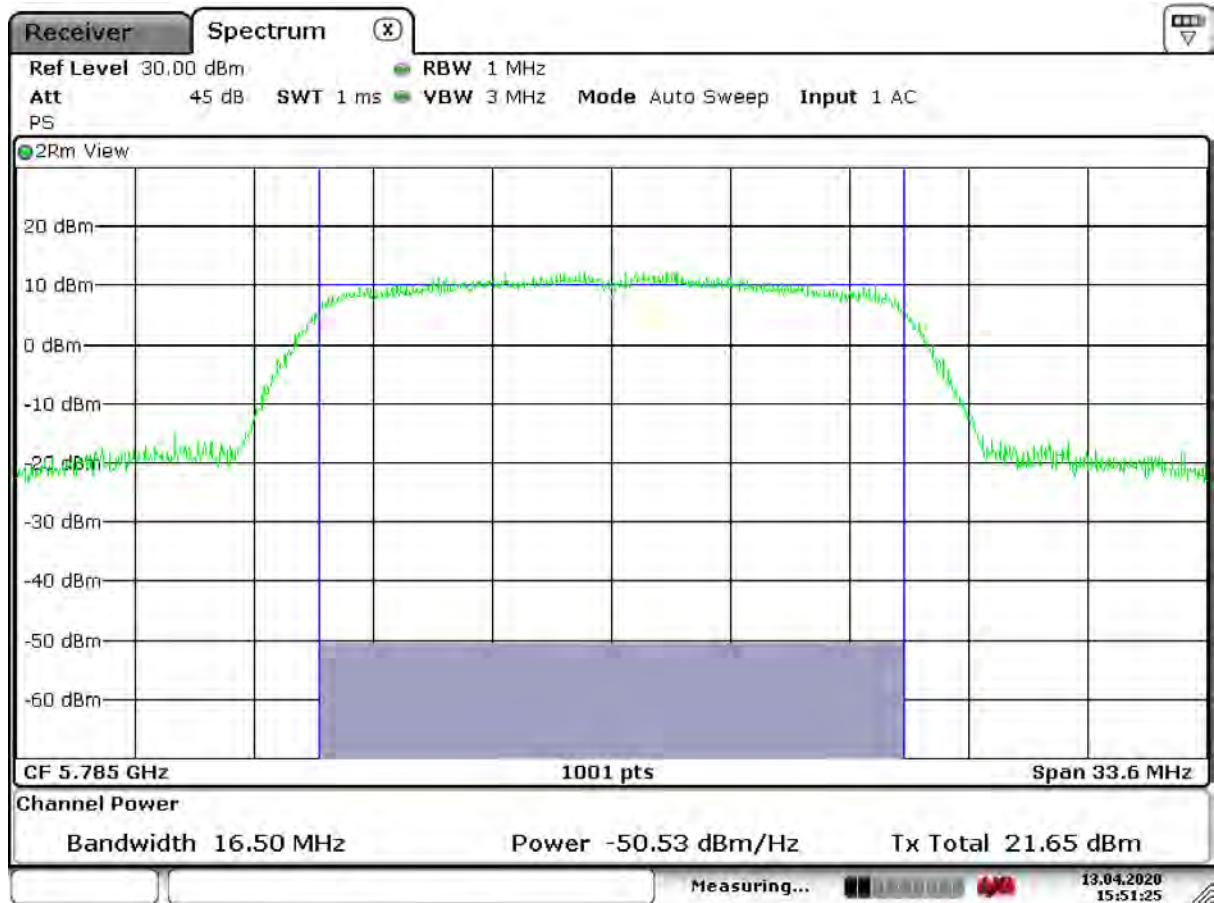
UNII 3, 5.7 GHz, OFDM 20M, High Channel @ 85%



