RF TEST REPORT

Applicant	Alliedstar Medical Equipment Co., Ltd.
FCC ID	2A8SG-ST300E
Product	Straumann SIRIOS™ X3 Intraoral scanner
Brand	Straumann Sirios™
Model	ST 300E
Report No.	R2412A1909-R1
Issue Date	June 20, 2025

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15E (2024)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Prepared by: Xu Ying *Approved by: Xu Kai*

Eurofins TA Technology (Shanghai) Co., Ltd.

Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
TEL: +86-021-50791141/2/3
FAX: +86-021-50791141/2/3-8000

TABLE OF CONTENT

Summary of measurement results

Number	Test Case	Clause in FCC rules	Verdict
1	Average output power	15.407(a)	PASS
2	Occupied bandwidth	15.407(e)	PASS
3	Frequency stability	15.407(g)	PASS
4	Power spectral density	15.407(a)	PASS
5	Unwanted Emissions	15.407(b)	PASS
6	Conducted Emissions	15.207	PASS
Date of Testing: December 30, 2024 ~January 10, 2025 Date of Sample Received: December 18, 2024			
Note: PASS: The EUT complies with the essential requirements in the standard. FAIL: The EUT does not comply with the essential requirements in the standard. All indications of Pass/Fail in this report are opinions expressed by Eurofins TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

1. Test Laboratory

1.1. Notes of the test report

This report shall not be reproduced in full or partial, without the written approval of **Eurofins TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2. Test facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA (Certificate Number: 3857.01)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

1.3. Testing Location

Company:	Eurofins TA Technology (Shanghai) Co., Ltd.
Address:	Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
City:	Shanghai
Post code:	201201
Country:	P. R. China
Contact:	Xu Kai
Telephone:	+86-021-50791141/2/3
Fax:	+86-021-50791141/2/3-8000
Website:	https://www.eurofins.com/electrical-and-electronics
E-mail:	Kain.Xu@cpt.eurofinscn.com

2. General Description of Equipment under Test

2.1. Applicant and Manufacturer Information

Applicant	Alliedstar Medical Equipment Co., Ltd.
Applicant address	No.1-4, Floor 3, Unit 2, Building 3, No.222, West third section, Waihuan Road, Yanjiang District Ziyang, 641300 Sichuan, P.R. China
Manufacturer	Alliedstar Medical Equipment Co., Ltd.
Manufacturer address	No.1-4, Floor 3, Unit 2, Building 3, No.222, West third section, Waihuan Road, Yanjiang District Ziyang, 641300 Sichuan, P.R. China

2.2. General information

EUT Description		
Model	ST 300E	
Lab internal SN	R2412A1909/S01	
Hardware Version	B	
Software Version	1.0.36.1	
Power Supply	Battery	
Antenna Type	Internal Antenna	
Antenna Connector	A permanently attached antenna (meet with the standard FCC Part 15.203 requirement)	
Antenna Gain	U-NII-1	6.4 dBi
	U-NII-3	5.8 dBi
Directional Gain	NA	
Operating Frequency Range(s)	U-NII-1: 5150MHz-5250MHz U-NII-3: 5725MHz -5850MHz	
Modulation Type	802.11a: OFDM 802.11n (HT20/HT40): OFDM 802.11ac (VHT20/VHT40/VHT80): OFDM	
Max. Output Power	14.60 dBm	
Operating temperature range	15° C to 30 ° C	
Operating voltage range	3.3 VDC to 4.2 VDC	
Testing temperature range	-30 ° C to 50° C	
Testing voltage range	3.3 VDC – 3.6VDC – 4.2 VDC	
State voltage	3.6 VDC	
EUT Accessory		
Battery	Manufacturer: Shenzhen Ryder Electronics Co., Ltd. Model: Li-18650-3.6V 3400mAh -PCM-NTC	
Note: 1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant.		

2. This device support automatically discontinue transmission, while the device is not transmitting any information, the device can automatically discontinue transmission and become standby mode for power saving. The device can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards:

FCC CFR47 Part 15E (2024) Unlicensed National Information Infrastructure Devices

ANSI C63.10-2013

Reference standard:

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

4. Test Configuration

Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Y axis) and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on all the configuration for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates are shown as following table.

