TEST REPORT

of

FCC PART 15 SUBPART E

☒ New Application; ☐ Class I PC; ☐ Class II PC

Product :	**7 inch Android Panel PC PoE LED**
Brand:	**ProDVX**
Model:	**APPC-7XPL, APPC-7XPLN**
Model Difference:	**For different markets**
FCC ID:	**2AR42APPC7XPL**
FCC Rule Part:	**§15.407, Cat:NII**
Applicant:	**ProDVX Europe B.V.**
Address:	**Europalaan 12F, 5232 BC Den Bosch, The Netherlands**

Test Performed by:

International Standards Laboratory Corp.
<LT Lab.>
*Site Registration No.
BSMI: SL2-IN-E-0013; MRA TW0997; TAF: 0997; IC: IC4067B-4;
*Address:
No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist., Tao Yuan City 325, Taiwan
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Report No.: **ISL-20LR400FE**
Issue Date : **2021/01/15**

Testing laboratory 0997

VERIFICATION OF COMPLIANCE

Applicant:	ProDVX Europe B.V.
Product Description:	7 inch Android Panel PC PoE LED
Brand Name:	ProDVX
Model No.:	APPC-7XPL, APPC-7XPLN
Model Difference:	For different markets
FCC ID:	2AR42APPC7XPL
Date of test:	2020/12/04 ~ 2021/01/14
Date of EUT Received:	2020/12/04

We hereby certify that:

All the tests in this report have been performed and recorded in accordance with the standards described above and performed by an independent electromagnetic compatibility consultant, International Standards Laboratory Corp.

The test results contained in this report accurately represent the measurements of the characteristics and the energy generated by sample equipment under test at the time of the test. The sample equipment tested as described in this report is in compliance with the limits of above standards.

Test By:	Barry Lee	***Date:***	2021/01/15
	Barry Lee / Senior Engineer		
Prepared By:	Gigi yeh	***Date:***	2021/01/15
	Gigi Yeh / Senior Engineer		
Approved By:	Jerry Liu	***Date:***	2021/01/15
	Jerry Liu / Technical Manager		

Version

Version No.	Date	Description
00	2021/01/15	Initial creation of document

Uncertainty of Measurement

Description Of Test	Uncertainty
Conducted Emission (AC power line)	2.586 dB
Field Strength of Spurious Radiation	<=30MHz: 2.96dB 30-1GHz: 4.22 dB 1-40 GHz: 4.08 dB
Conducted Power	2.412 GHz: 1.30 dB 5.805 GHz: 1.55 dB
Power Density	2.412 GHz:1.30 dB 5.805 GHz: 1.67 dB
Frequency	0.0032%

Table of Contents

1. General Information

1.1. Product Description

General:

Product Name	7 inch Android Panel PC PoE LED	
Brand Name	ProDVX	
Model Name	APPC-7XPL, APPC-7XPLN	
Model Difference	For different markets	
USB port	One provided	
Micro USB	One provided	
SD	One provided	
RJ45	One provided	
Audio ouy	One provided	
Power Supply	12Vdc from AC/DC adapter	
	Adapter:	1. Model : SOY-1200200-068 2. Model: 2AAJ024FC 3. Model: 2ABL024F US

WLAN

Wi-Fi	Frequency Range (MHz)	Channels	Peak / Average Rated Power	Modulation Technology
802.11a	5150 – 5350(NII)	8	16.52dBm (AV)	OFDM
	5470 – 5725(NII)	11	15.79dBm (AV)	
	5725 – 5850(NII)	5	15.83dBm (AV)	
802.11n(5G)	HT20 5150 – 5350(NII)	8	16.33dBm (AV)	
	HT20 5470 – 5725(NII)	11	15.68dBm (AV)	
	HT20 5725 – 5850(NII)	5	15.52 dBm (AV)	
	HT40 5150 – 5350(NII)	7	13.00dBm (AV)	
	HT40 5470 – 5725(NII)	10	15.28dBm (AV)	
	HT40 5725 – 5850(NII)	2	15.66dBm (AV)	
	VHT20 5150 – 5350(NII)	8	16.28dBm (AV)	
	VHT20 5470 – 5725(NII)	11	15.69dBm (AV)	
	VHT20 5725 – 5850(NII)	5	15.59 dBm (AV)	
	VHT40 5150 – 5350(NII)	7	13.13dBm (AV)	
	VHT40 5470 – 5725(NII)	10	14.99dBm (AV)	
	VHT40 5725 – 5850(NII)	2	15.95dBm (AV)	
802.11ac	HT80 5150 – 5350(NII)	2	12.6dBm (AV)	
	HT80 5470 – 5725(NII)	2	15.02dBm (AV)	
	HT80 5725 – 5850(NII)	1	15.85dBm (AV)	
Modulation type		CCK, DQPSK, DBPSK for DSSS 256QAM.64QAM. 16QAM, QPSK, BPSK for OFDM		
Antenna Designation		PCB Antenna WiFi 5G Antenna UNII-1: 4.93 dBi WiFi 5G Antenna UNII-2A : 4.93 dBi WiFi 5G Antenna UNII-2C : 4.57 dBi WiFi 5G Antenna UNII-3 : 4.66 dBi According to KDB662911 D01 SM-MIMO signals could be considered uncorrelated for purposes of directional gain computation. Directional gain = G_{ANT}		

The EUT is compliance with IEEE 802.11 a/b/g/n/ac Standard.
This report applies for Wifi frequency band5150 MHz– 5350 MHz, 5470MHz – 5725MHz, 5725 MHz– 5850 MHz

Remark: The above DUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.2. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID: 2AR42APPC7XPL** filing to comply with Section 15.407 of the FCC Part 15, Subpart E Rules.

1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.10: 2013. Radiated testing was performed at an antenna to EUT distance 3 meters.

KDB Document: 789033 D02 General U-NII Test Procedures New Rules v02r01

FCC 14-30 Revision UNII

594280 D02 U-NII Device Security v01r03

1.4. Test Facility

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of International Standards Laboratory Corp. <LT Lab.> No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist., Tao Yuan City 325, Taiwan which are constructed and calibrated to meet the FCC requirements in documents ANSI C63.10: 2013. FCC Registration Number is: 487532; Designation Number is: TW0997.

1.5. Special Accessories

Not available for this EUT intended for grant.

1.6. Equipment Modifications

Not available for this EUT intended for grant.

2. System Test Configuration

2.1. EUT Configuration

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

2.2. EUT Exercise

The EUT (Transmitter) was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements.

2.3. Test Procedure

2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 6 of ANSI C63.10: 2013. Con-ducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR 16-1-1 Quasi-Peak and Average detector mode.

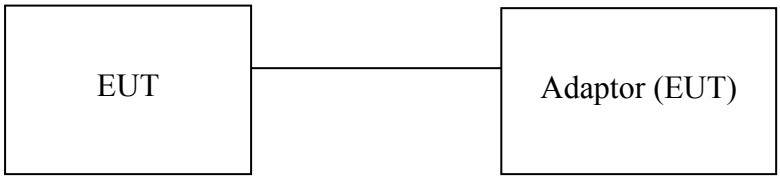
2.3.2 Radiated Emissions

The EUT is a placed on a turntable which is 0.8 m/1.5m (Frequency above 1GHz) above the ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. The EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. To find out the maximum emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made “while keeping the antenna in the ‘cone of radiation’ from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response.” is still within the 3dB illumination BW of the measurement antenna according to the requirements in Section 6, 11 and 12 of ANSI C63.10: 2013.

2.4. Configuration of Tested System

Fig. 2-1 Configuration of Tested System

Radiated Emission



1. Table 1-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1	Adaptor (EUT)	Shenzhen SOY Techology Co.,LTD	SOY-1200200-068	NA	NA	3M

Note: All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

Grounding: Grounding was in accordance with the manufacturer's requirements and conditions for the intended use.

2.5. Duty Cycle

If duty cycle of test signal is ≥ 98 %, duty factor is not required.

If duty cycle of test signal is < 98 %, duty factor shall be considered.

The output power = measured power + duty factor.

Mode	ON time (ms)	Total time (ms)	Duty Cycle	Duty Factor	1/Ton (kHz)	VBW for average detector (kHz)
a	1.386	1.439	96.335%	0.16	0.721	1
HT20	1.288	1.341	96.068%	0.17	0.776	1
HT40	0.630	0.690	91.304%	0.40	1.587	2
VHT20	1.300	1.355	95.941%	0.18	0.769	1
VHT40	0.630	0.695	90.647%	0.43	1.587	2
VHT80	0.299	0.367	81.379%	0.89	3.345	5

3. Summary of Test Results

FCC Rules	Description Of Test	Result
§15.207	AC Power Line Conducted Emission	Compliant
§15.407(a)(2)	Output Power/ EIRP/ Spectral Density Measurement	Compliant
§15.407(a)	26dB Emission Bandwidth	Compliant
§15.407(e)	6dB Emission Bandwidth	Compliant
§15.407(b)	Undesirable Emission – Radiated Measurement	Compliant
§15.407(c)	Transmission in case of Absence of Information	Compliant
§15.407(a)	Antenna Requirement	Compliant
§15.407(d)	TPC and DFS Measurement	Compliant
§15.407(i)	Device Security	Compliant

4. Description of Test Modes

The EUT has been tested under operating condition.
Test program used to control the EUT for staying in continuous transmitting mode is programmed.

5150MHz-5350MHz:
802.11a mode: Channel low (5180MHz), mid (5260MHz) and high (5320MHz) with 6Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 n HT20: Channel low (5180MHz), mid (5260MHz) and high (5320MHz) with 6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 n HT40: Channel low (5190MHz), mid (5230MHz) and high (5310MHz) with 13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT20: Channel low (5180MHz), mid (5260MHz) and high (5320MHz) with 6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT40: Channel low (5190MHz), mid (5230MHz) and high (5310MHz) with 13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT80: Channel low (5210MHz) and high (5290MHz) with 13.5Mbps lowest data rate is chosen for pre-test testing of radiated emissions.

5470MHz-5725MHz:
802.11a mode: Channel low (5500MHz), mid (5600MHz) and high (5700MHz) with 6Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 n HT20: Channel low (5500MHz), mid (5600MHz) and high (5700MHz) with 6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 n HT40: Channel low (5510MHz), mid (5550MHz) and high (5670MHz) with 13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT20: Channel low (5500MHz), mid (5600MHz) and high (5700MHz) with 6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT40: Channel low (5510MHz), mid (5550MHz) and high (5670MHz) with 13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT80: Channel low (5530MHz) and high (5610MHz) with 13.5Mbps lowest data rate is chosen for pre-test testing of radiated emissions.

5725MHz-5850MHz:
802.11a mode: Channel low (5745MHz), mid (5785MHz) and high (5825MHz) with 6Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 n HT20: Channel low (5745MHz), mid (5785MHz) and high (5825MHz) with 6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 n HT40: Channel low (5755MHz) and high (5795MHz) with 13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT20: Channel low (5745MHz), mid (5785MHz) and high (5825MHz) with 6.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT40: Channel low (5755MHz) and high (5795MHz) with 13.5Mbps lowest data rate are chosen for pre-test testing of radiated emissions.
802.11 ac VHT80: Channel (5775MHz) with 13.5Mbps lowest data rate is chosen for pre-test testing of radiated emissions.

5. Conduced Emission Test

5.1. Standard Applicable

According to §15.207, frequency range within 150kHz to 30MHz shall not exceed the Limit table as below.

Frequency range MHz	Limits dB(uV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Note 1.The lower limit shall apply at the transition frequencies 2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

5.2. Measurement Equipment Used:

Location	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conduction 03	EMI Receiver 15	ROHDE & SCHWARZ	ESCI	101166	07/29/2020	07/29/2021
Conduction 03	ISN T4 09	Teseq GmbH	ISN T400A	49914	08/10/2020	08/10/2021
Conduction 03	ISNT8 09	Teseq GmbH	ISN T800	36190	09/20/2020	09/20/2021
Conduction 03	LISN 15	R&S	ENV216	101335	12/12/2020	12/12/2021
Conduction 03	LISN 22	R&S	ENV216	101478	08/10/2020	08/10/2021
Conduction 03	Conduction 04-3 Cable	WOKEN	CFD 300-NL	conduction 04-3	08/29/2020	08/29/2021
Conduction 03	Capacitive Voltage Probe	FCC	F-CVP-1	68	01/17/2020	01/17/2021
Conduction 03	Current Probe	SCHAFFNER	SMZ 11	18030	01/17/2020	01/17/2021

5.3. EUT Setup:

1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.10: 2013
2. The AC/DC Power adaptor of EUT was plug-in LISN. The EUT was placed flushed with the rear of the table.
3. The LISN was connected with 120Vac/60Hz power source.

5.4. Measurement Procedure:

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.
4. Both 120V & 240V have been verified, and 120V/60Hz was defined as the worst-case and record in the report.

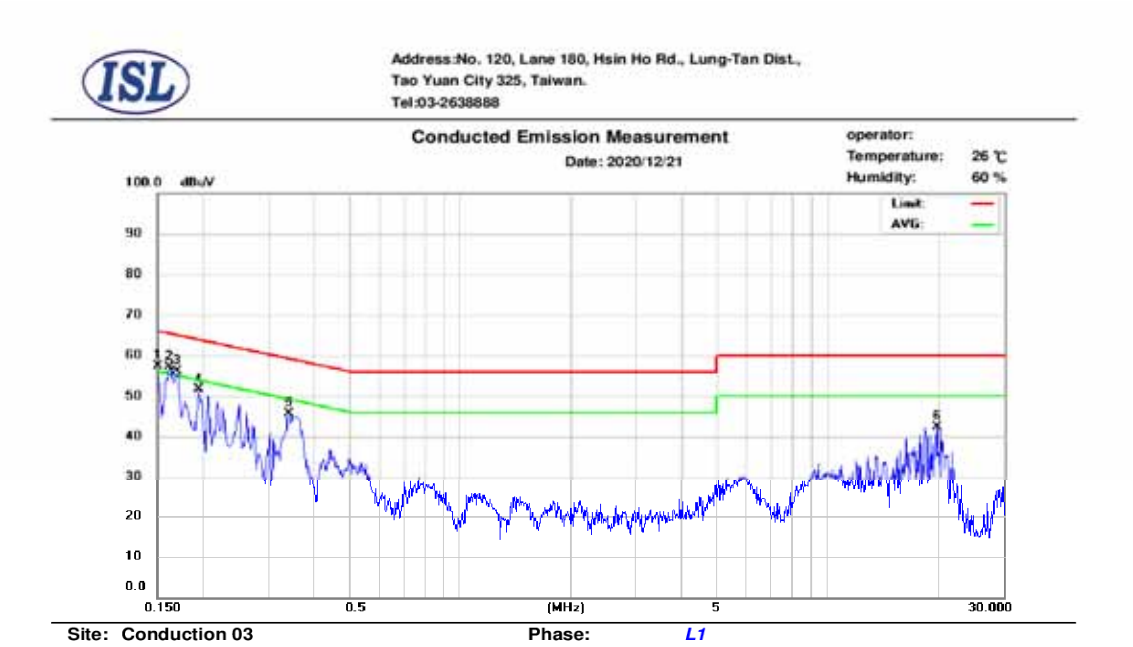
5.5. Measurement Result:

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

Note: Refer to next page for measurement data and plots.

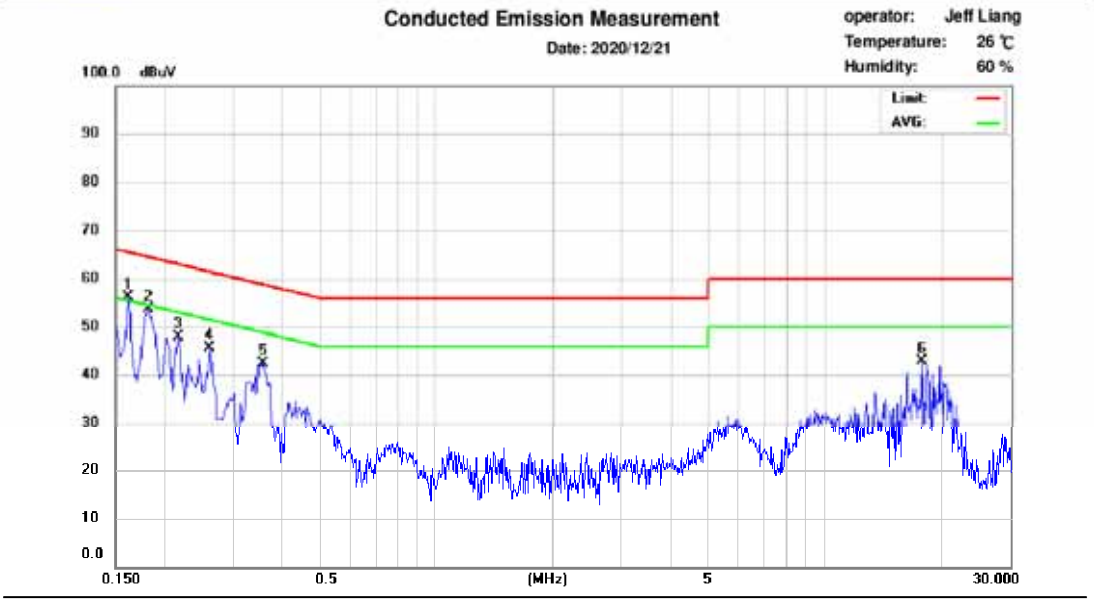
AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	Normal Operation	Worst Case	Adapter module : SOY-1200200-068



No.	Frequency (MHz)	QP_R (dBuV)	AVG_R (dBuV)	Correct Factor (dB)	QP Emission (dBuV)	QP Limit (dBuV)	QP Margin (dB)	AVG Emission (dBuV)	AVG Limit (dBuV)	AVG Margin (dB)
1	0.150	44.59	26.99	9.71	54.30	66.00	-11.70	36.70	56.00	-19.30
2	0.162	44.32	30.70	9.70	54.02	65.36	-11.34	40.40	55.36	-14.96
3	0.170	40.53	26.59	9.70	50.23	64.96	-14.73	36.29	54.96	-18.67
4	0.196	36.96	22.54	9.70	46.66	63.80	-17.14	32.24	53.80	-21.56
5	0.342	32.44	21.53	9.70	42.14	59.15	-17.01	31.23	49.15	-17.92
6	19.710	31.44	29.06	9.98	41.42	60.00	-18.58	39.04	50.00	-10.96

Address:No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist.,
Tao Yuan City 325, Taiwan.
Tel:03-2638888



Site: Conduction 03 Phase: *N*

No.	Frequency (MHz)	QP_R (dBuV)	AVG_R (dBuV)	Correct Factor (dB)	QP Emission (dBuV)	QP Limit (dBuV)	QP Margin (dB)	AVG Emission (dBuV)	AVG Limit (dBuV)	AVG Margin (dB)
1	0.162	43.36	28.85	9.71	53.07	65.36	-12.29	38.56	55.36	-16.80
2	0.182	39.66	24.27	9.70	49.36	64.39	-15.03	33.97	54.39	-20.42
3	0.218	34.58	20.84	9.71	44.29	62.89	-18.60	30.55	52.89	-22.34
4	0.262	30.49	18.30	9.71	40.20	61.37	-21.17	28.01	51.37	-23.36
5	0.358	31.58	24.31	9.70	41.28	58.77	-17.49	34.01	48.77	-14.76
6	17.694	31.29	28.49	10.02	41.31	60.00	-18.69	38.51	50.00	-11.49

6. OUTPUT POWER / EIRP /SPECTRAL DENSITY MEASUREMENT

6.1. Standard Applicable

According to §15.407(a) Power limits:

(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15 – 5.25 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. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15 – 5.25 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. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz 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.