Date: 13.APR.2020 15:52:18



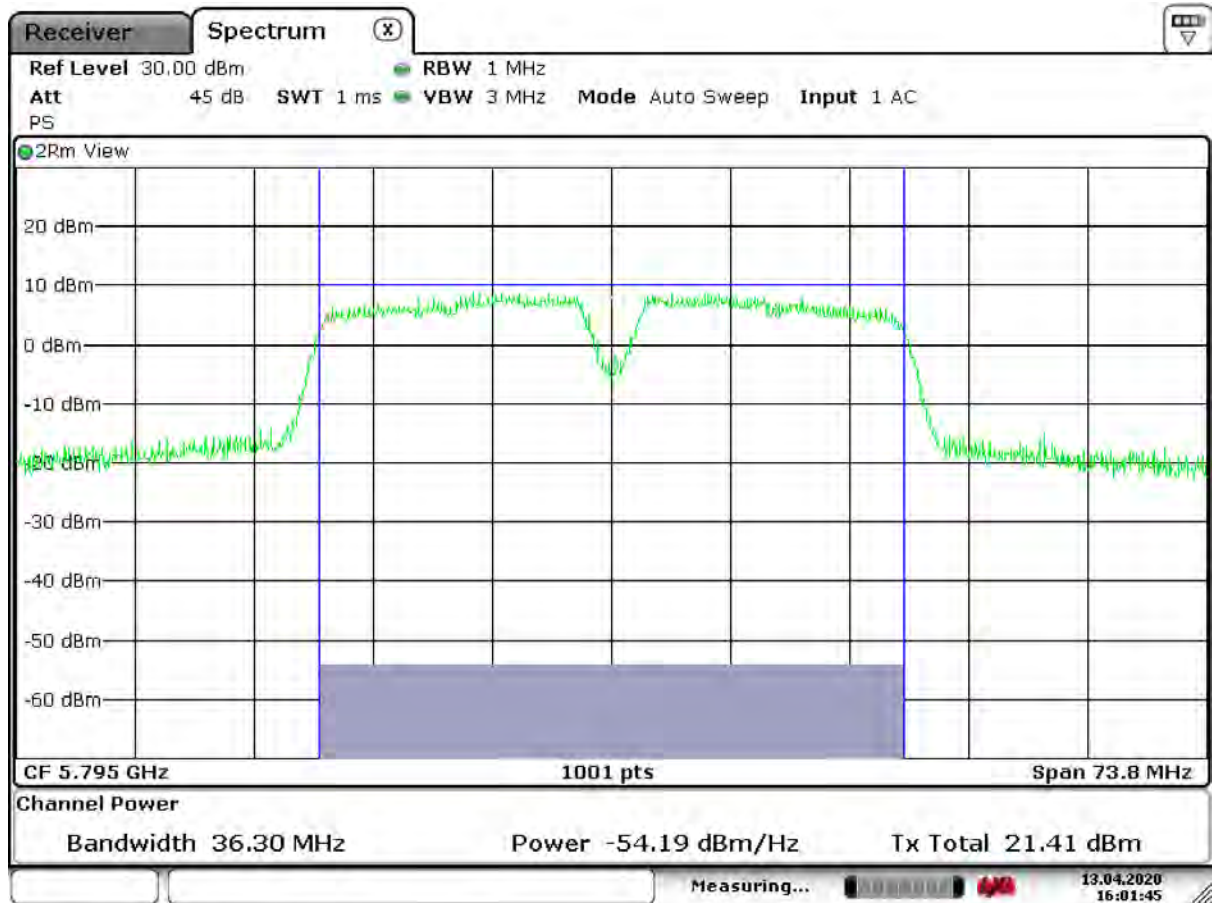
UNII 3, 5.7 GHz, OFDM 20M, High Channel @ 115%



Date: 13.APR.2020 15:51:25



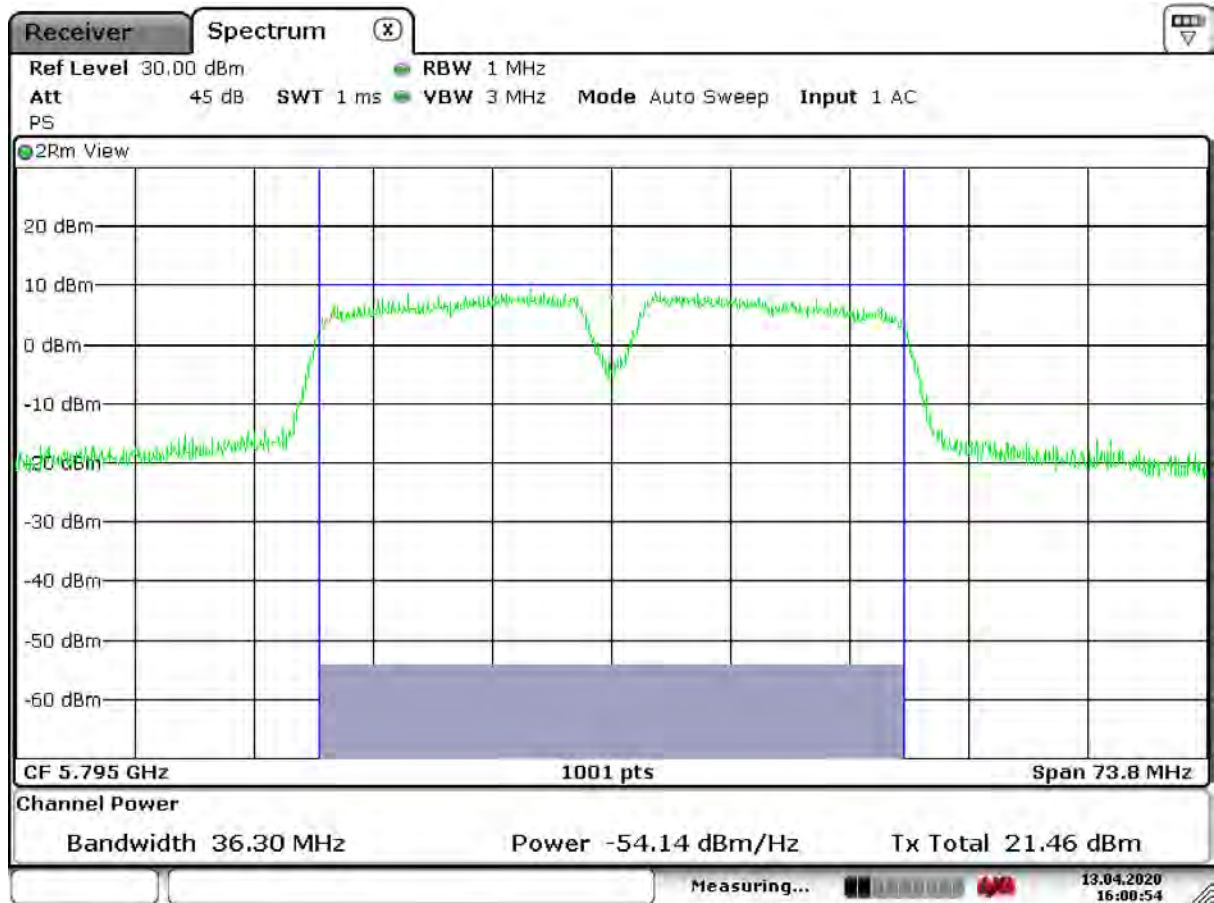
UNII 3, 5.7 GHz, OFDM 40M, Low Channel @ 85%