Mode	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

Wireless Technology and Frequency Range

Wireless Technology		Bandwidth	Channel	Frequency
Wi-Fi	U-NII-1	20 MHz	36	5180MHz
			40	5200MHz
			44	5220MHz
			48	5240MHz
		40 MHz	38	5190MHz
			46	5230MHz
		80 MHz	42	5210MHz
	U-NII-3	20 MHz	149	5745MHz
			153	5765MHz
			157	5785MHz
			161	5805MHz
			165	5825MHz
		40 MHz	151	5755MHz
			159	5795MHz
		80 MHz	155	5775MHz
Does this device support TPC Function? ☐Yes ☒No				
Does this device support TDWR Band? ☐Yes ☒No				

5. Test Case Results

5.1. Occupied Bandwidth

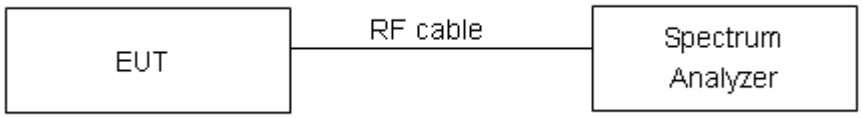
Ambient condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.
For U-NII-1, set RBW ≈1% OCB kHz, VBW ≥ 3 × RBW, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.
For U-NII-3, Set RBW = 100 kHz, VBW ≥ 3 × RBW, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.
Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.
Use the 99 % power bandwidth function of the instrument

Test Setup



Limits

For U-NII-1
No specific occupied bandwidth requirements in Part 15.407.
For U-NII-3
Rule FCC Part §15.407(e)
Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 936 Hz.

Test Results:

U-NII-1

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	5180	16.785	21.365	PASS
	5200	16.841	21.668	PASS
	5240	16.867	21.004	PASS
802.11n HT20	5180	17.965	21.240	PASS
	5200	17.893	21.831	PASS
	5240	17.901	21.414	PASS
802.11n HT40	5190	36.296	40.013	PASS
	5230	36.260	40.055	PASS
802.11ac VHT20	5180	17.899	21.492	PASS
	5200	17.863	21.556	PASS
	5240	17.905	21.580	PASS
802.11ac VHT40	5190	36.267	40.321	PASS
	5230	36.217	39.791	PASS
802.11ac VHT80	5210	75.686	81.255	PASS