(iii) For fixed point-to-point access points operating in the band 5.15 – 5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable 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 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz 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.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBiare 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.

(3) 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. 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

6.2. Measurement Procedure

For Output Power

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter
3. Record the max. reading.
4. Repeat above procedures until all frequency measured were complete.

For Power Spectral Density

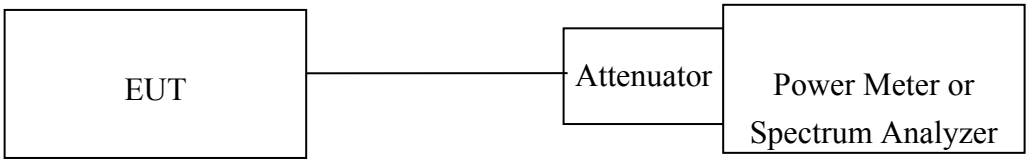
1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
3. Set RBW=1MHz,VBW=3MHz, Span=50MHz (Base Mode), Sweep time = Auto, traces 100 sweeps of video averaging for 5150-5725MHz;
4. Set RBW=500kHz,VBW=1.5MHz, Span=60MHz (Base Mode), Sweep time = Auto, traces 100 sweeps of video averaging for 5725-5850MHz;
5. Record the max. reading.
6. Repeat above procedures until all frequency measured were complete.

Refer to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

6.3. Measurement Equipment Used:

Location Conducted	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conducted	Power Meter	Anritsu	ML2495A	1116010	09/25/2020	09/25/2021
Conducted	Power Sensor	Anritsu	MA2411B	34NKF50	09/25/2020	09/25/2021
Conducted	Power Sensor	DARE	RPR3006W	13I00030SNO33	01/04/2021	01/04/2022
Conducted	Power Sensor	DARE	RPR3006W	13I00030SNO34	01/04/2021	01/04/2022
Conducted	Power Sensor	DARE	RPR3006W	14I00889SNO35	06/29/2020	06/29/2021
Conducted	Power Sensor	DARE	RPR3006W	14I00889SNO36	06/29/2020	06/29/2021
Conducted	Temperature Chamber	KSON	THS-B4H100	2287	03/11/2020	03/11/2021
Conducted	DC Power supply	ABM	8185D	N/A	01/05/2021	01/05/2022
Conducted	AC Power supply	EXTECH	CFC105W	NA	N/A	N/A
Conducted	Spectrum analyzer	Keysight	N9010A	MY56070257	09/23/2020	09/23/2021
Conducted	Test Software	DARE	Radiation Ver:2013.1.23	NA	NA	NA
Conducted	Test Software	R&S	CMUGO Ver:2.0.0	N/A	N/A	N/A
Conducted	Universal Digital Radio Communication Tester	R&S	CMU200	111968	11/29/2020	11/29/2021
Conducted	Wideband Radio Communication Tester	R&S	CMW500	1201.002K50108 793-JG	10/28/2020	10/28/2021
Conducted	BT Simulator	Agilent	N4010A	MY48100200	NA	NA
Conducted	GPS Simulator	Welnavigate	GS-50	701523	NA	NA

6.4. Measurement Equipment Used:



6.5. Measurement Result

According to §15.407(a)

(iv) 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 6 dBi.

Mode	Freq. (MHz)	Output Power (dBm)				Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3			
11a	5180	16.36				0.16	16.52	23.98
	5200	16.12				0.16	16.28	23.98
	5240	16.29				0.16	16.45	23.98
HT20	5180	16.01				0.17	16.18	23.98
	5200	16.03				0.17	16.20	23.98
	5240	15.88				0.17	16.05	23.98
HT40	5190	12.42				0.40	12.82	23.98
	5230	12.34				0.40	12.74	23.98
VHT20	5180	16.1				0.18	16.28	23.98
	5200	16.01				0.18	16.19	23.98
	5240	15.89				0.18	16.07	23.98
VHT40	5190	12.62				0.43	13.05	23.98
	5230	12.7				0.43	13.13	23.98
VHT80	5210	11.71				0.89	12.60	23.98

Mode	Freq. (MHz)	Output Power (dBm)				Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3			
11a	5260	15.96				0.16	16.12	23.98
	5300	16.03				0.16	16.19	23.98
	5320	16.21				0.16	16.37	23.98
HT20	5260	15.79				0.17	15.96	23.98
	5300	16.1				0.17	16.27	23.98
	5320	16.16				0.17	16.33	23.98
HT40	5270	12.6				0.40	13.00	23.98
	5310	12.58				0.40	12.98	23.98
VHT20	5260	15.82				0.18	16.00	23.98
	5300	15.93				0.18	16.11	23.98
	5320	16.08				0.18	16.26	23.98
VHT40	5270	12.51				0.43	12.94	23.98
	5310	12.54				0.43	12.97	23.98
VHT80	5290	11.67				0.89	12.56	23.98

Mode	Freq. (MHz)	Output Power (dBm)				Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3			
11a	5500	14.88				0.16	15.04	23.98
	5580	14.8				0.16	14.96	23.98
	5700	15.63				0.16	15.79	23.98
HT20	5500	14.44				0.17	14.61	23.98
	5580	14.27				0.17	14.44	23.98
	5700	15.51				0.17	15.68	23.98
HT40	5510	14.2				0.40	14.60	23.98
	5550	14.11				0.40	14.51	23.98
	5670	14.88				0.40	15.28	23.98
VHT20	5500	14.81				0.18	14.99	23.98
	5580	14.55				0.18	14.73	23.98
	5700	15.51				0.18	15.69	23.98
VHT40	5510	14.25				0.43	14.68	23.98
	5550	14.08				0.43	14.51	23.98
	5670	14.56				0.43	14.99	23.98
VHT80	5530	14.03				0.89	14.92	23.98
	5610	14.13				0.89	15.02	23.98

Mode	Freq. (MHz)	Output Power (dBm)				Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3			
11a	5745	15.67				0.16	15.83	30.00
	5785	15.44				0.16	15.60	30.00
	5825	15.43				0.16	15.59	30.00
HT20	5745	15.35				0.17	15.52	30.00
	5785	15.35				0.17	15.52	30.00
	5825	15.01				0.17	15.18	30.00
HT40	5755	15.26				0.40	15.66	30.00
	5795	14.99				0.40	15.39	30.00
VHT20	5745	15.41				0.18	15.59	30.00
	5785	15.4				0.18	15.58	30.00
	5825	15.04				0.18	15.22	30.00
VHT40	5755	15.31				0.43	15.74	30.00
	5795	15.52				0.43	15.95	30.00
VHT80	5775	14.96				0.89	15.85	30.00

Power Spectral Density Measurement:

Band	Mode	Frequency (MHz)	PSD (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			Chain 0	Chain 1	Chain 2	Chain 3			
UNII-1	11a	5180	7.08				0.16	7.24	23.98
		5200	6.73				0.16	6.89	23.98
		5240	6.16				0.16	6.33	23.98
	HT20	5180	6.48				0.17	6.65	23.98
		5200	6.25				0.17	6.42	23.98
		5240	5.84				0.17	6.01	23.98
	HT40	5190	3.03				0.40	3.42	23.98
		5230	2.67				0.40	3.07	23.98
	VHT20	5180	6.72				0.18	6.90	23.98
		5200	6.44				0.18	6.62	23.98
		5240	5.90				0.18	6.08	23.98
	VHT40	5190	3.17				0.43	3.59	23.98
		5230	2.86				0.43	3.28	23.98
	VHT80	5210	0.31				0.89	1.20	23.98

Band	Mode	Frequency (MHz)	PSD (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			Chain 0	Chain 1	Chain 2	Chain 3			
UNII-2A	11a	5260	6.07				0.16	6.23	11.00
		5300	6.57				0.16	6.73	11.00
		5320	6.98				0.16	7.14	11.00
	HT20	5260	5.52				0.17	5.70	11.00
		5300	6.20				0.17	6.37	11.00
		5320	6.43				0.17	6.61	11.00
	HT40	5270	1.90				0.40	2.29	11.00
		5310	2.96				0.40	3.36	11.00
	VHT20	5260	5.77				0.18	5.95	11.00
		5300	6.21				0.18	6.39	11.00
		5320	6.62				0.18	6.80	11.00
	VHT40	5270	2.19				0.43	2.62	11.00
		5310	2.94				0.43	3.37	11.00
	VHT80	5290	-0.23				0.89	0.67	11.00

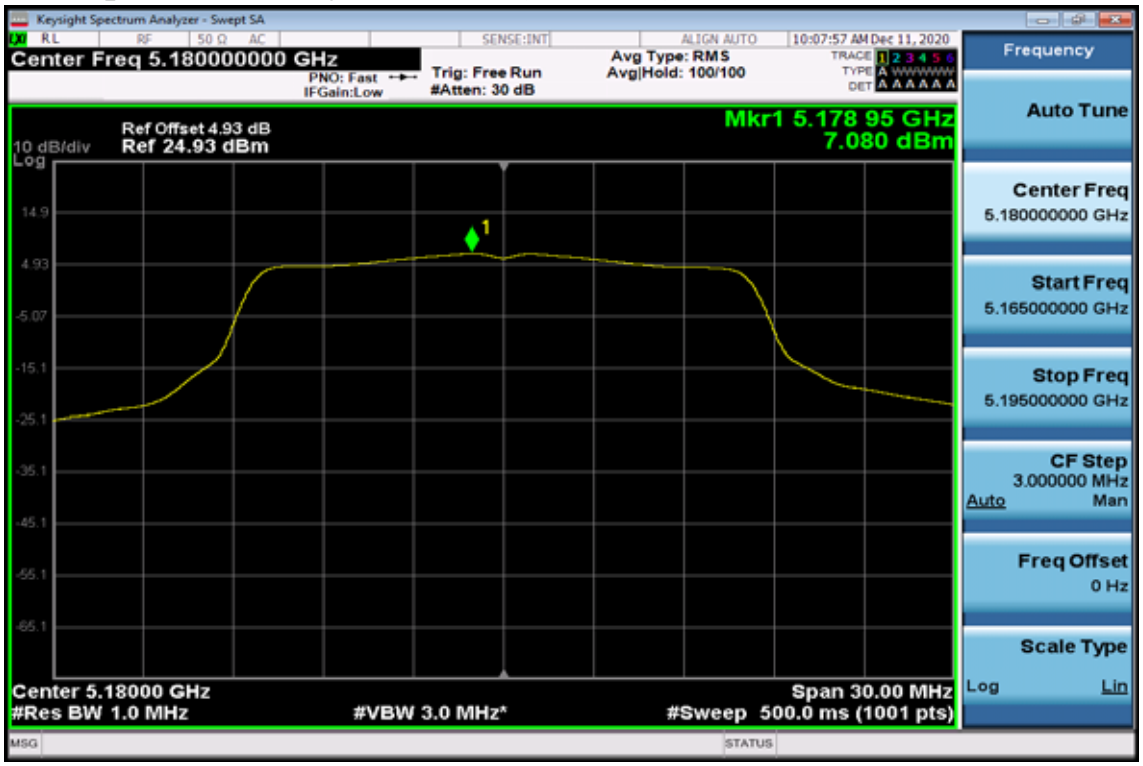
Band	Mode	Frequency (MHz)	PSD (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			Chain 0	Chain 1	Chain 2	Chain 3			
UNII-2C	11a	5500	6.08				0.16	6.24	11.00
		5580	6.33				0.16	6.49	11.00
		5700	7.68				0.16	7.85	11.00
	HT20	5500	5.54				0.17	5.72	11.00
		5580	5.49				0.17	5.67	11.00
		5700	7.06				0.17	7.23	11.00
	HT40	5510	2.46				0.40	2.86	11.00
		5550	2.61				0.40	3.00	11.00
		5670	3.69				0.40	4.09	11.00
	VHT20	5500	5.69				0.18	5.87	11.00
		5580	5.80				0.18	5.98	11.00
		5700	7.24				0.18	7.42	11.00
	VHT40	5510	2.33				0.43	2.75	11.00
		5550	2.55				0.43	2.98	11.00
		5670	3.73				0.43	4.16	11.00
	VHT80	5530	-0.39				0.89	0.50	11.00
		5610	-0.10				0.89	0.79	11.00

Band	Mode	Frequency (MHz)	PSD (dBm/500kHz)				Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)
			Chain 0	Chain 1	Chain 2	Chain 3			
UNII-3	11a	5745	4.20				0.16	4.36	30
		5785	3.85				0.16	4.01	30
		5825	3.53				0.16	3.69	30
	HT20	5745	3.76				0.17	3.94	30
		5785	3.22				0.17	3.40	30
		5825	3.08				0.17	3.25	30
	HT40	5755	0.35				0.40	0.75	30
		5795	0.03				0.40	0.43	30
	VHT20	5745	3.84				0.18	4.02	30
		5785	3.43				0.18	3.61	30
		5825	3.04				0.18	3.22	30
	VHT40	5755	0.51				0.43	0.93	30
		5795	0.12				0.43	0.55	30
	VHT80	5775	-2.53				0.89	-1.63	30

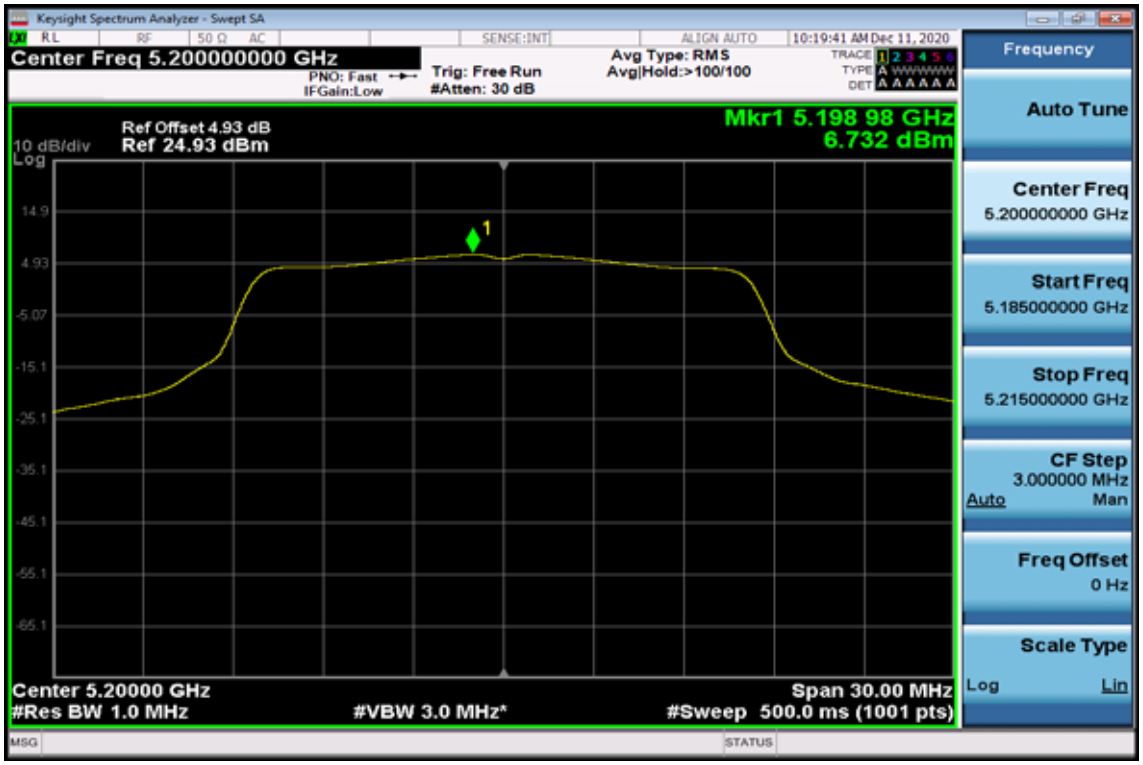
Straddle channels

Band	Mode	Frequency (MHz)	PSD (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)
			Chain 0	Chain 1	Chain 2	Chain 3			
UNII-2C	11a	5720	7.43				0.16	7.59	11.00
	HT20	5720	7.13				0.17	7.30	11.00
	HT40	5710	3.99				0.40	4.38	11.00
	VHT20	5720	7.13				0.18	7.31	11.00
	VHT40	5710	3.97				0.43	4.39	11.00
	VHT80	5690	1.09				0.89	1.98	11.00