Date: 13.APR.2020 16:01:45



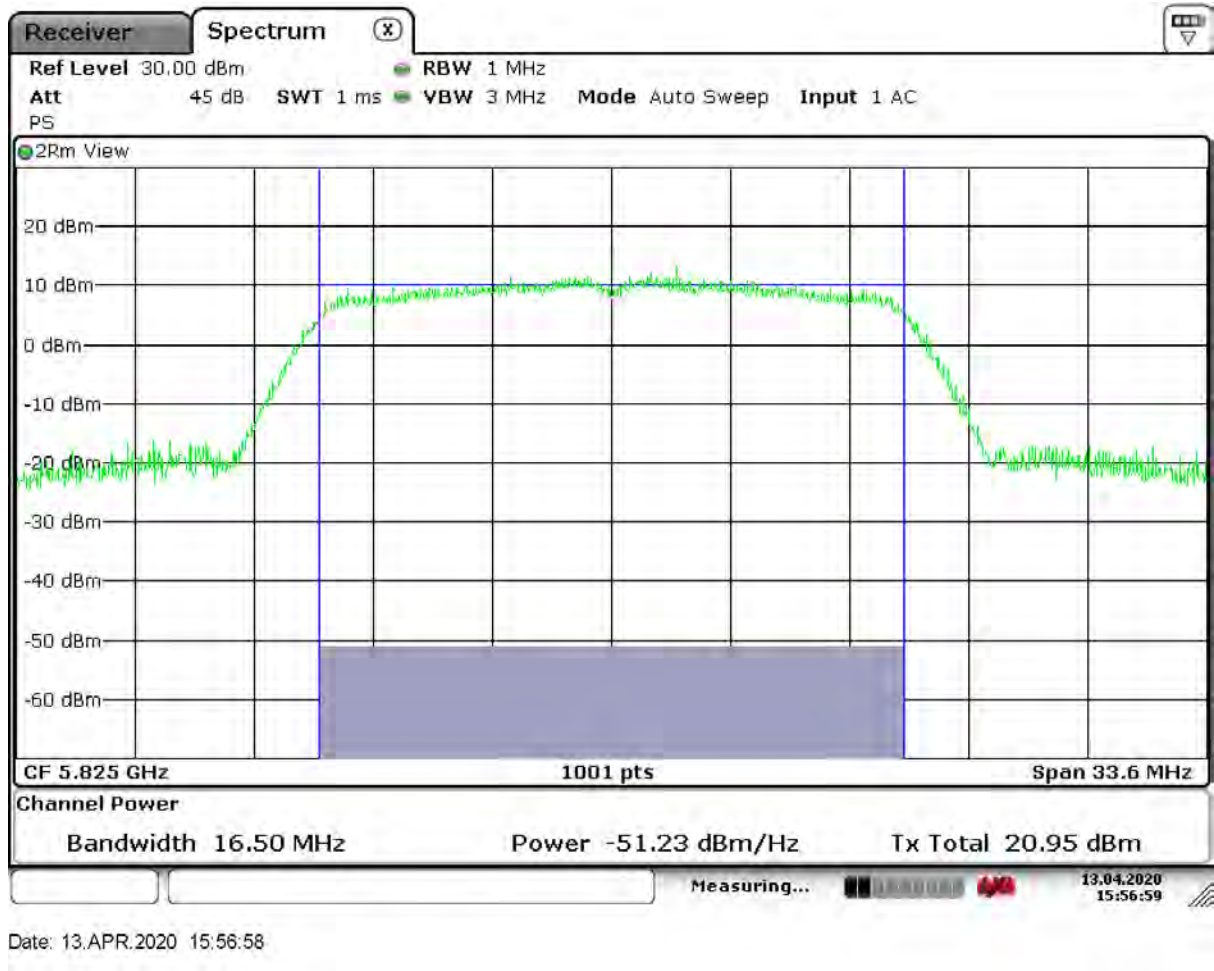
UNII 3, 5.7 GHz, OFDM 40M, Low Channel @115%