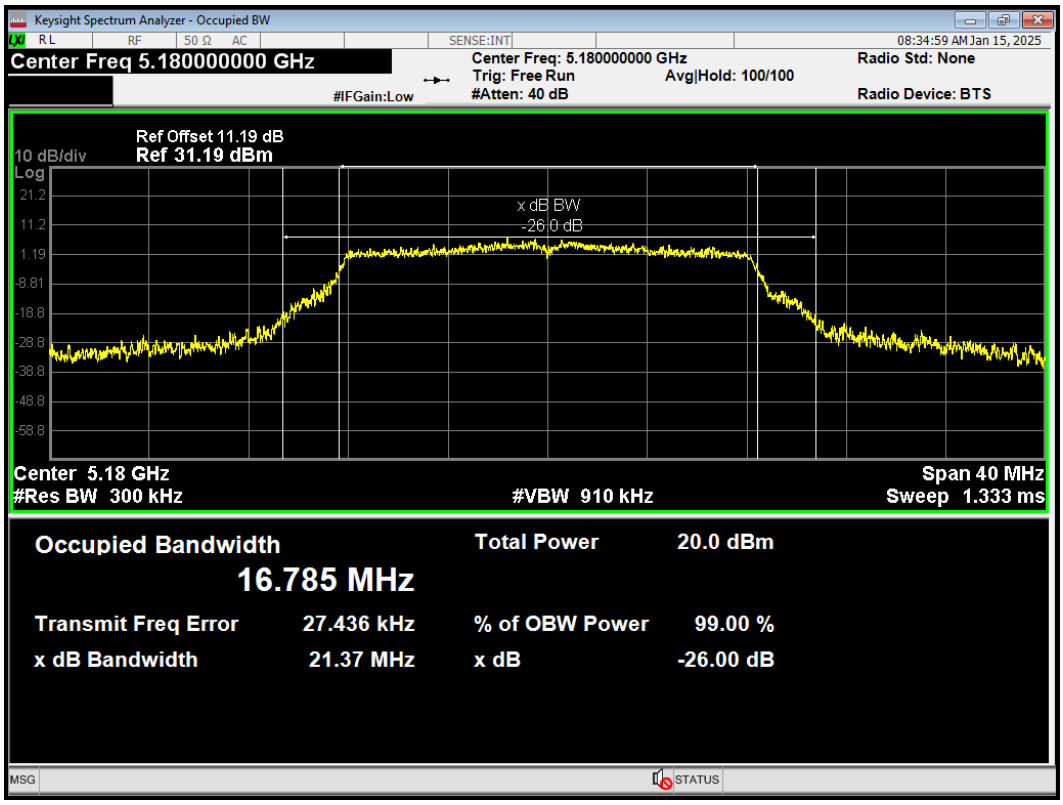
U-NII-3

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11a	5745	16.796	16.319	500	PASS
	5785	16.790	16.298	500	PASS
	5825	16.846	16.345	500	PASS
802.11n HT20	5745	17.910	17.318	500	PASS
	5785	17.923	16.313	500	PASS
	5825	17.918	16.769	500	PASS
802.11n HT40	5755	36.256	36.023	500	PASS
	5795	36.334	35.939	500	PASS
802.11ac VHT20	5745	17.869	17.535	500	PASS
	5785	17.918	16.938	500	PASS
	5825	17.965	17.032	500	PASS
802.11ac VHT40	5755	36.323	35.897	500	PASS
	5795	36.310	35.652	500	PASS
802.11ac VHT80	5775	75.840	75.190	500	PASS