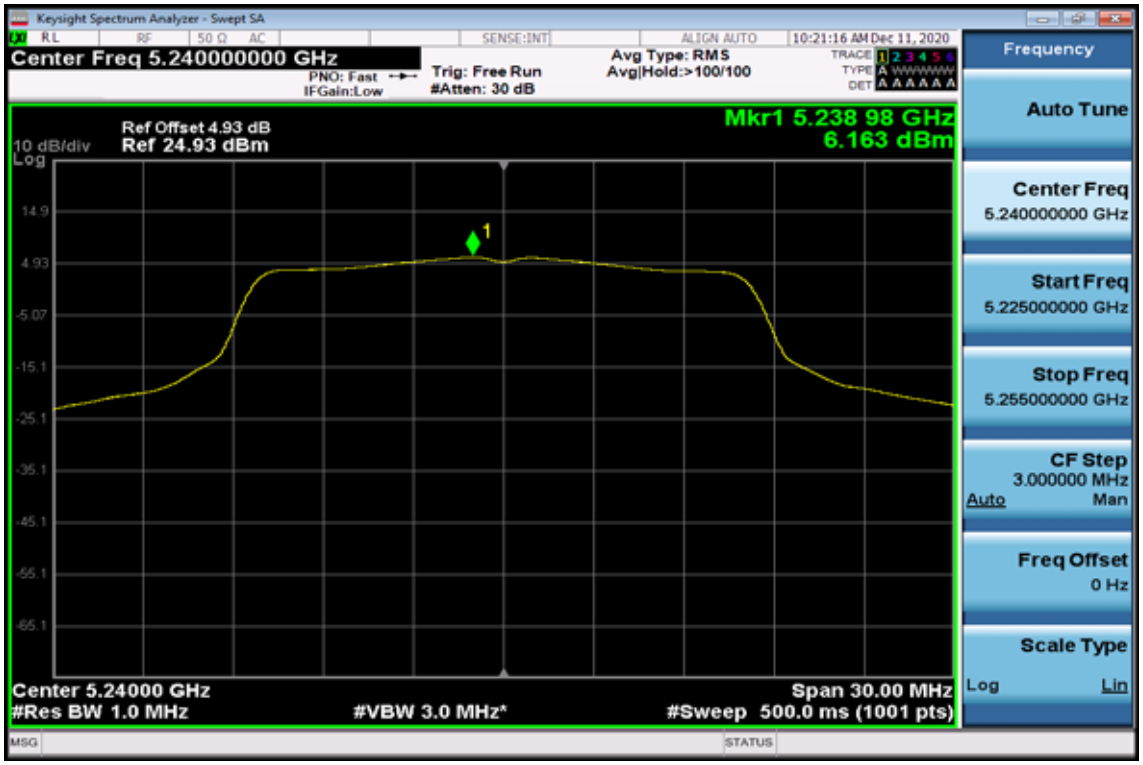
Band UNII-1
802.11a
Power Spectral Density Data Plot (CH Low)



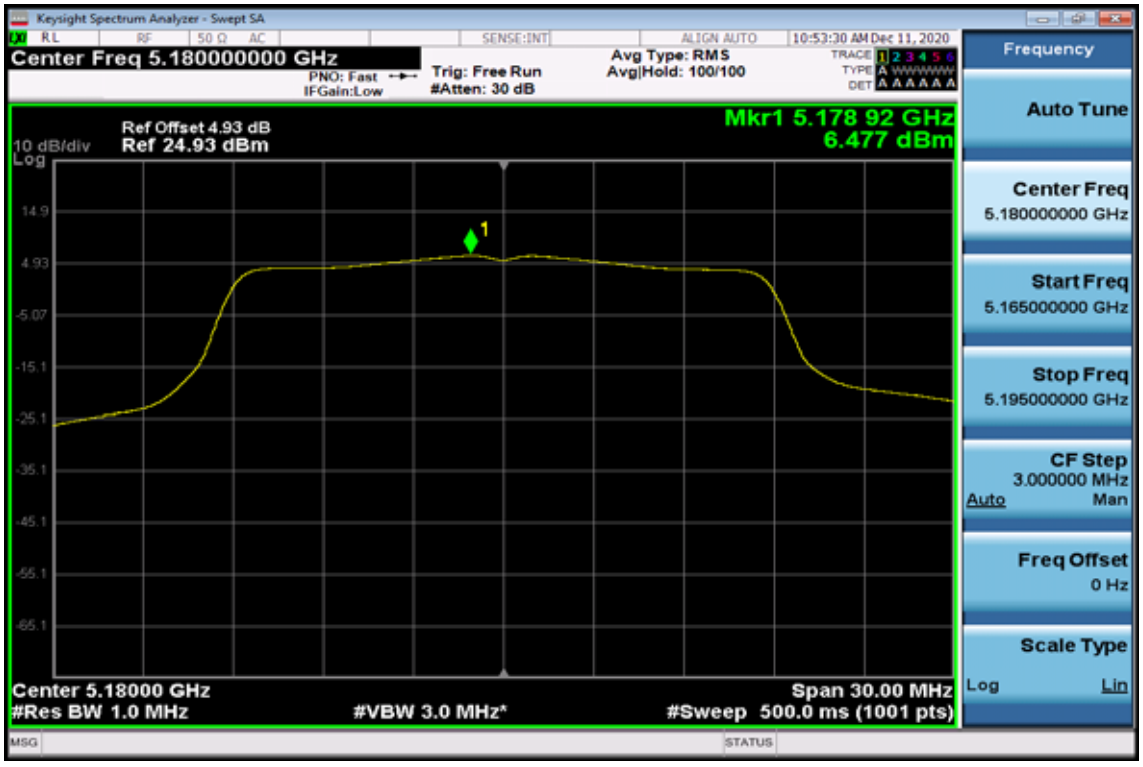
Power Spectral Density Data Plot (CH Mid)



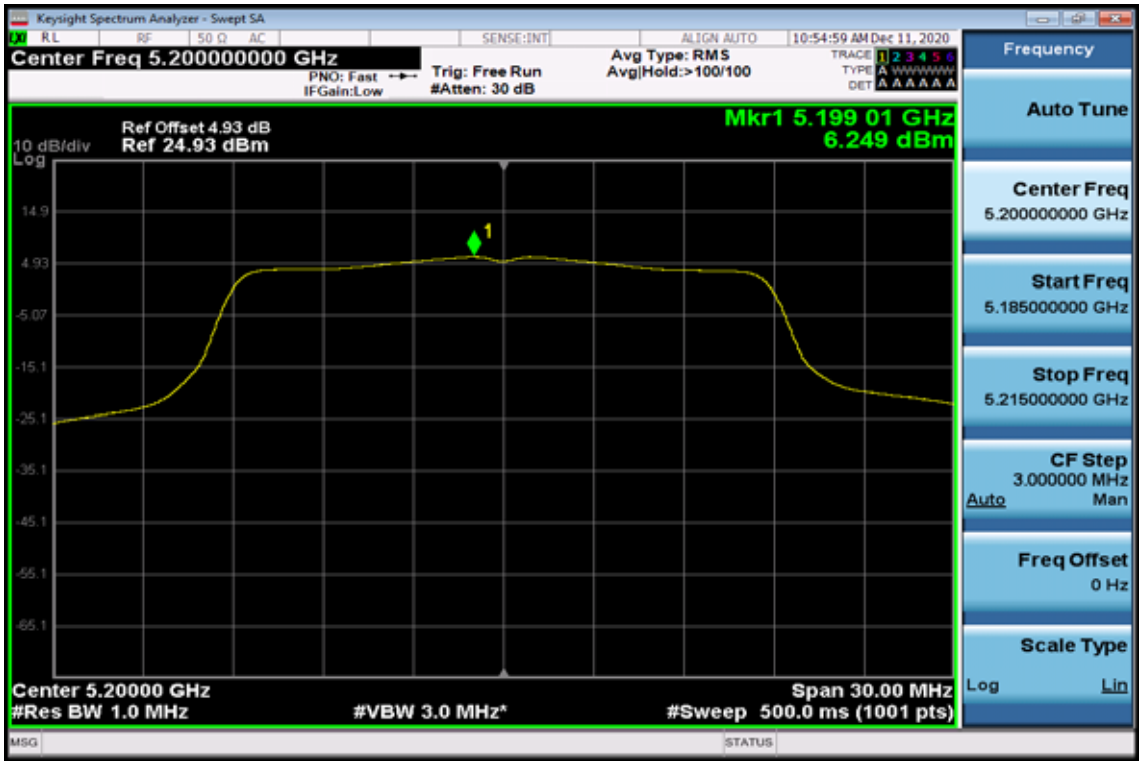
Power Spectral Density Data Plot (CH High)



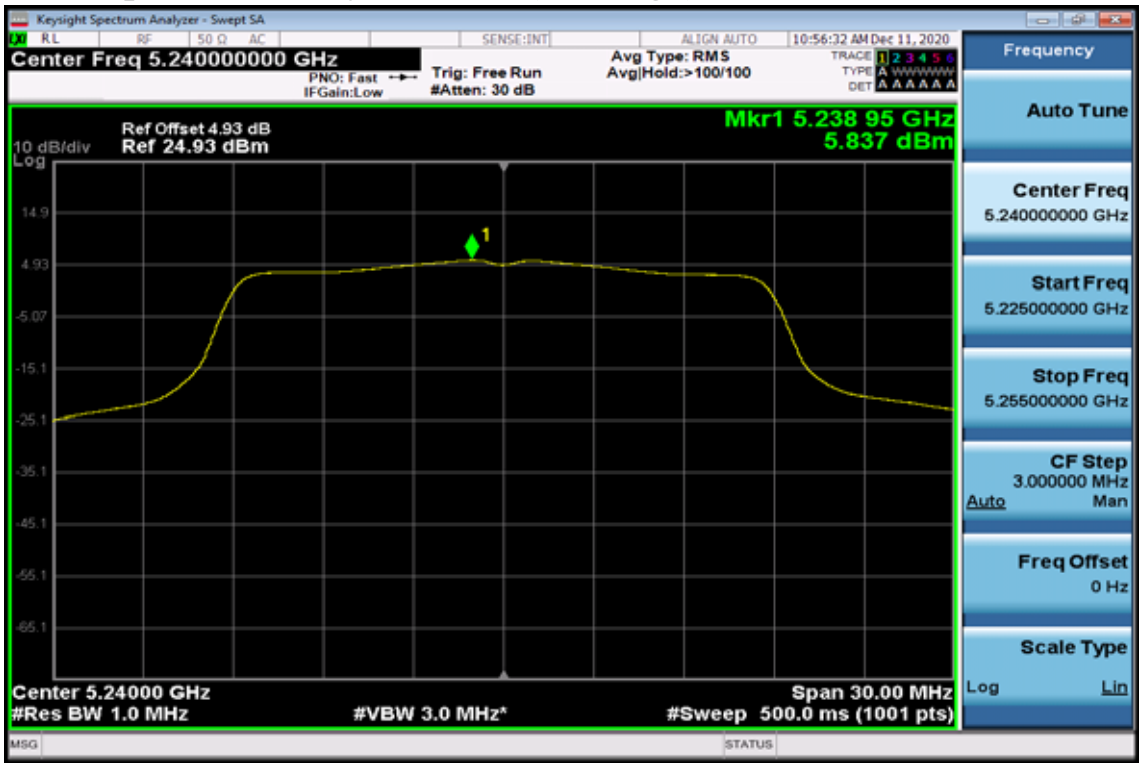
802.11n HT20,
Power Spectral Density Test Plot (CH-Low)



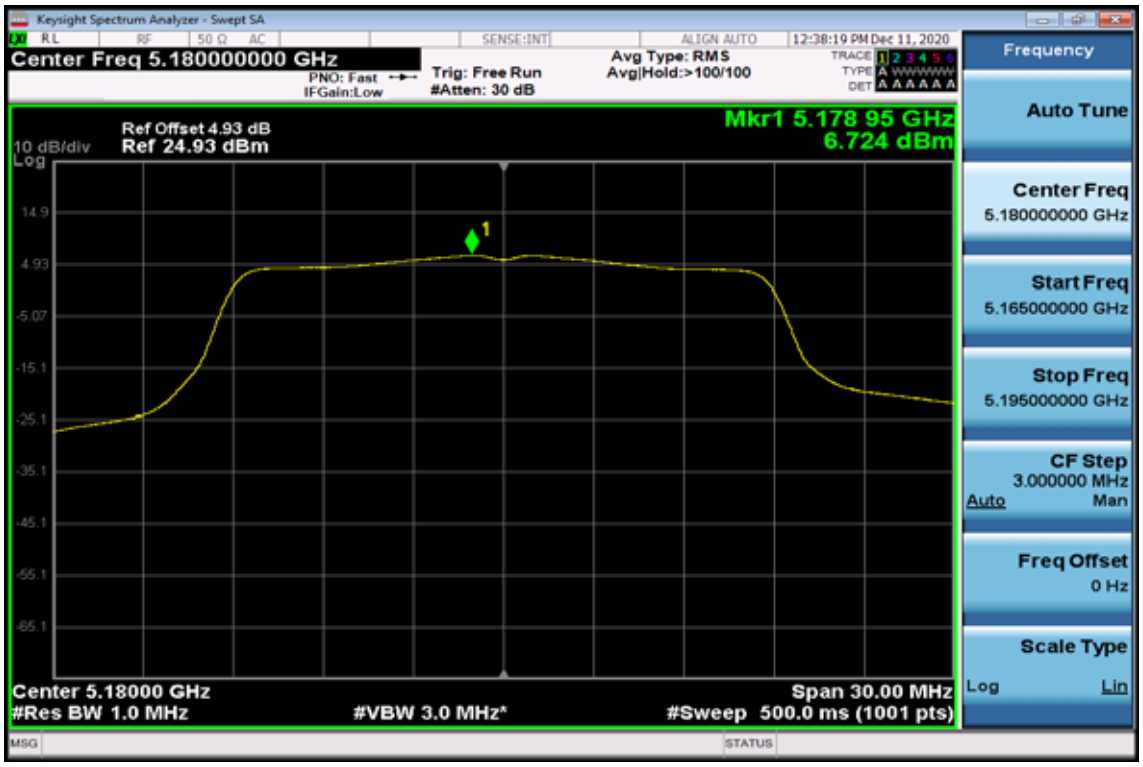
Power Spectral Density Test Plot (CH-Mid)



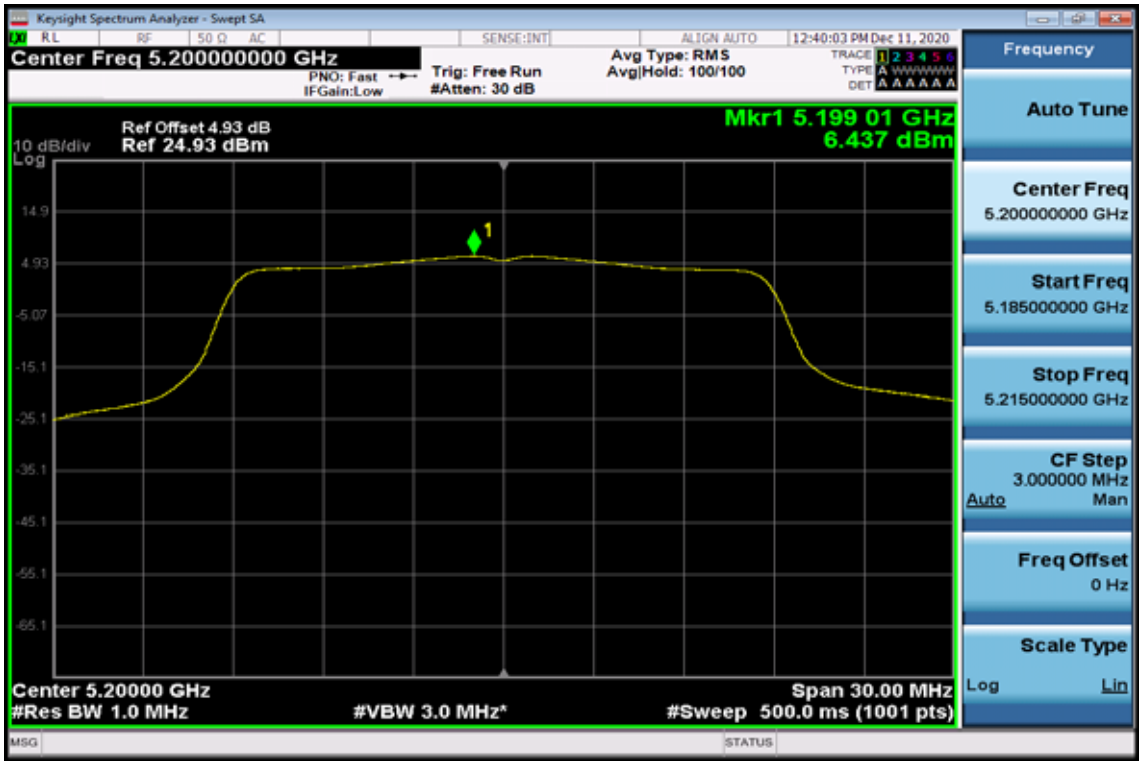
Power Spectral Density Test Plot (CH-High)