Date: 13.APR.2020 16:00:54

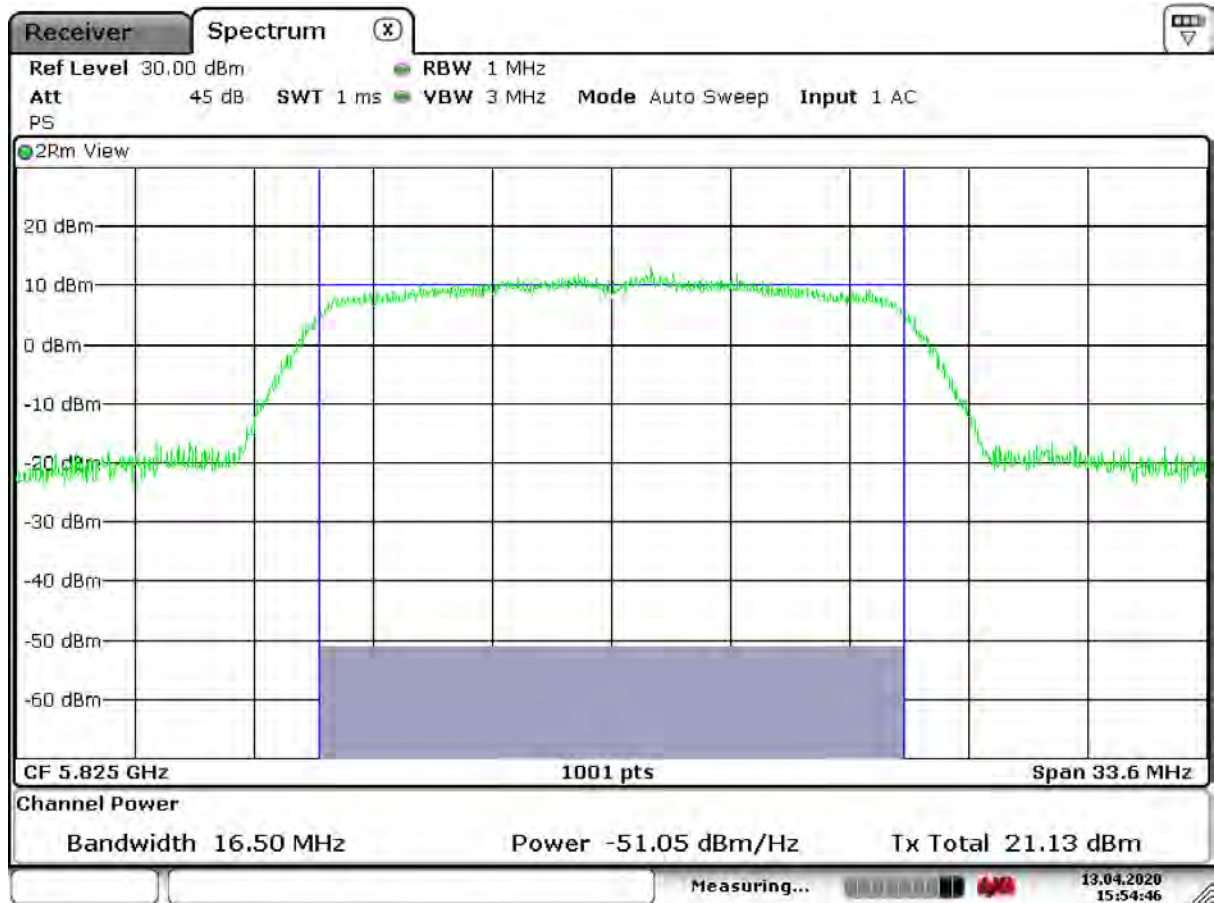


UNII 3, 5.7 GHz, OFDM 40M, High Channel @ 85%





UNII 3, 5.7 GHz, OFDM 40M, High Channel @115%



Date: 13.APR.2020 15:54:46



13 CONDUCTED EMISSIONS

13.1 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.

13.2 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 reference plots were taken with a peak detector and the trace setting on Max Hold. 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.

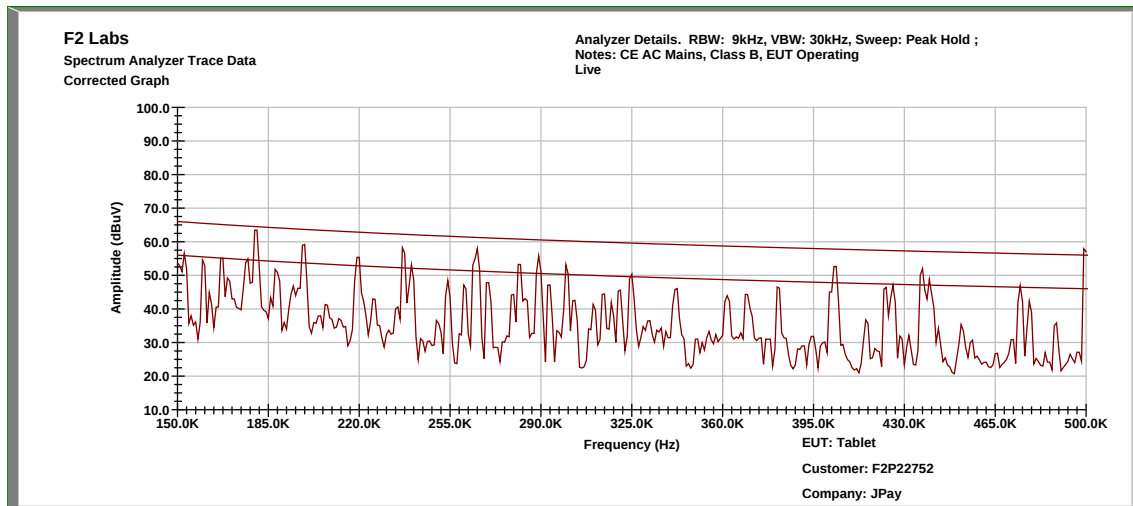
The following results are from the worse-case channel of the worse-case protocol, which was the high channel of OFDM 40M.