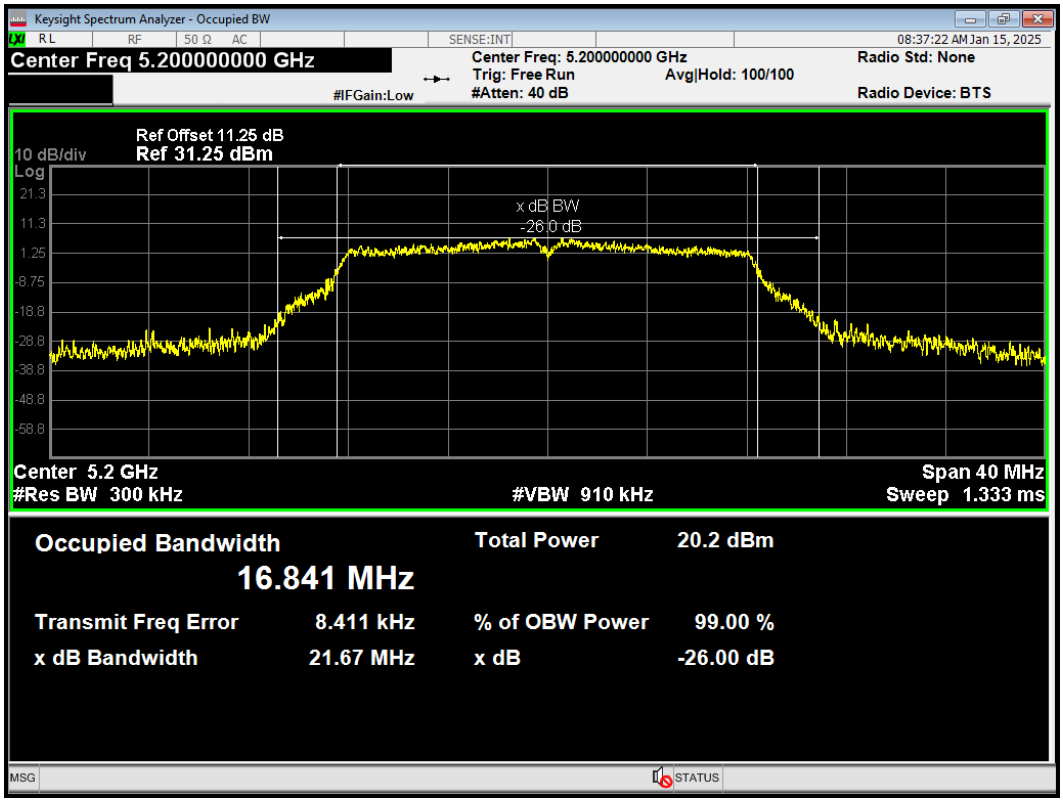
99% bandwidth

U-NII-1

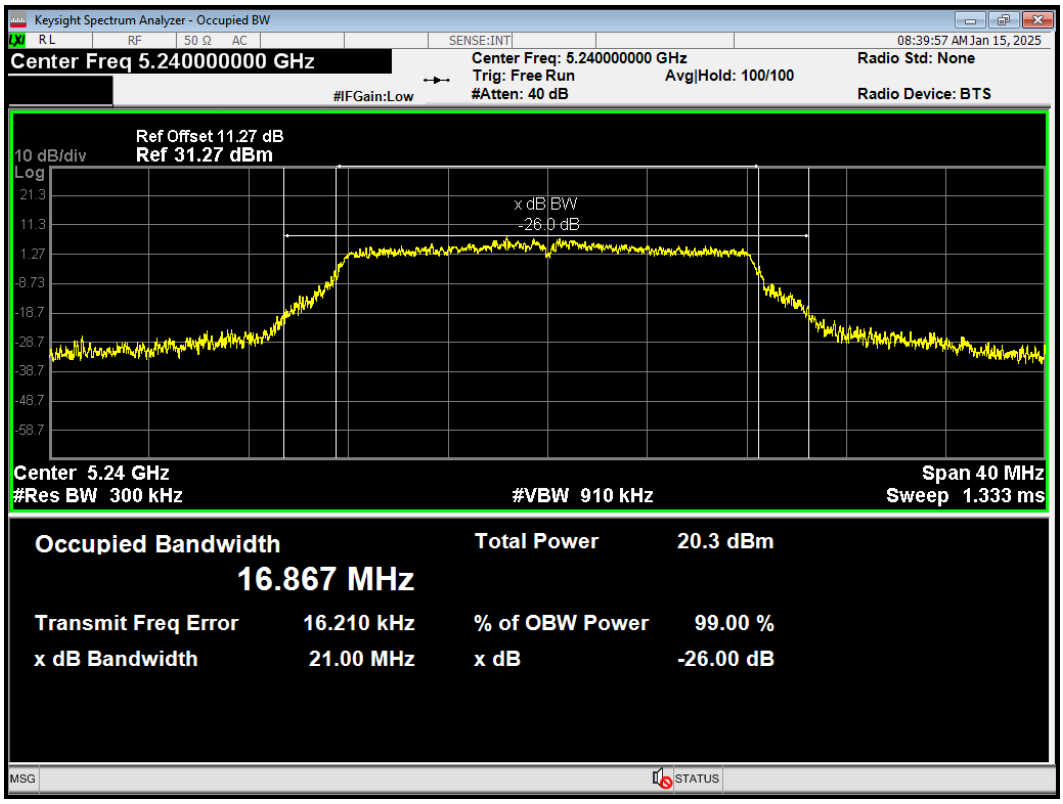