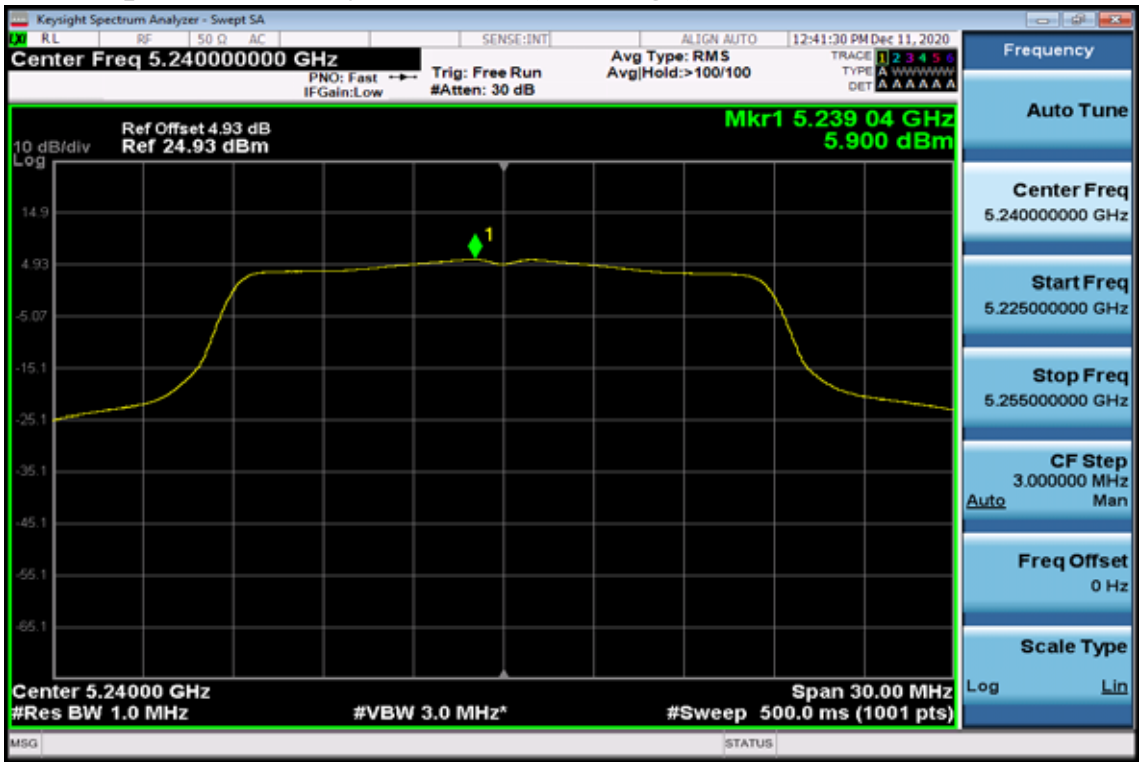
802.11ac VHT20,
Power Spectral Density Test Plot (CH-Low)



Power Spectral Density Test Plot (CH-Mid)



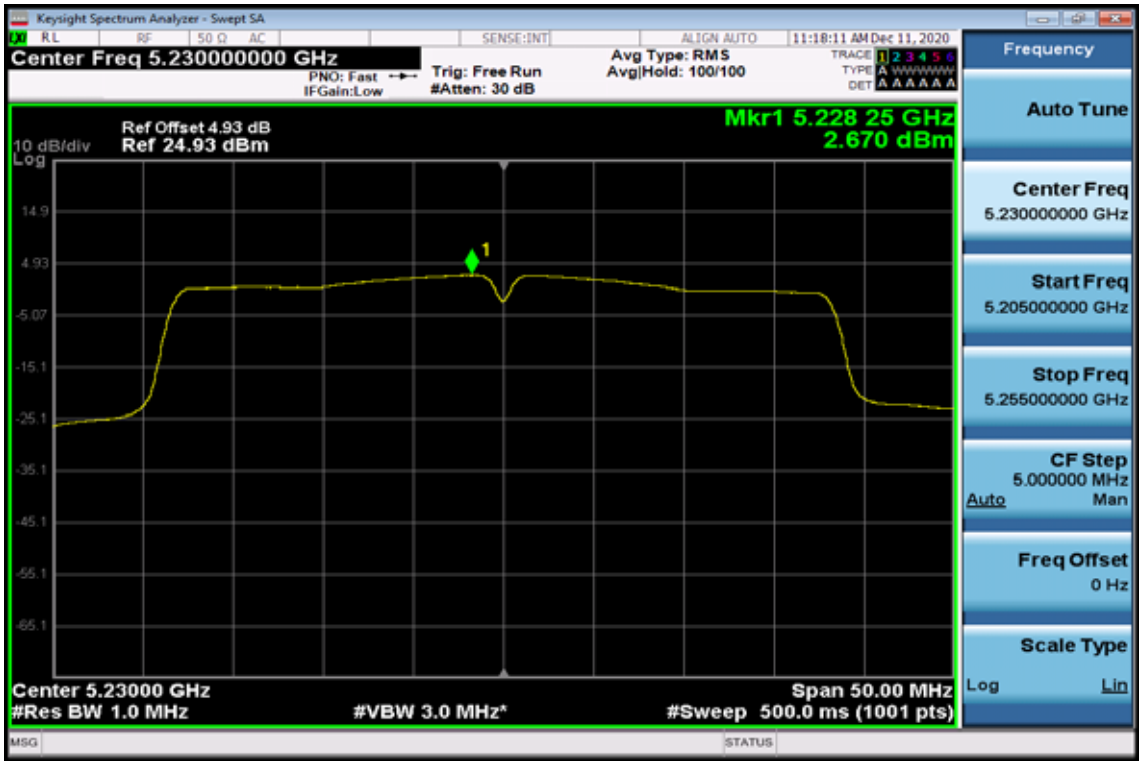
Power Spectral Density Test Plot (CH-High)



802.11n HT40

Power Spectral Density Test Plot (CH-Low)

Power Spectral Density Test Plot (CH-High)



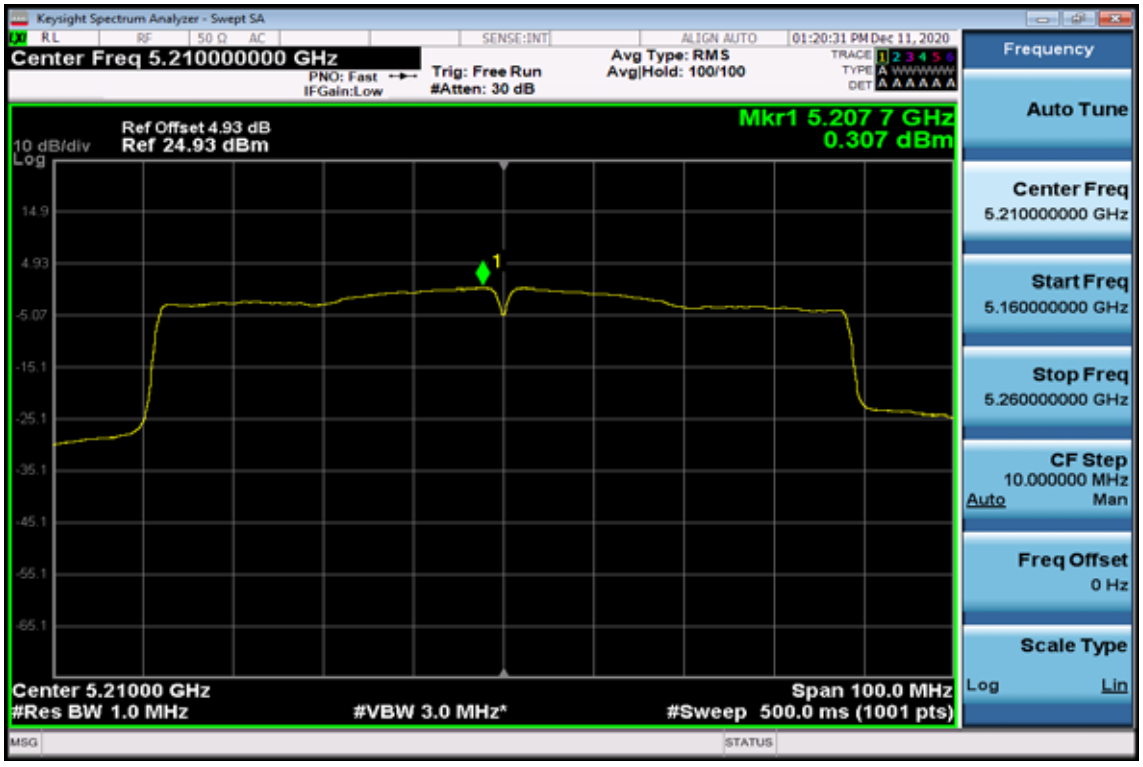
802.11ac VHT40

Power Spectral Density Test Plot (CH-Low)

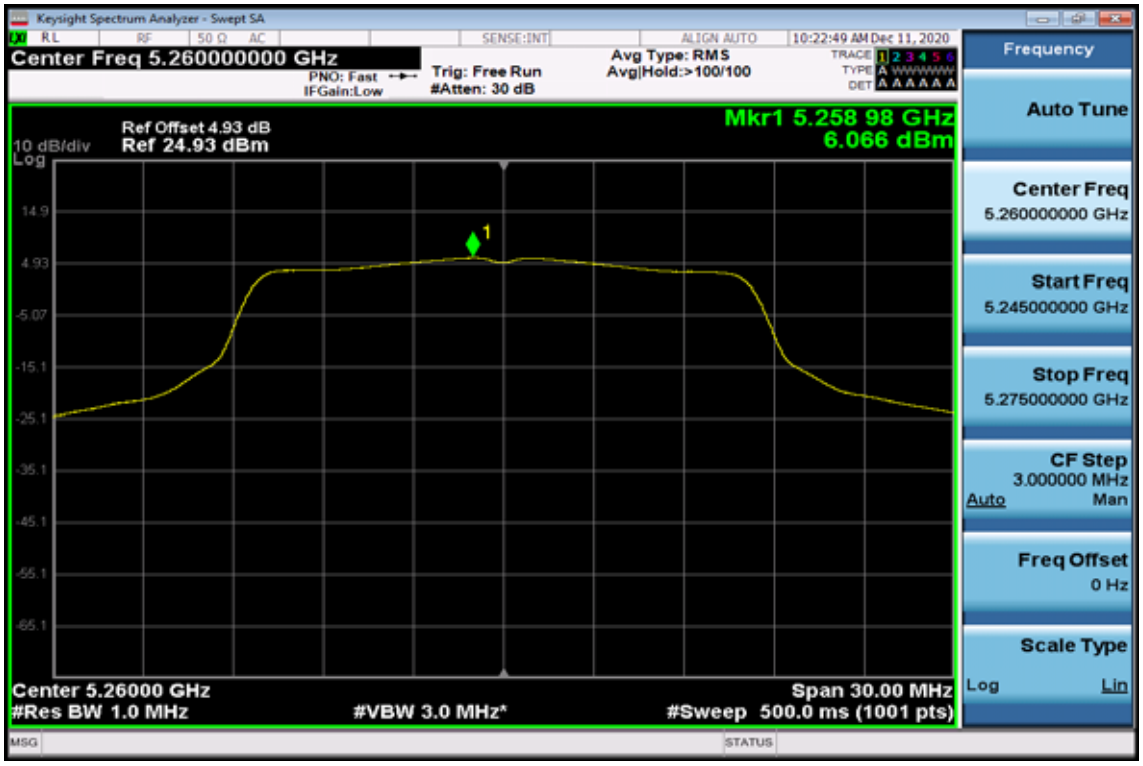
Power Spectral Density Test Plot (CH-High)

802.11 ac VHT80

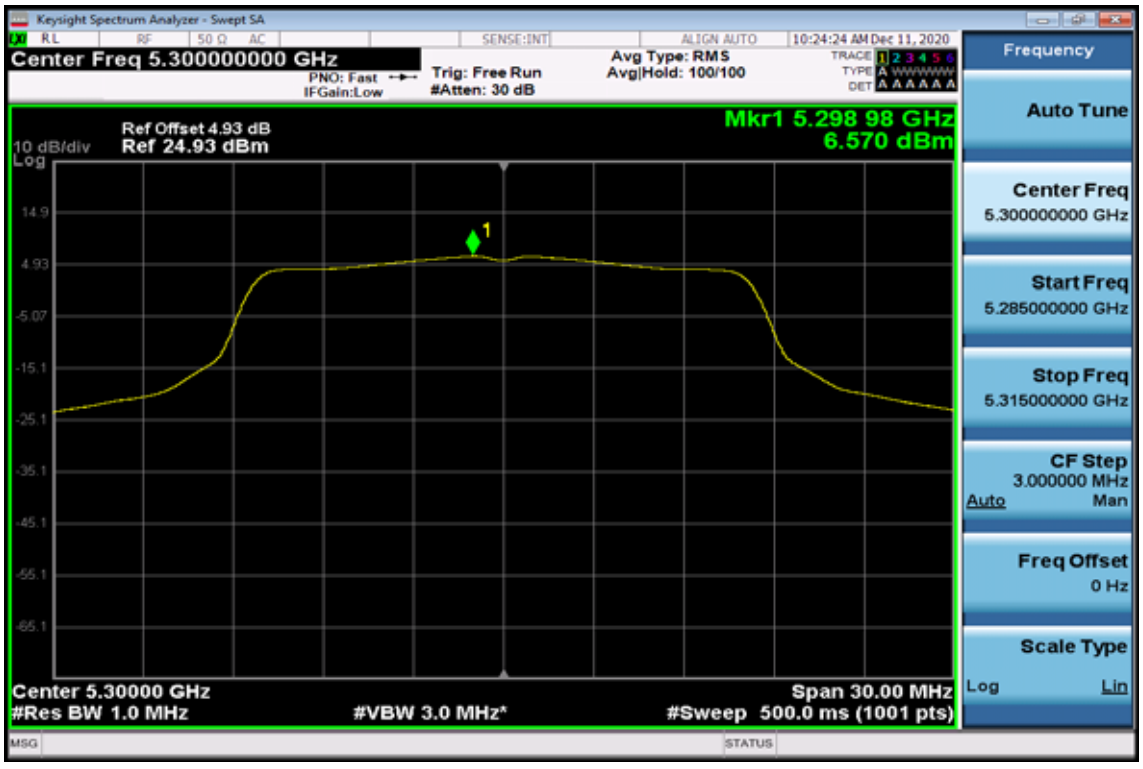
Power Spectral Density Test Plot (CH-Low)



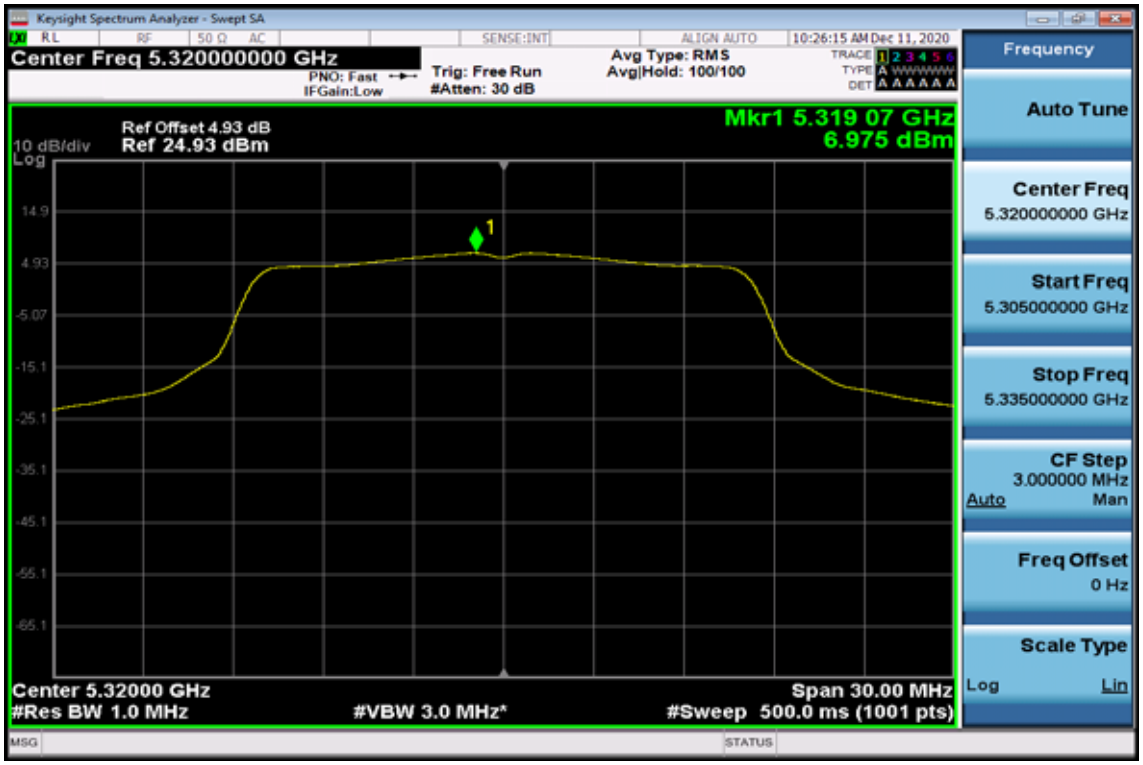
Band UNII-2A
802.11a
Power Spectral Density Data Plot (CH Low)