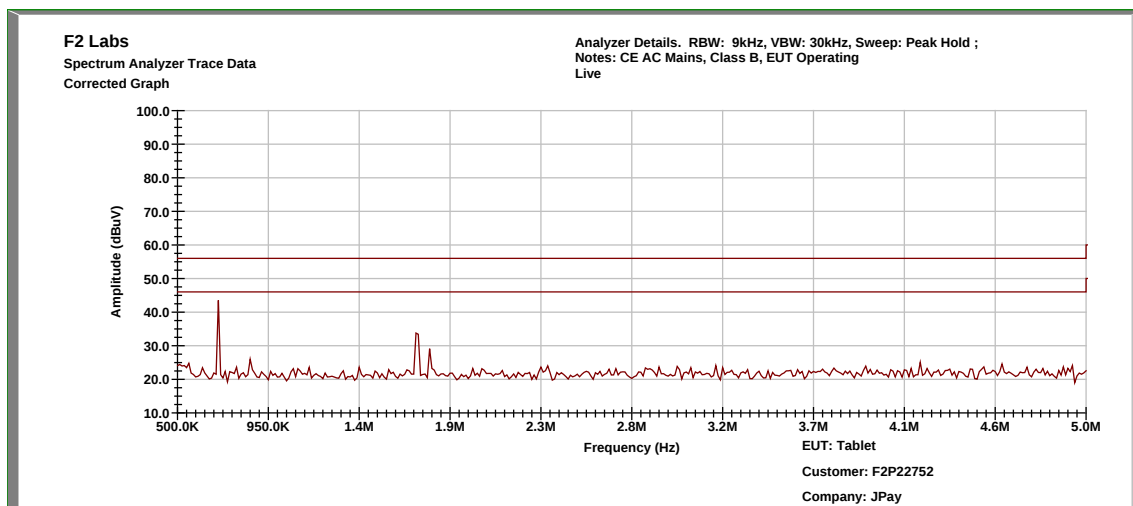
13.3 Conducted Emissions Test Data

Test Date(s):	Apr. 14, 2020	Test Engineer:	J. Chiller
Rule:	15.207	Air Temperature:	20.8° C
Test Results:	Complies	Relative Humidity:	32%