OBW 802.11a 5180MHz



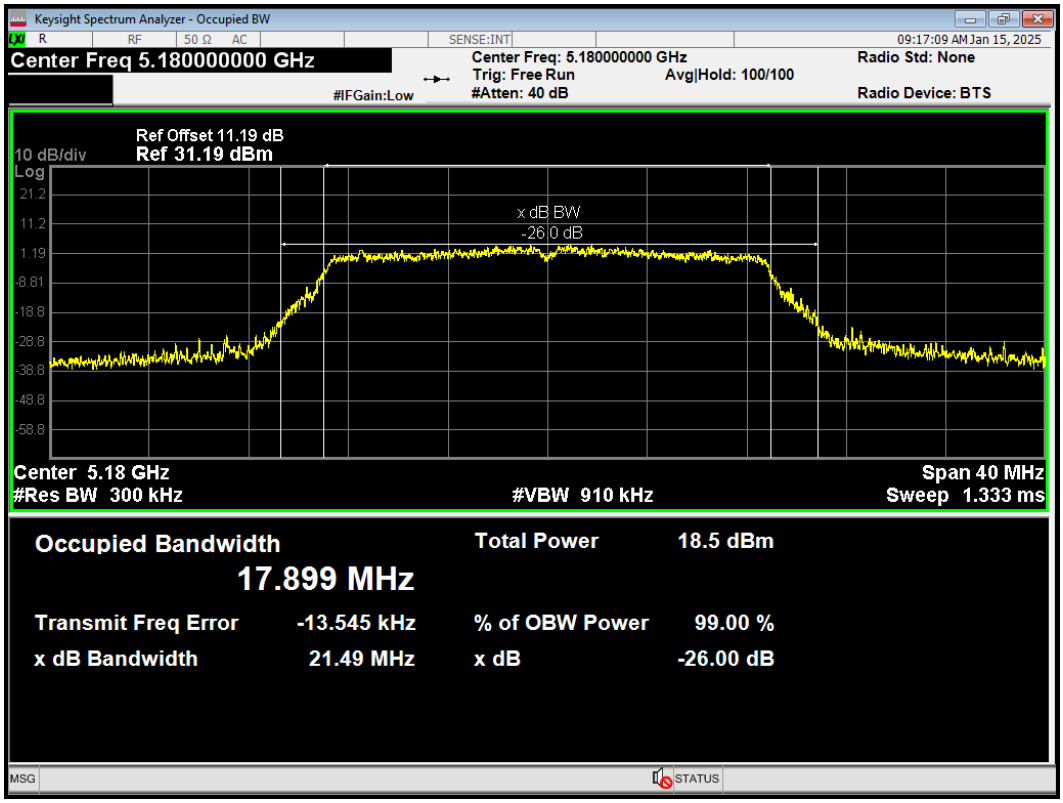
OBW 802.11a 5200MHz



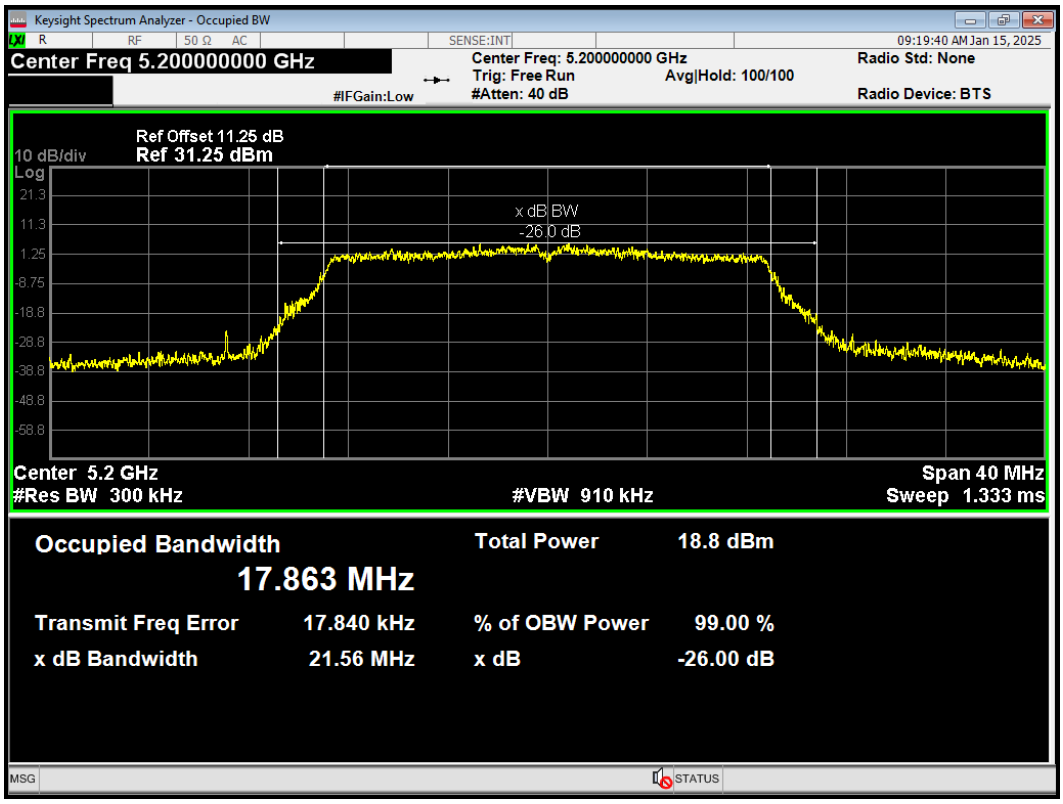