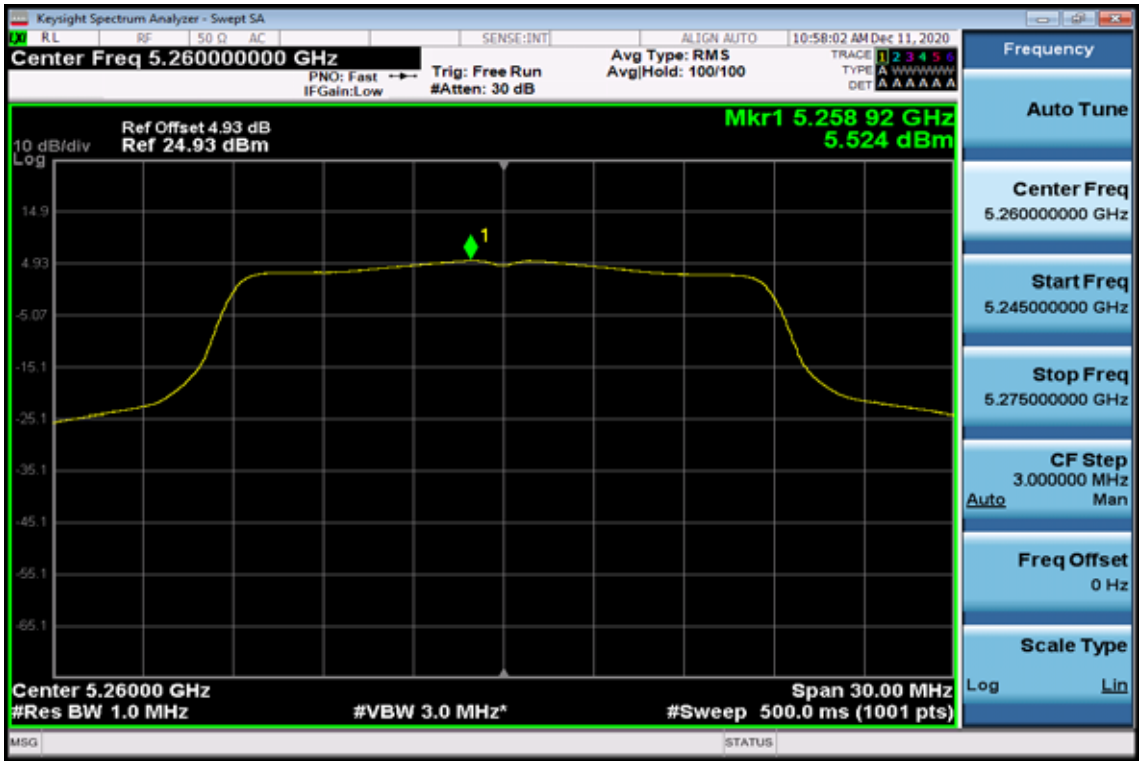
Power Spectral Density Data Plot (CH Mid)



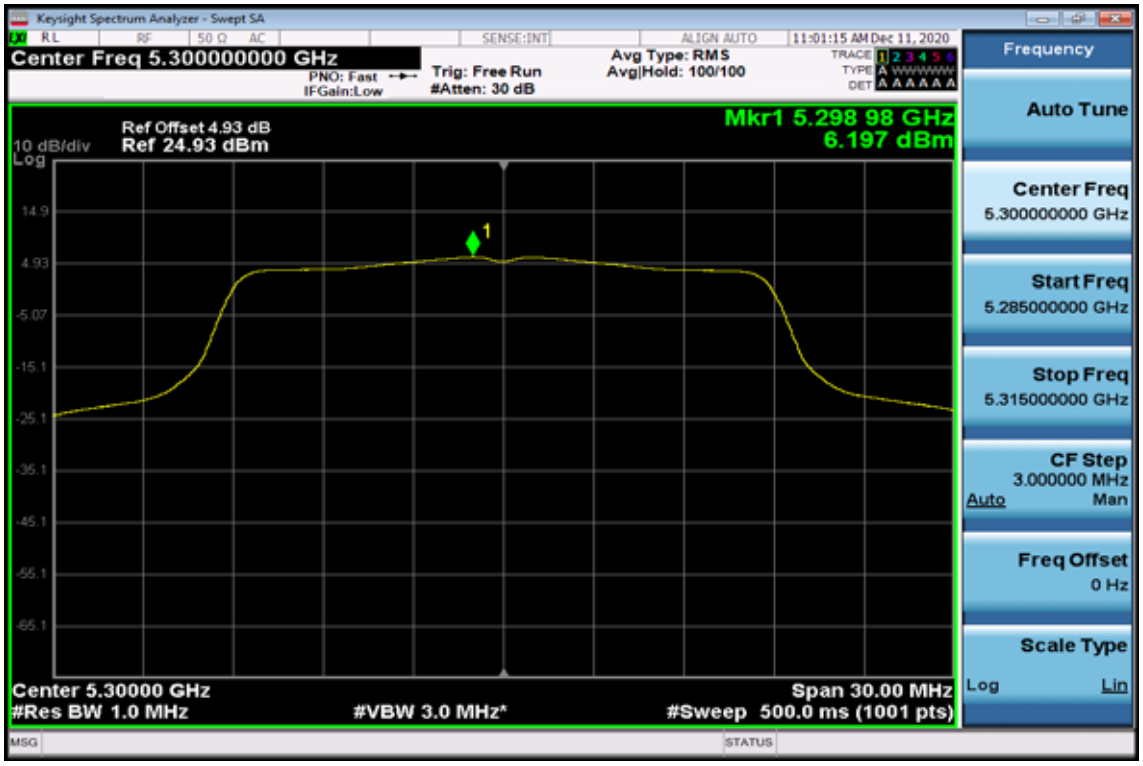
Power Spectral Density Data Plot (CH High)



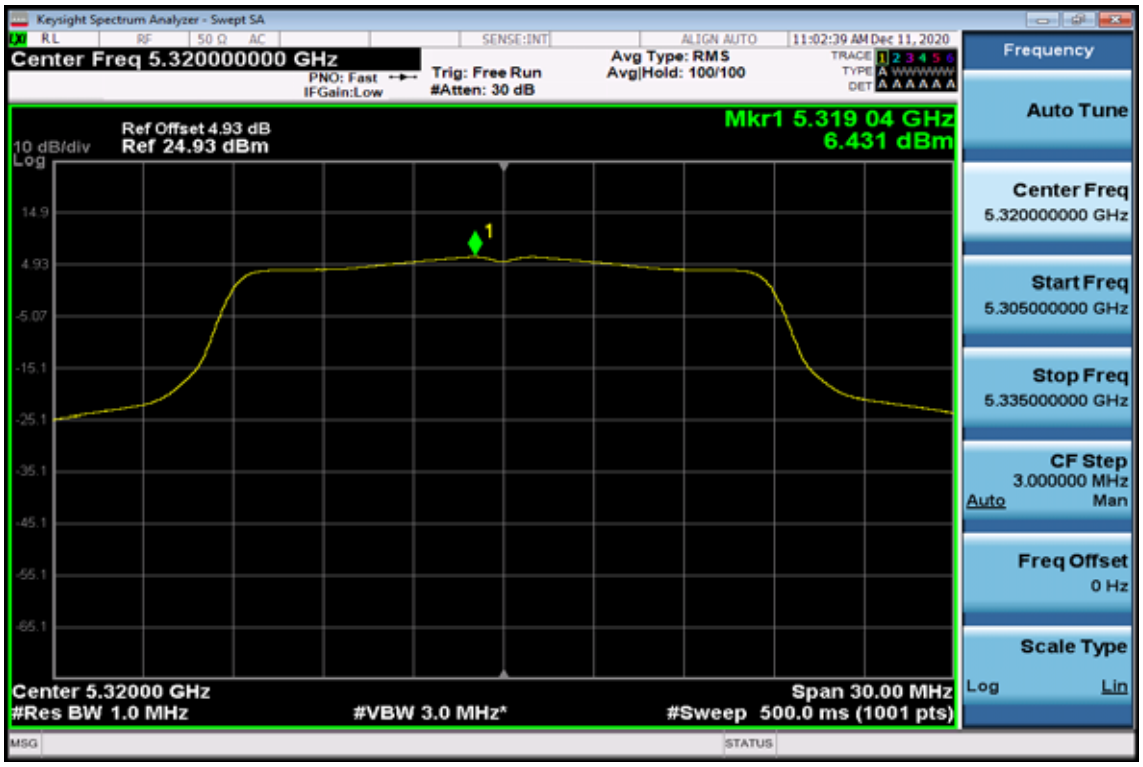
802.11n HT20,
Power Spectral Density Test Plot (CH-Low)



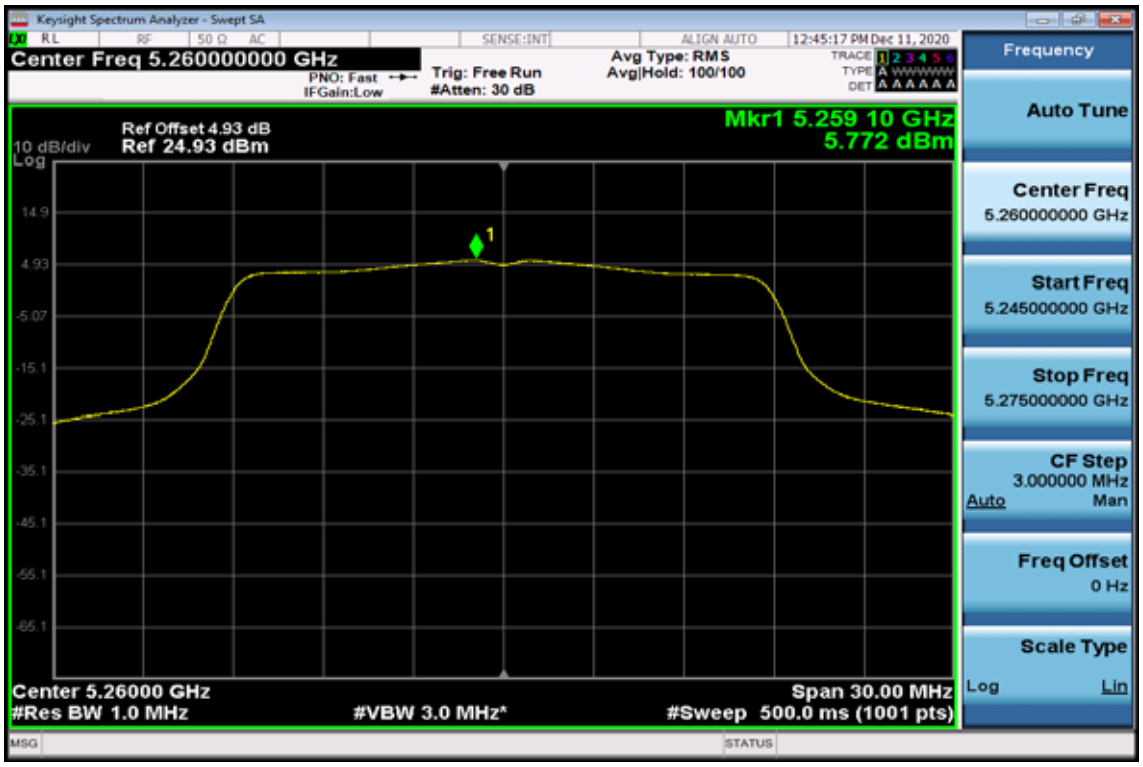
Power Spectral Density Test Plot (CH-Mid)



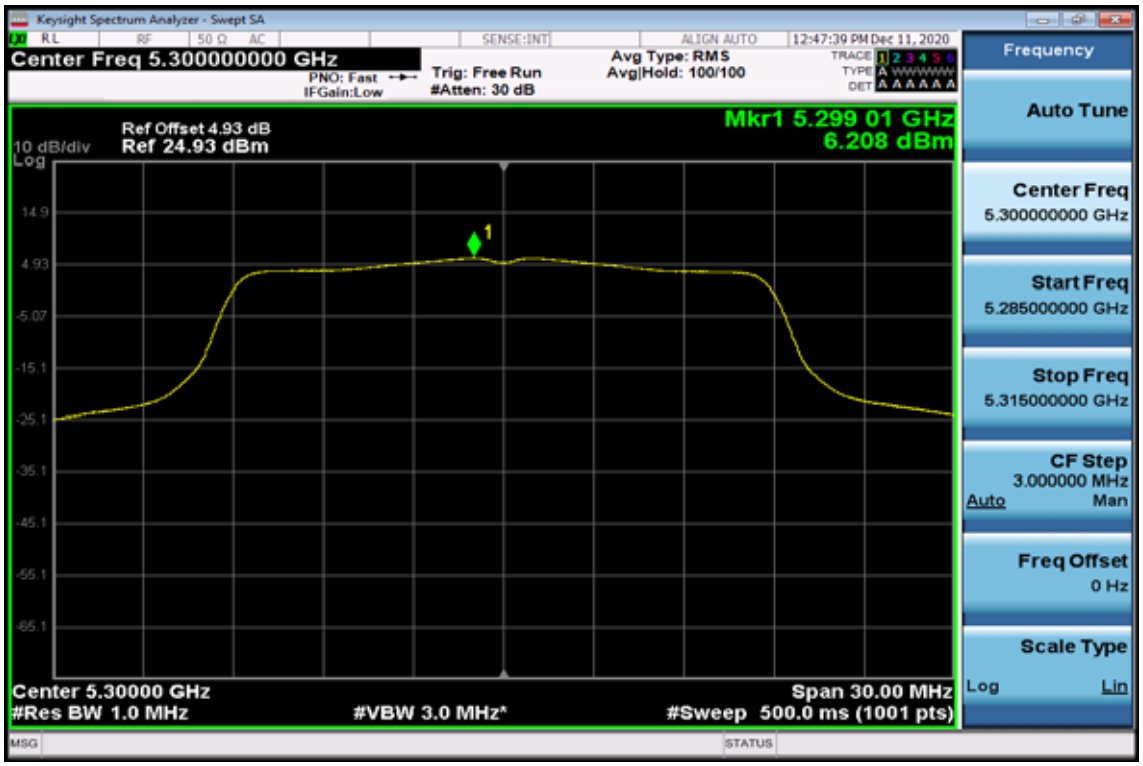
Power Spectral Density Test Plot (CH-High)



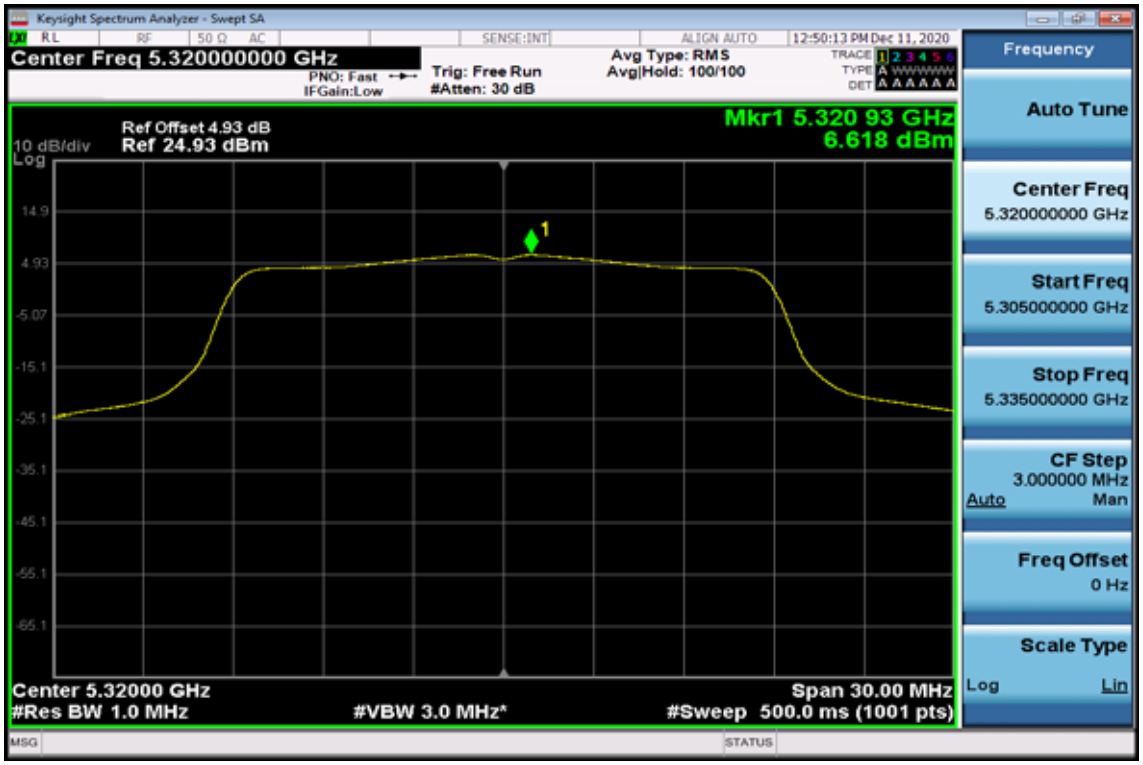
802.11ac VHT20,
Power Spectral Density Test Plot (CH-Low)