Conducted Test – Live 1: 0.15 MHz to 0.5 MHz

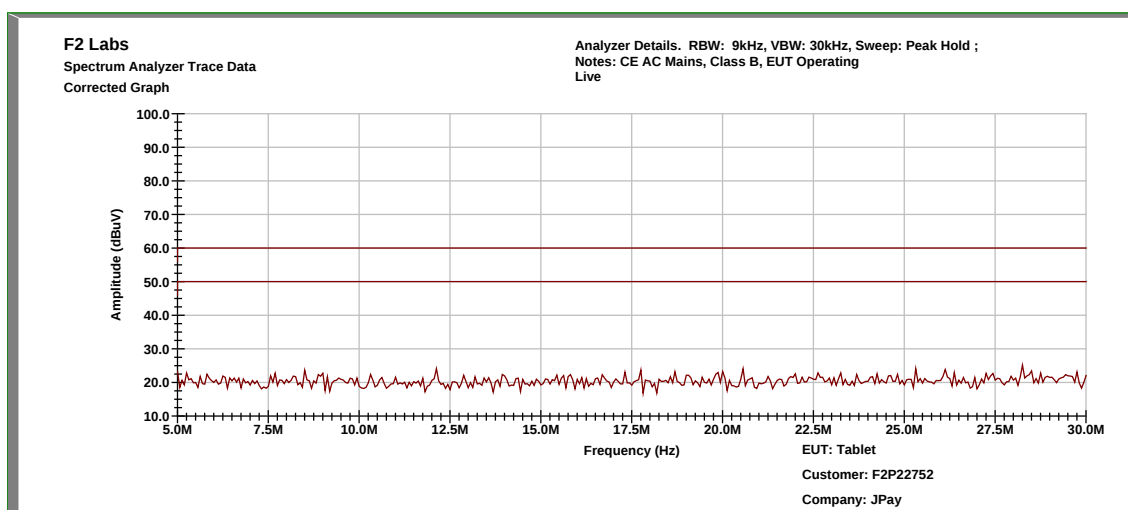


Conducted Test – Live 1: 0.5 MHz to 5.0 MHz





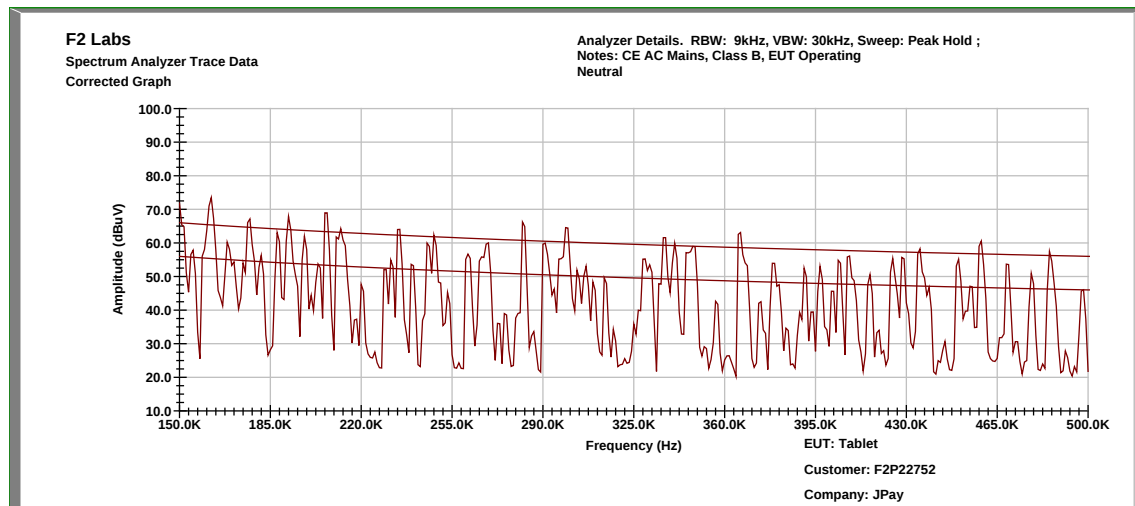
Conducted Test – Live 1: 5.0 MHz to 30.0 MHz



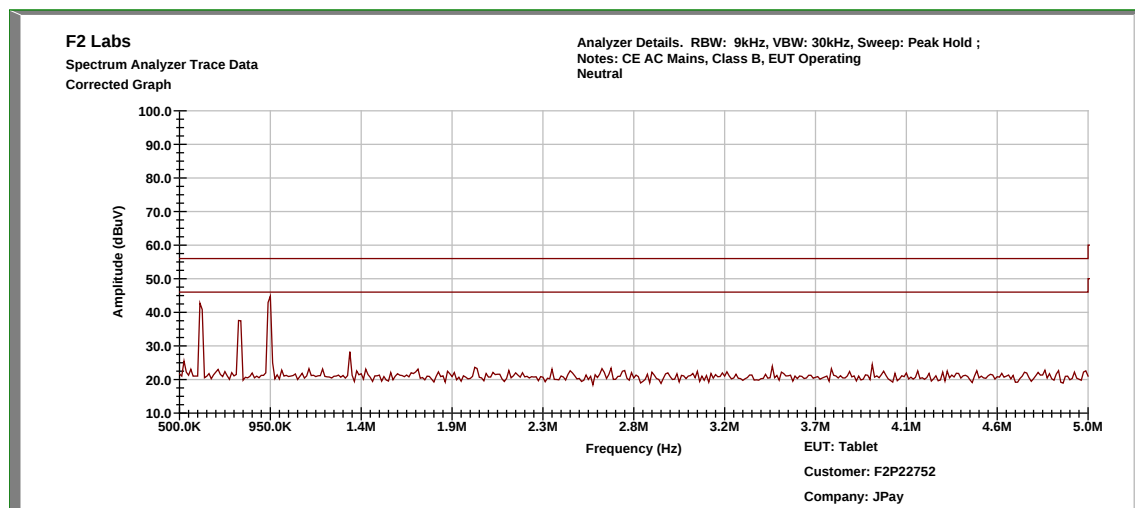
Top Discrete Measurements								
No.	Conductor	Frequency (MHz)	Detector	Level (dBμV)	Adjustment (dB)	Results (dBμV)	Limit (dBμV)	Margin (dB)
1	Live	0.152	Quasi-Peak	34.87	11.118	45.99	65.857	-19.9
			Average	9.36	11.118	20.48	55.857	-35.4
2	Live	0.180625	Quasi-Peak	41.68	10.883	52.56	64.458	-11.9
			Average	5.59	10.883	16.47	54.458	-38.0
3	Live	0.236625	Quasi-Peak	40.40	10.486	50.89	62.214	-11.3
			Average	3.92	10.486	14.41	52.214	-37.8
4	Live	0.2655	Quasi-Peak	36.71	10.384	47.09	61.257	-14.2
			Average	6.79	10.384	17.17	51.257	-34.1
5	Live	0.290	Quasi-Peak	40.18	10.36	50.54	60.525	-10.0
			Average	4.07	10.36	14.43	50.525	-36.1
6	Live	0.40375	Quasi-Peak	18.23	10.299	28.53	57.776	-29.2
			Average	2.45	10.299	12.75	47.776	-35.0
7	Live	0.437	Quasi-Peak	15.70	10.285	25.99	57.119	-31.1
			Average	2.33	10.285	12.62	47.119	-34.5
8	Live	0.702	Quasi-Peak	8.74	10.159	18.90	56.0	-37.1
			Average	1.59	10.159	11.75	46.0	-34.3