Power Spectral Density Test Plot (CH-Mid)



Power Spectral Density Test Plot (CH-High)



802.11n HT40

Power Spectral Density Test Plot (CH-Low)

Power Spectral Density Test Plot (CH-High)

802.11ac VHT40

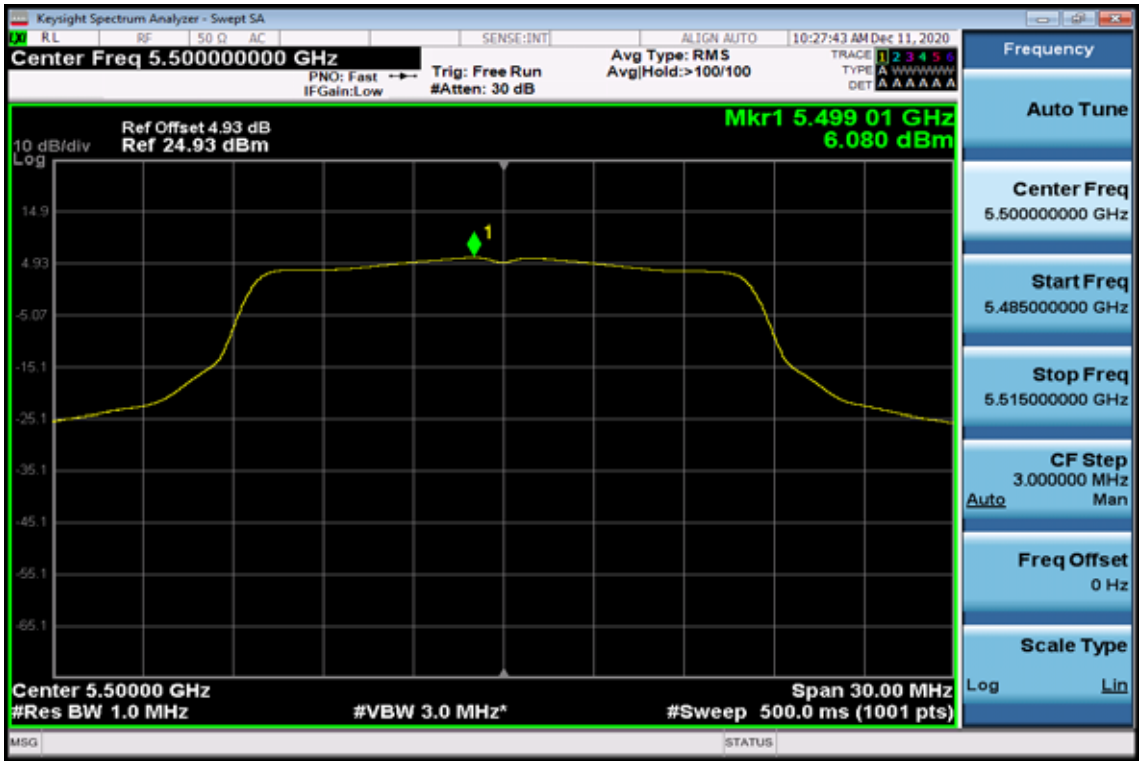
Power Spectral Density Test Plot (CH-Low)

Power Spectral Density Test Plot (CH-High)

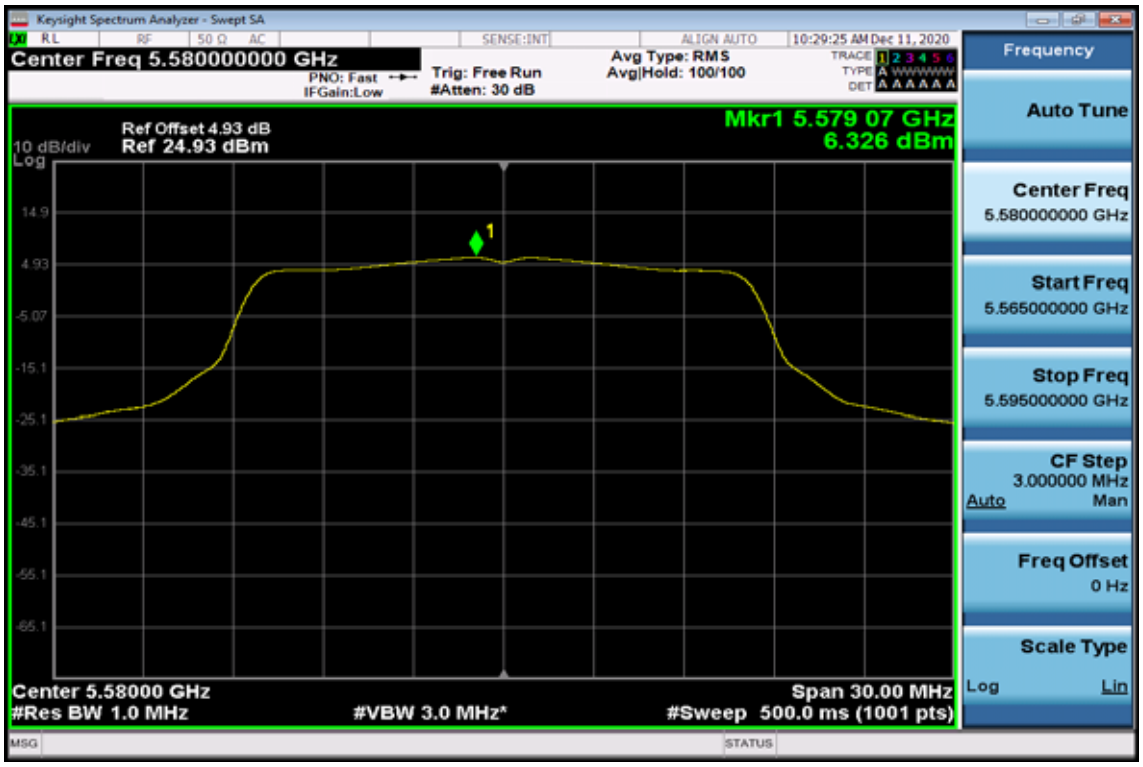
802.11 ac VHT80

Power Spectral Density Test Plot (CH-Low)

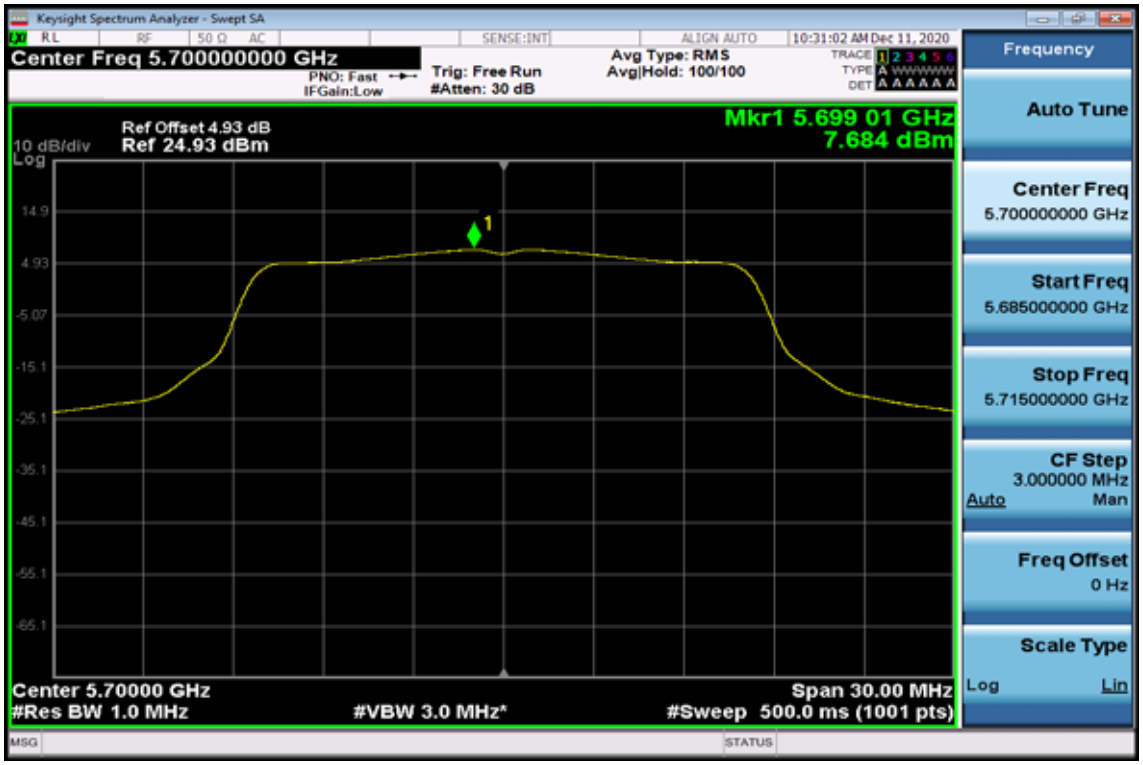
Band UNII-2C
802.11a
Power Spectral Density Data Plot (CH Low)



Power Spectral Density Data Plot (CH Mid)

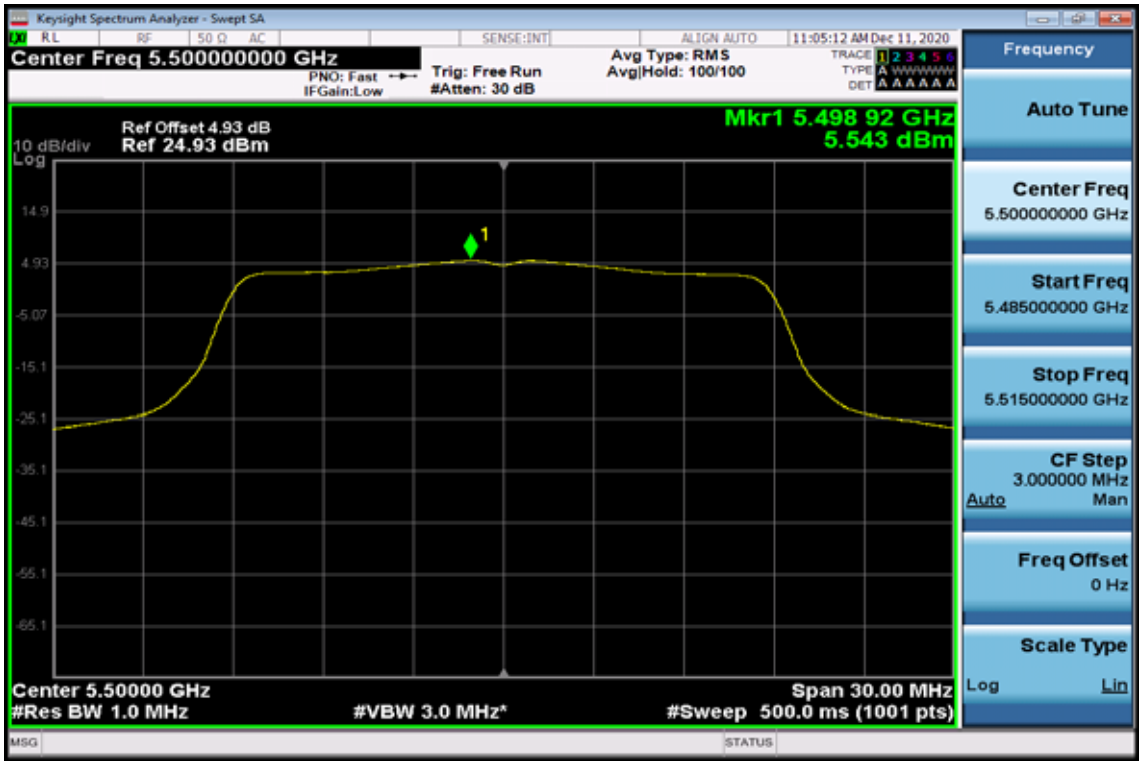


Power Spectral Density Data Plot (CH High)

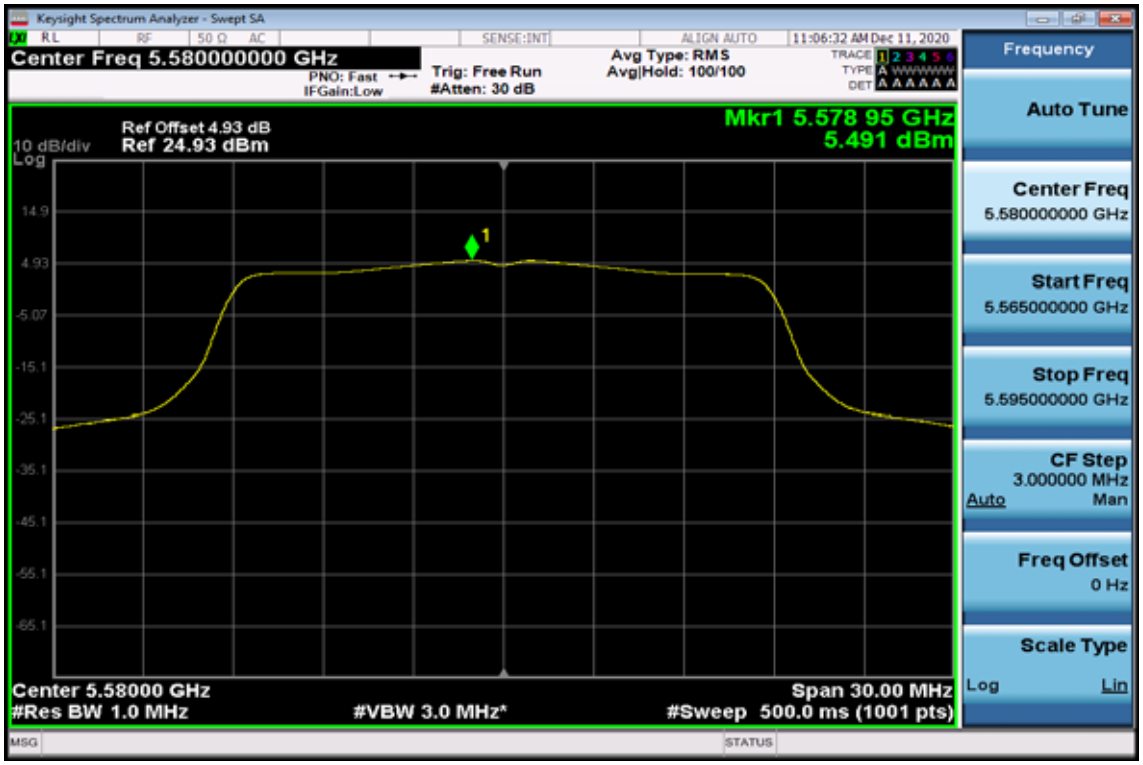


802.11n HT20

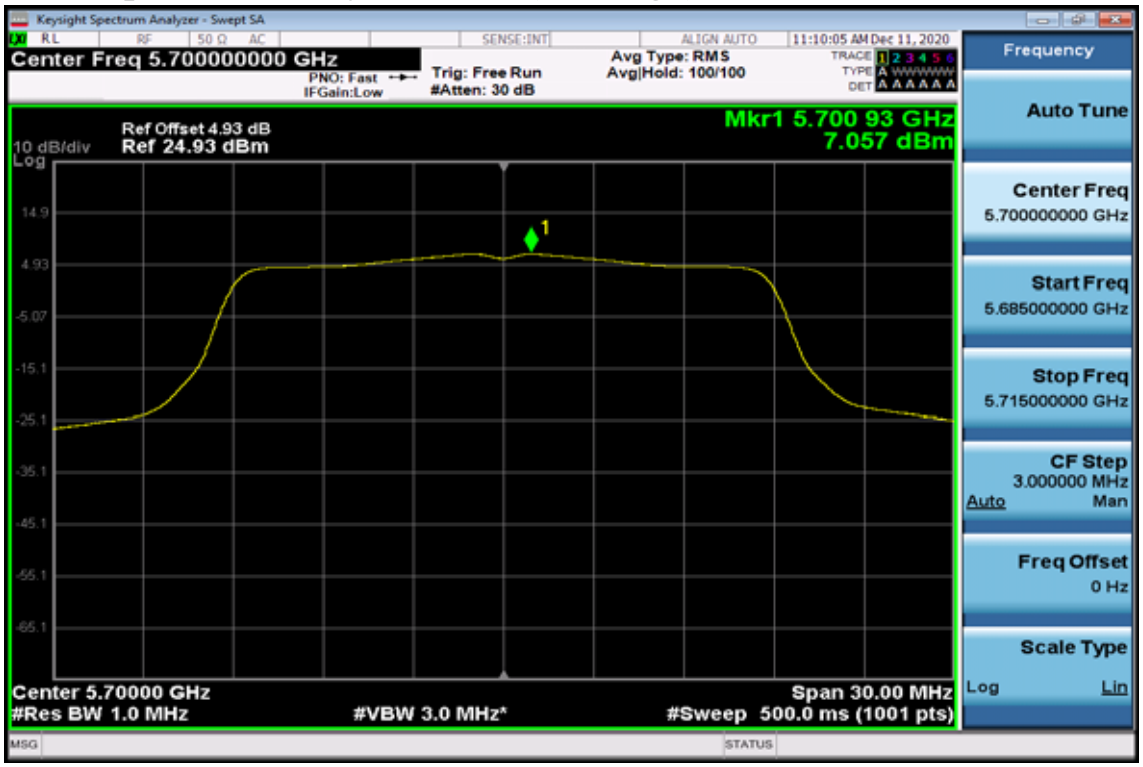
Power Spectral Density Test Plot (CH-Low)



Power Spectral Density Test Plot (CH-Mid)

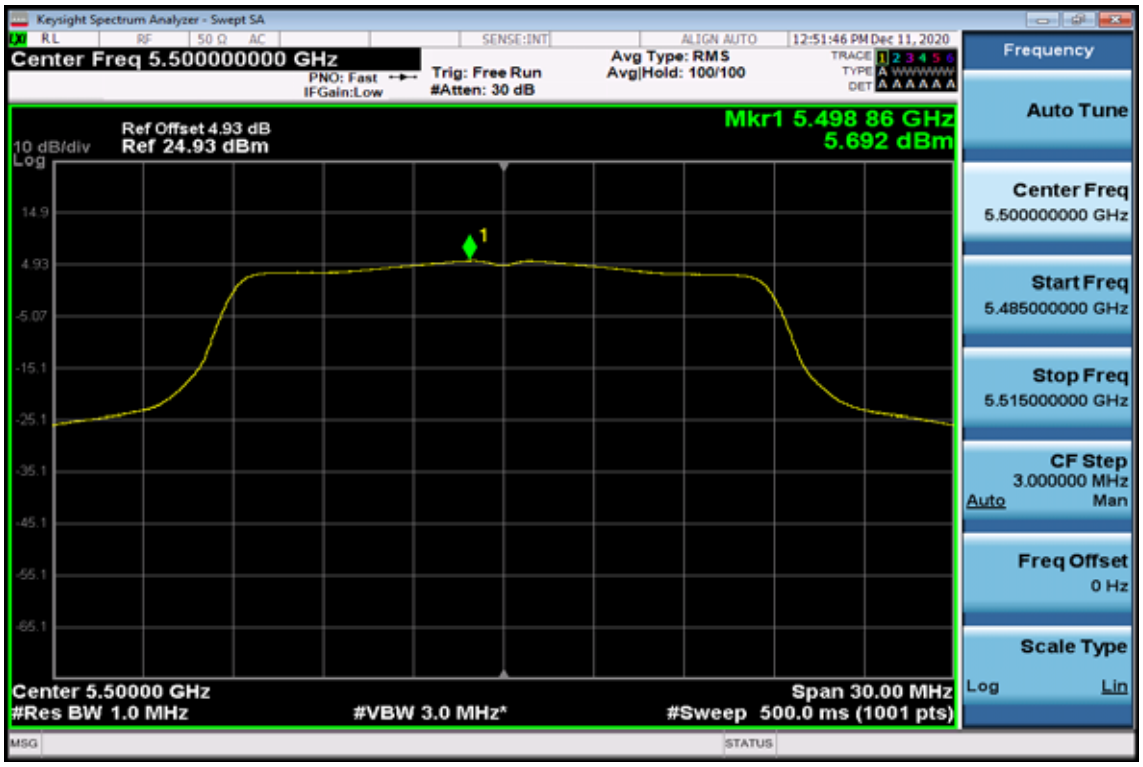


Power Spectral Density Test Plot (CH-High)

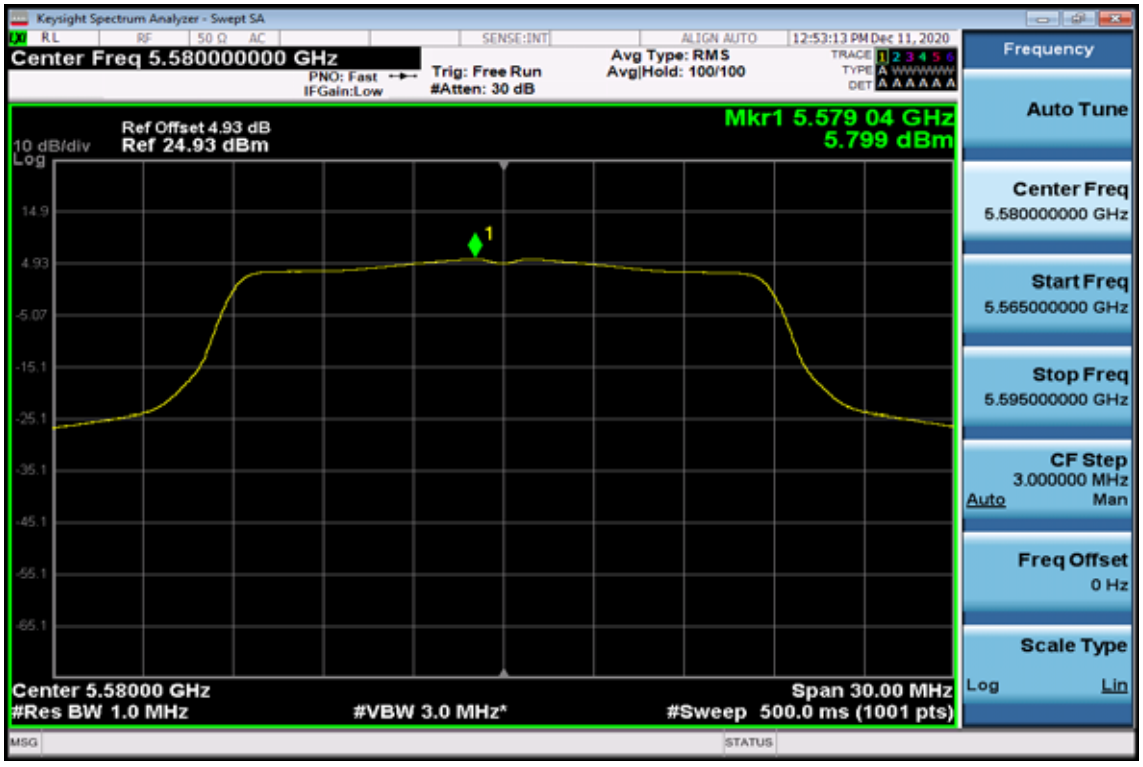


802.11ac VHT20

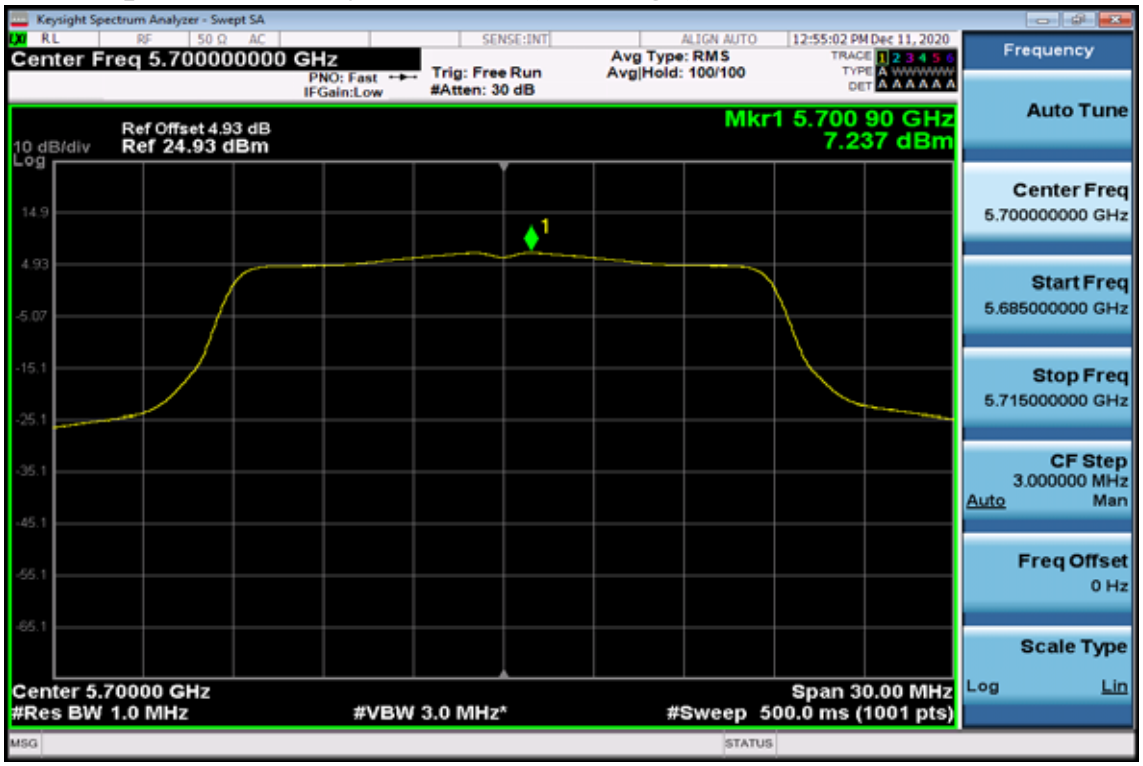
Power Spectral Density Test Plot (CH-Low)



Power Spectral Density Test Plot (CH-Mid)



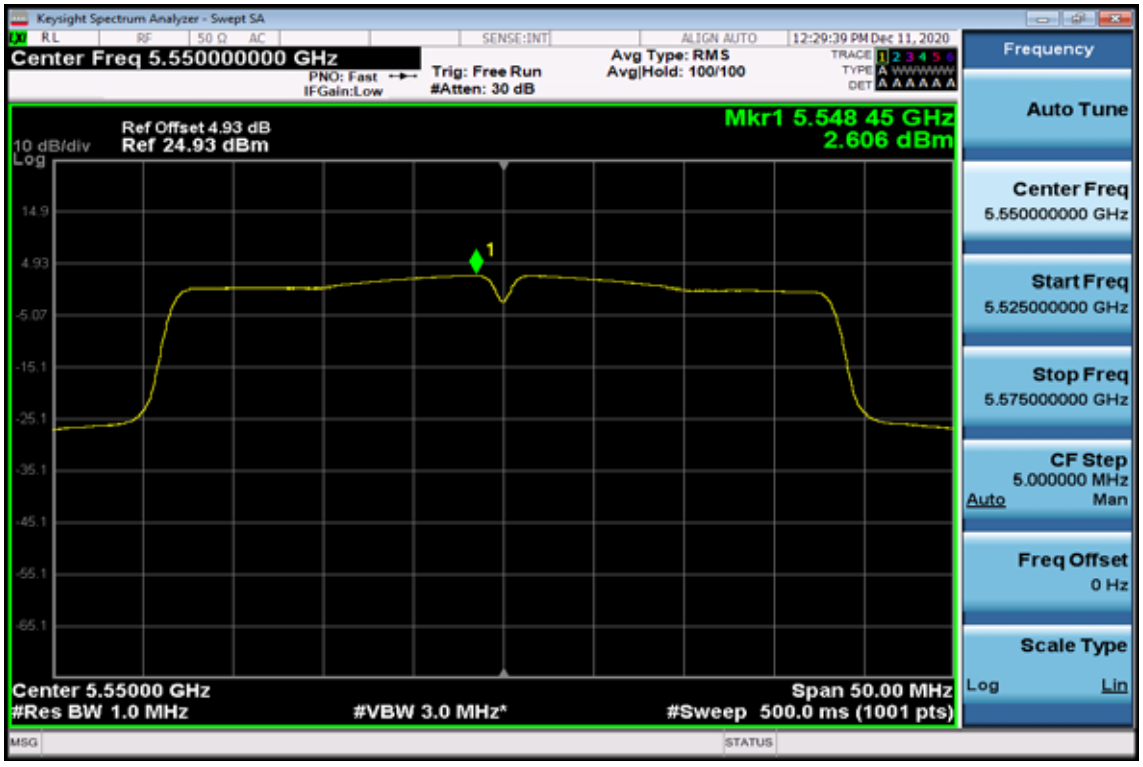
Power Spectral Density Test Plot (CH-High)



802.11n HT40

Power Spectral Density Test Plot (CH-Low)

Power Spectral Density Test Plot (CH-Mid)



Power Spectral Density Test Plot (CH-High)

802.11ac VHT40

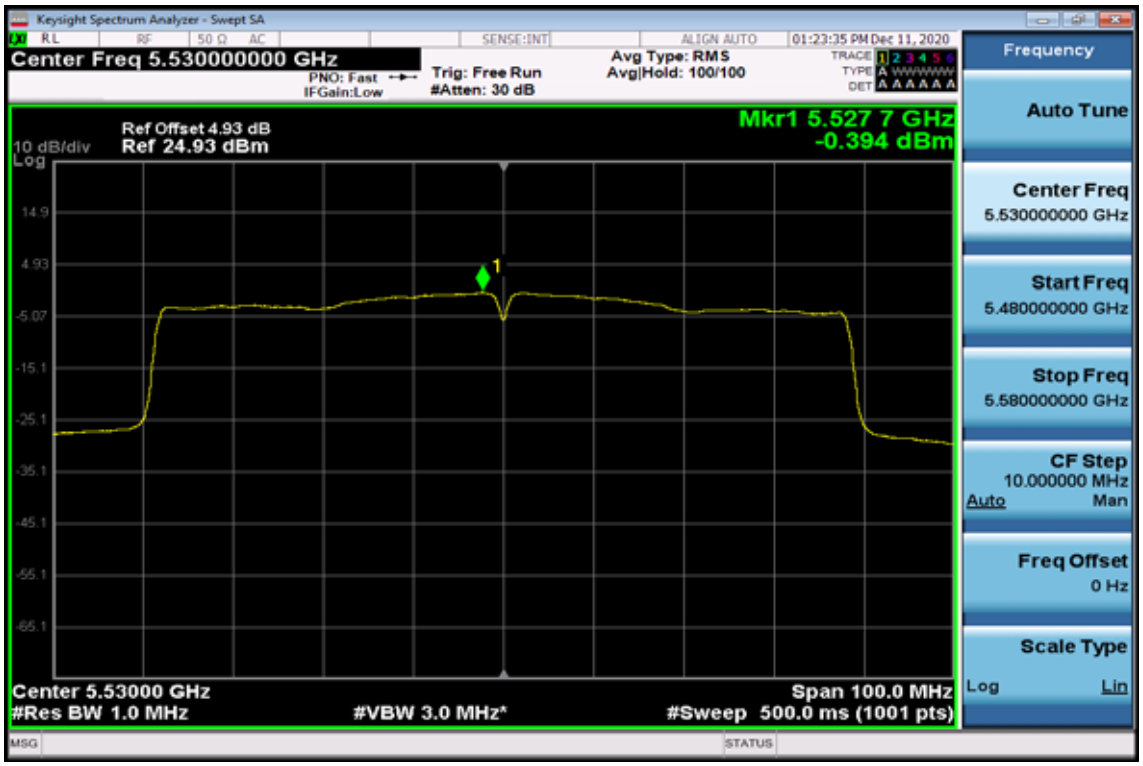
Power Spectral Density Test Plot (CH-Low)

Power Spectral Density Test Plot (CH-Mid)

Power Spectral Density Test Plot (CH-High)

802.11 ac VHT80

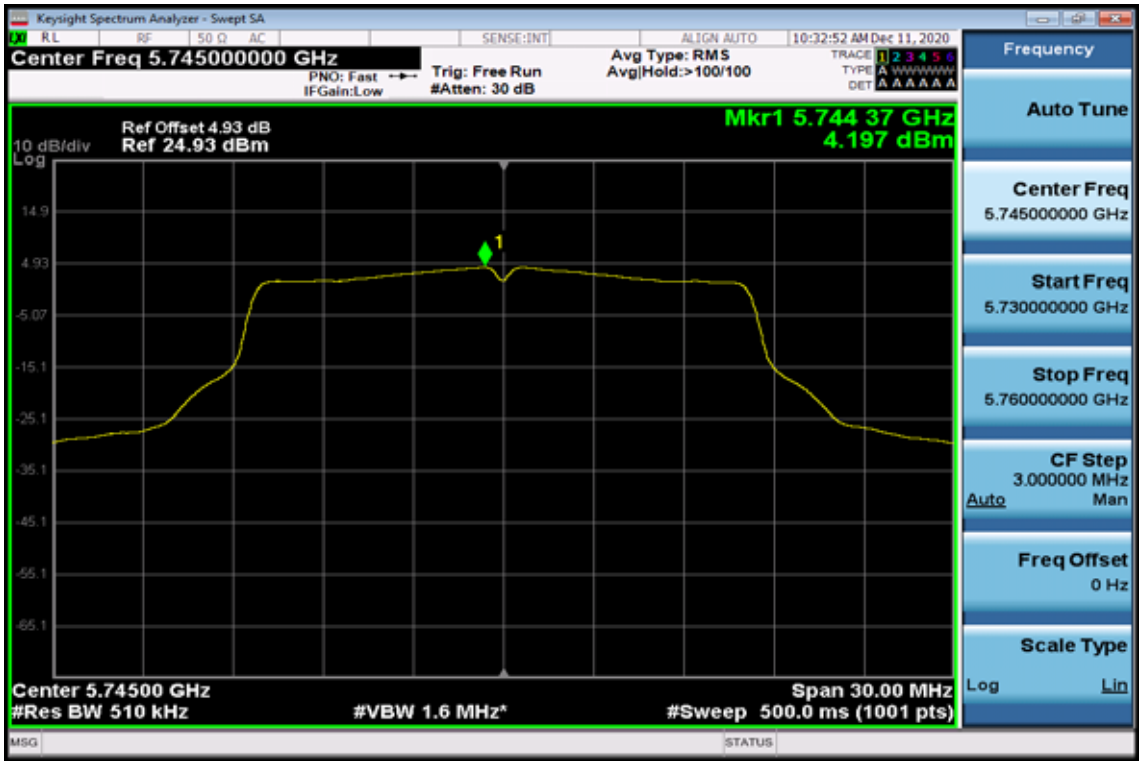
Power Spectral Density Test Plot (CH-Low)