Conducted Test – Neutral: 0.15 MHz to 0.5 MHz

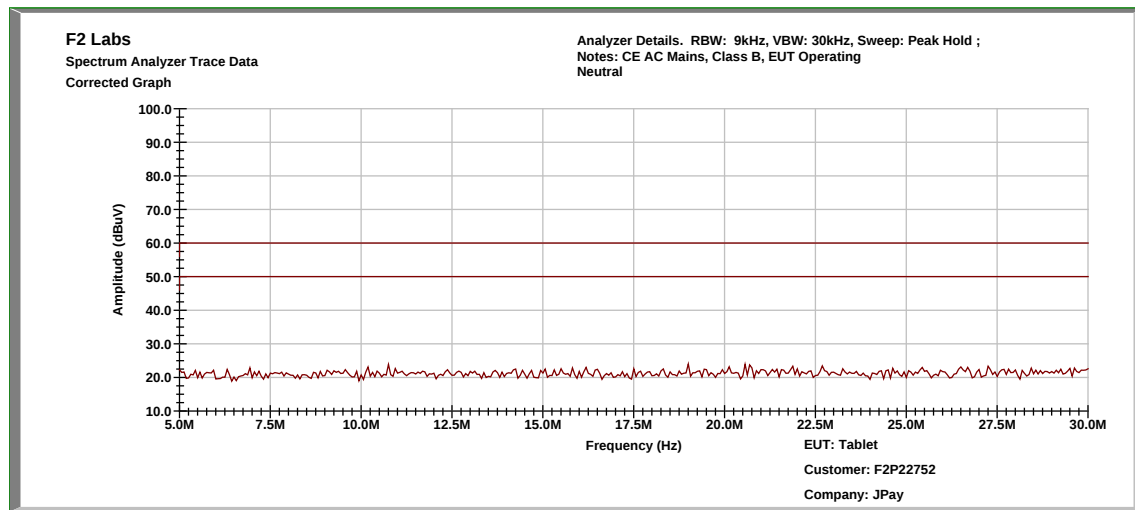


Conducted Test – Neutral: 0.5 MHz to 5.0 MHz





Conducted Test – Neutral: 5.0 MHz to 30.0 MHz

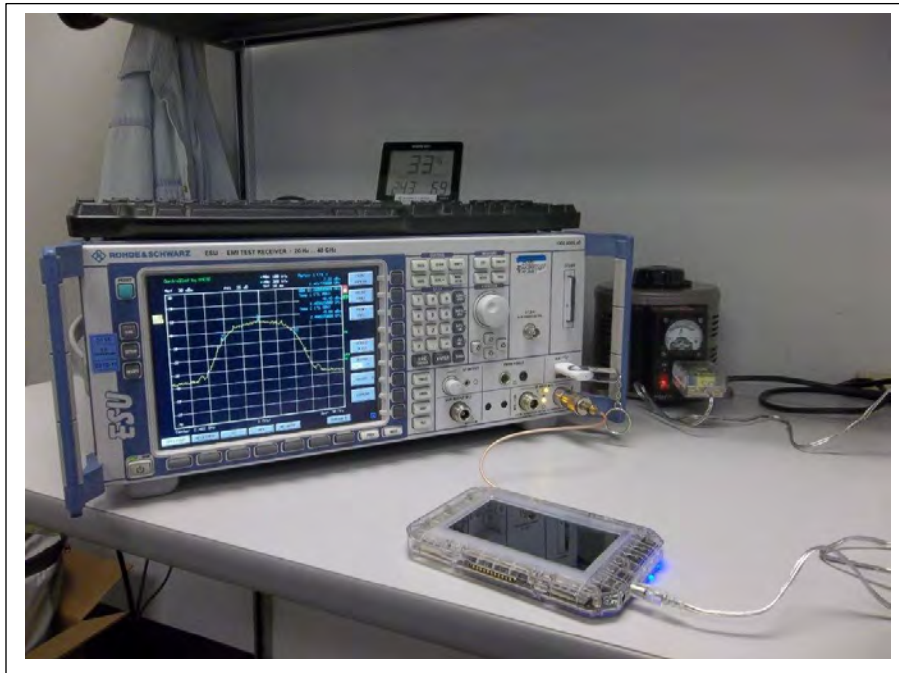


Top Discrete Measurements								
No.	Conductor	Frequency (MHz)	Detector	Level (dBμV)	Adjustment (dB)	Results (dBμV)	Limit (dBμV)	Margin (dB)
1	Neutral	0.16225	Quasi-Peak	45.54	11.00	56.54	65.349	-8.8
			Average	4.08	11.00	15.08	55.349	-40.3
2	Neutral	0.206	Quasi-Peak	36.40	10.583	46.98	63.366	-16.4
			Average	5.62	10.583	16.20	53.366	-37.2
3	Neutral	0.282125	Quasi-Peak	16.50	10.208	26.71	60.754	-34.0
			Average	3.60	10.208	13.81	50.754	-36.9
4	Neutral	0.299	Quasi-Peak	19.22	10.19	29.41	60.254	-30.8
			Average	1.92	10.19	12.11	50.254	-38.1