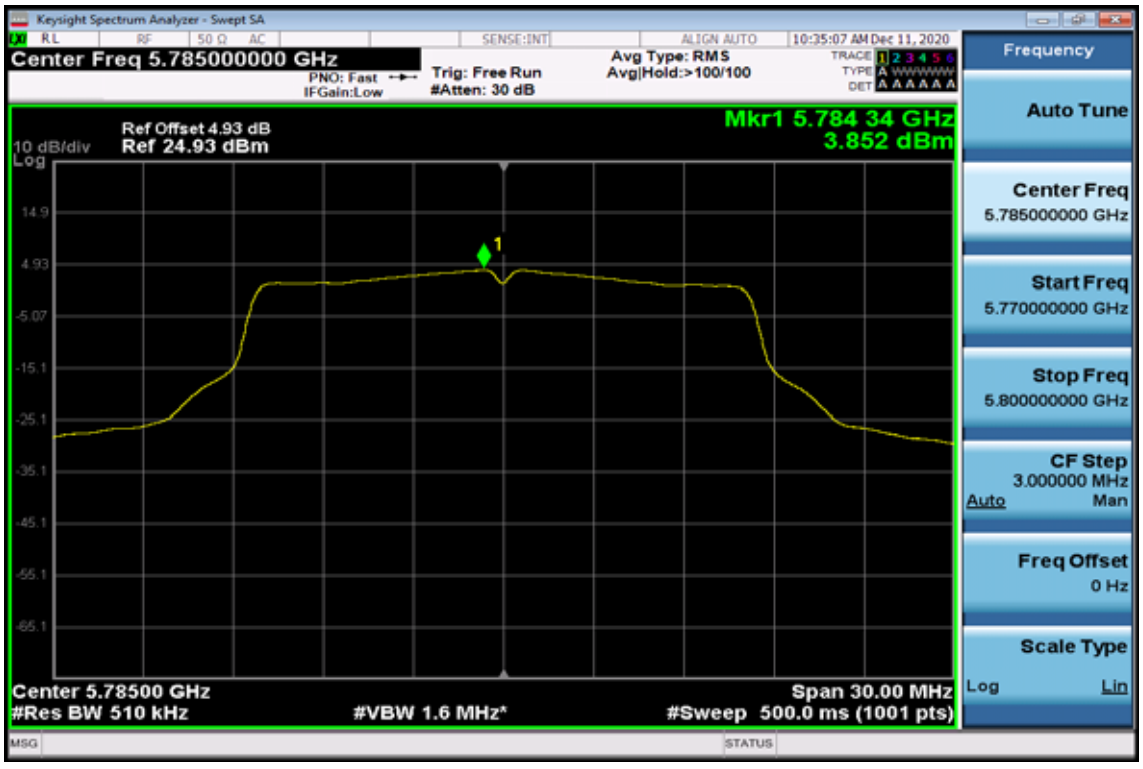
802.11 ac VHT80

Power Spectral Density Test Plot (CH-High)

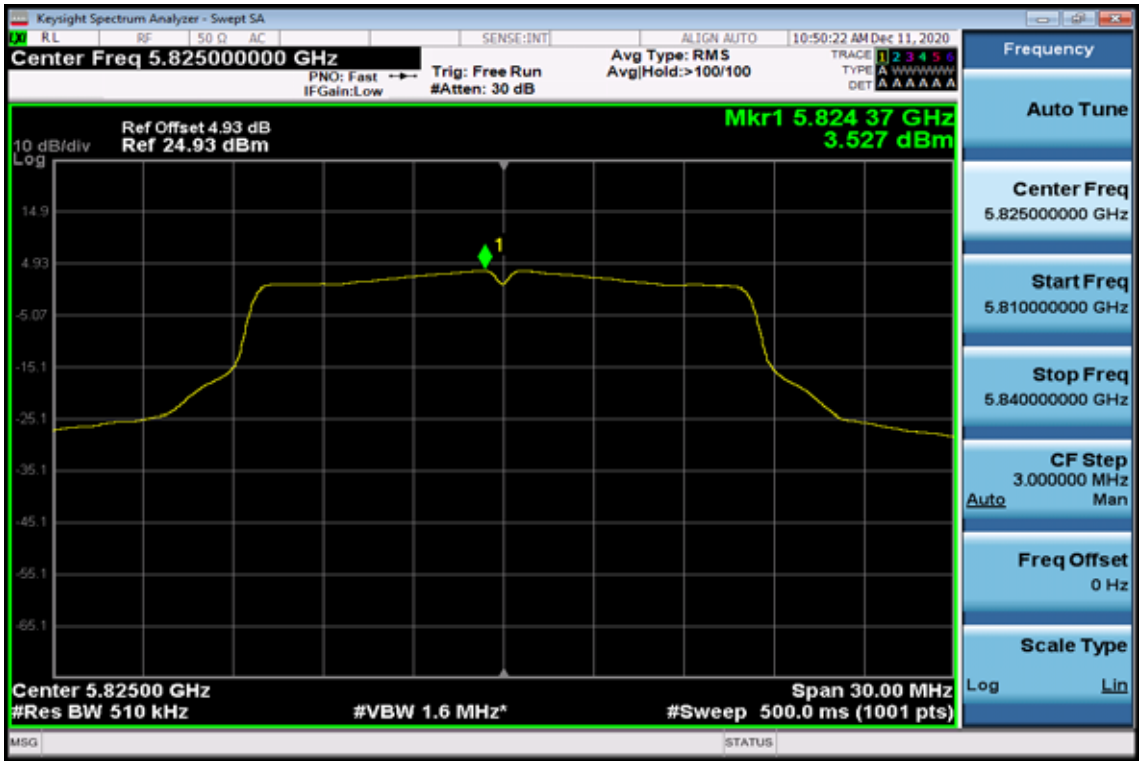
Band UNII-3
802.11a
Power Spectral Density Data Plot (CH Low)



Power Spectral Density Data Plot (CH Mid)

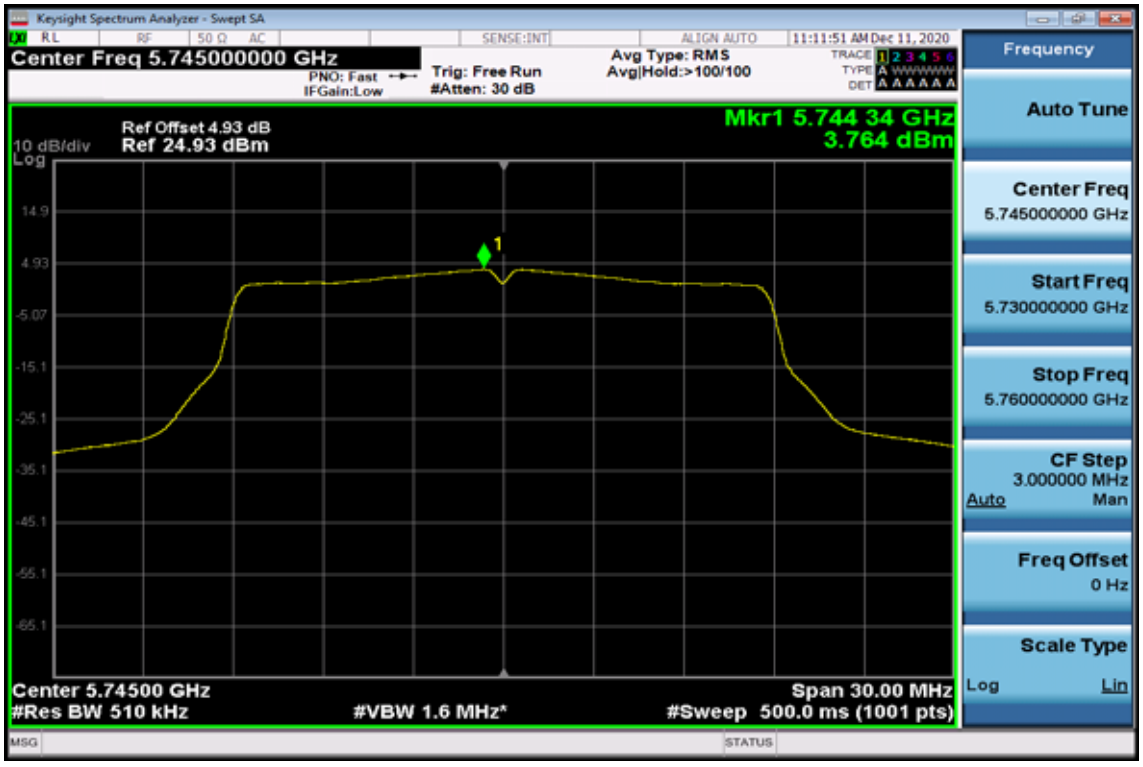


Power Spectral Density Data Plot (CH High)

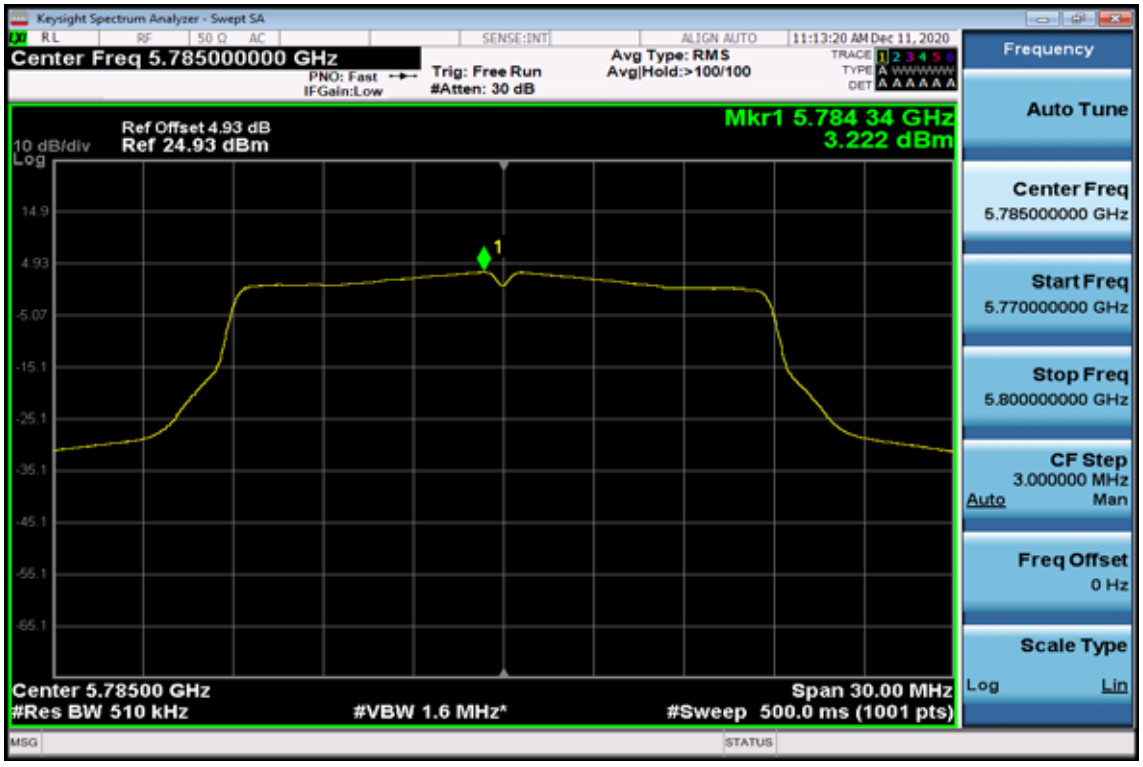


802.11n HT20

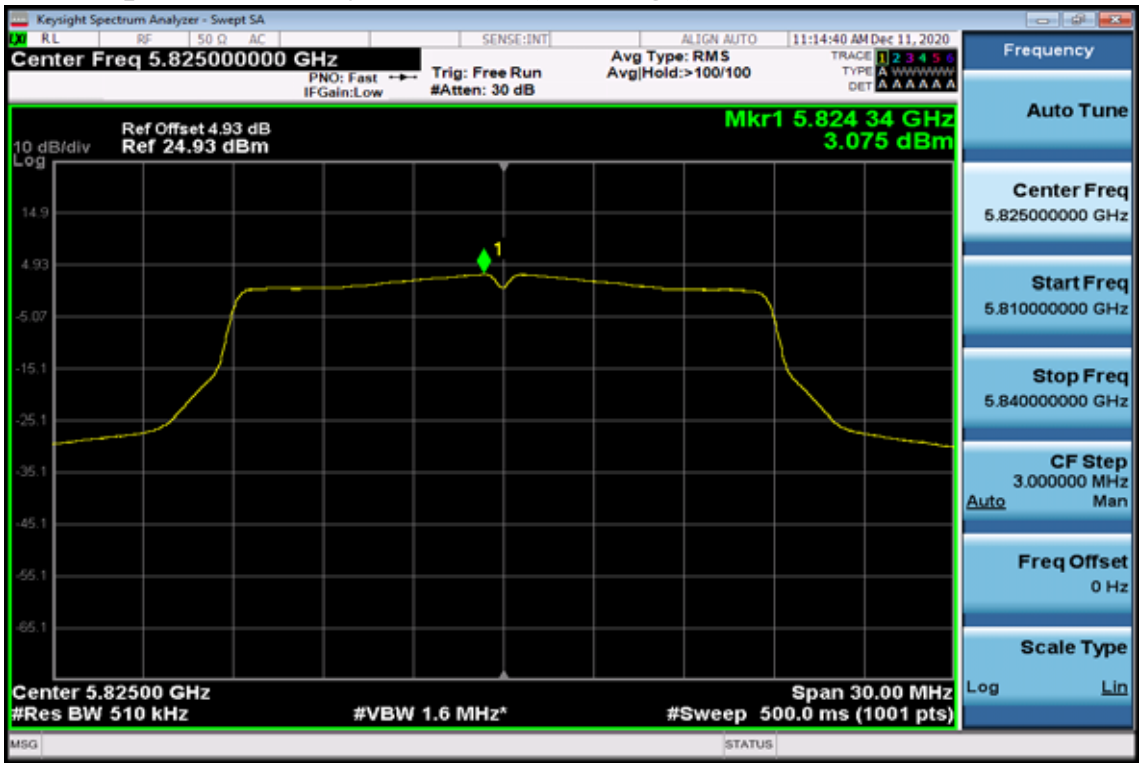
Power Spectral Density Test Plot (CH-Low)



Power Spectral Density Test Plot (CH-Mid)

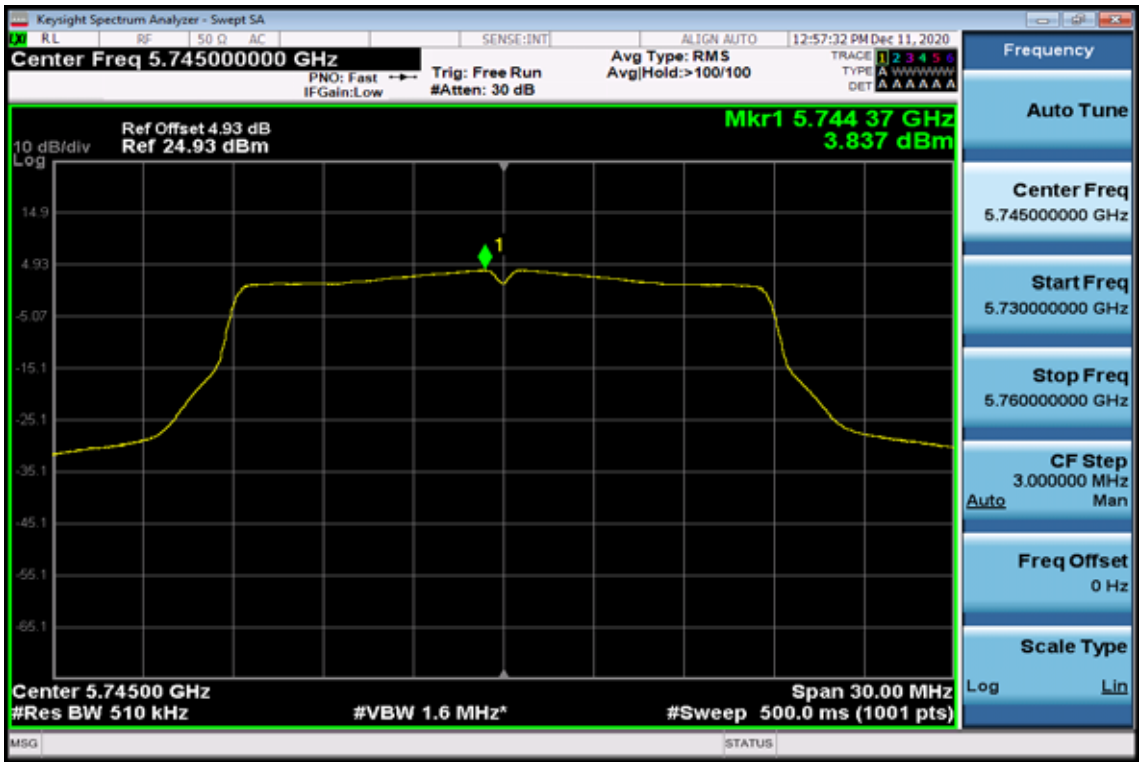


Power Spectral Density Test Plot (CH-High)



802.11ac VHT20

Power Spectral Density Test Plot (CH-Low)



Power Spectral Density Test Plot (CH-Mid)