5	Neutral	0.366	Quasi-Peak	18.48	10.144	28.62	58.589	-30.0
			Average	-2.84	10.144	7.30	48.589	-41.3
6	Neutral	0.458	Quasi-Peak	13.27	10.091	23.36	56.729	-33.4
			Average	2.20	10.091	12.29	46.729	-34.4
7	Neutral	0.601	Quasi-Peak	25.29	10.02	35.31	56.0	-20.7
			Average	-6.35	10.02	3.67	46.0	-42.3
8	Neutral	0.950	Quasi-Peak	17.71	9.99	27.70	56.0	-28.3
			Average	-3.65	9.99	6.34	46.0	-39.7



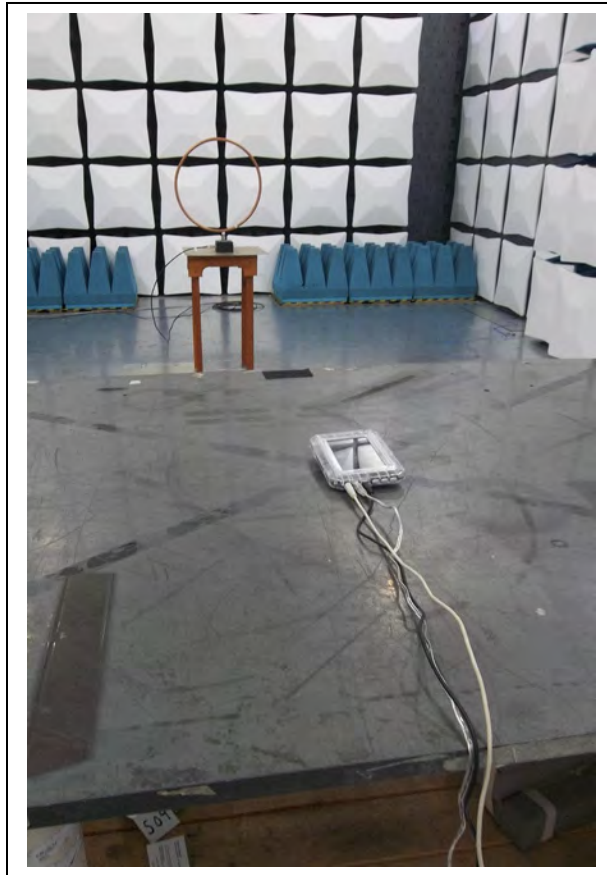
14 PHOTOGRAPHS

Occupied Bandwidth, RF Output Power, Power Spectral Density,
Voltage Variations, Conducted Spurious Emissions





Radiated Spurious Emissions, Less Than 30 MHz

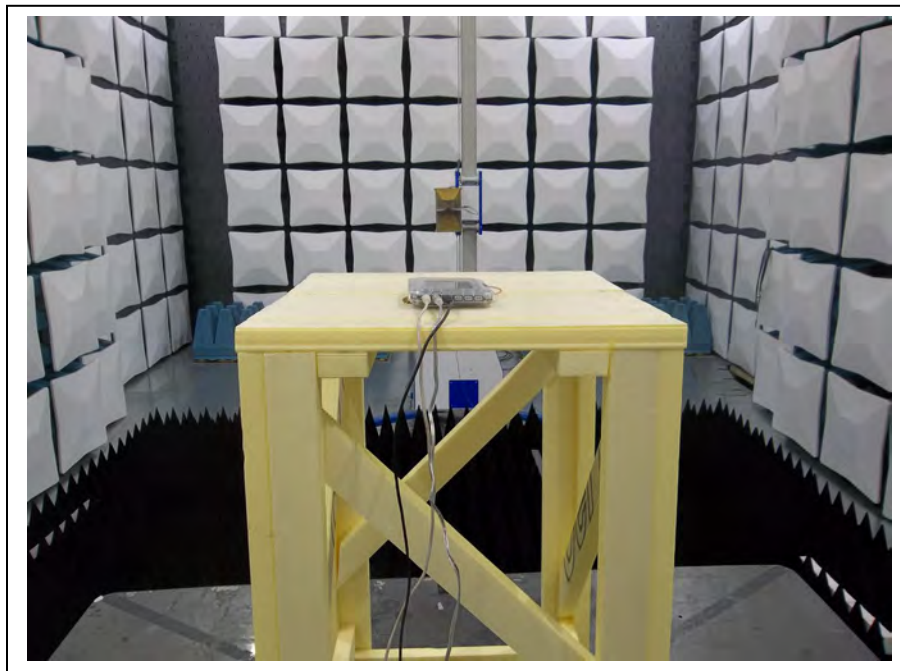




Radiated Spurious Emissions, 30 MHz to 1000 MHz



Radiated Spurious Emissions above 1 GHz





Conducted Emissions