OBW 802.11a 5240MHz



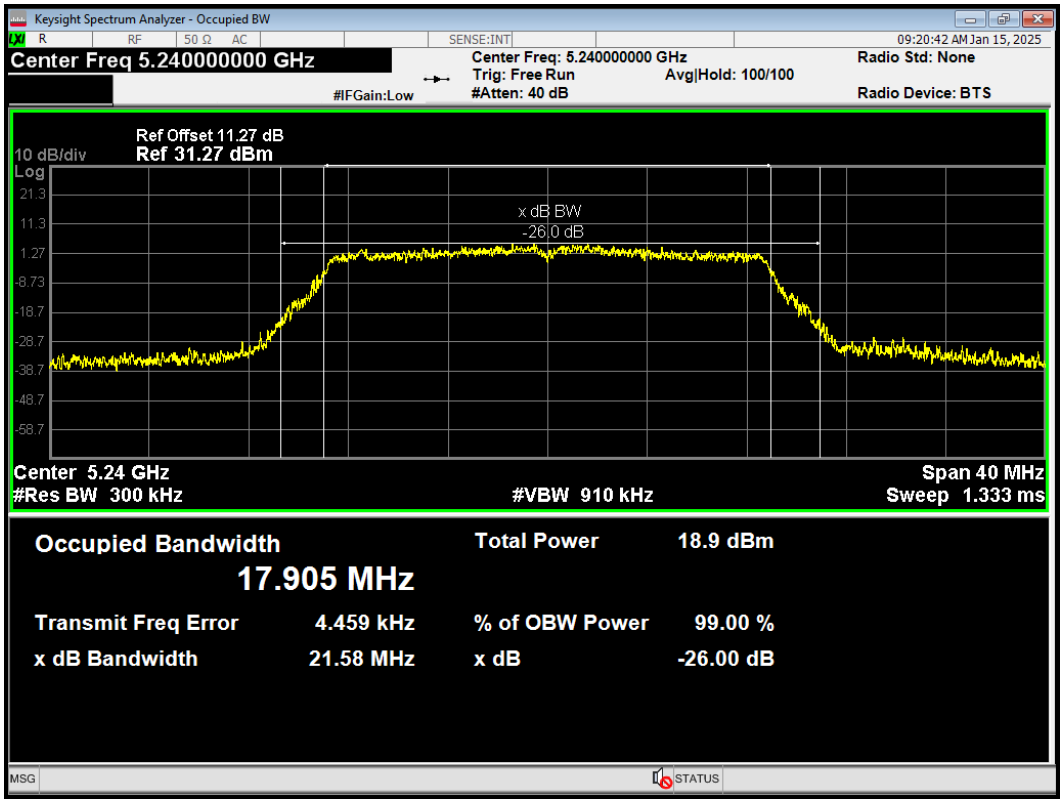
OBW 802.11ac(VHT20) 5180MHz



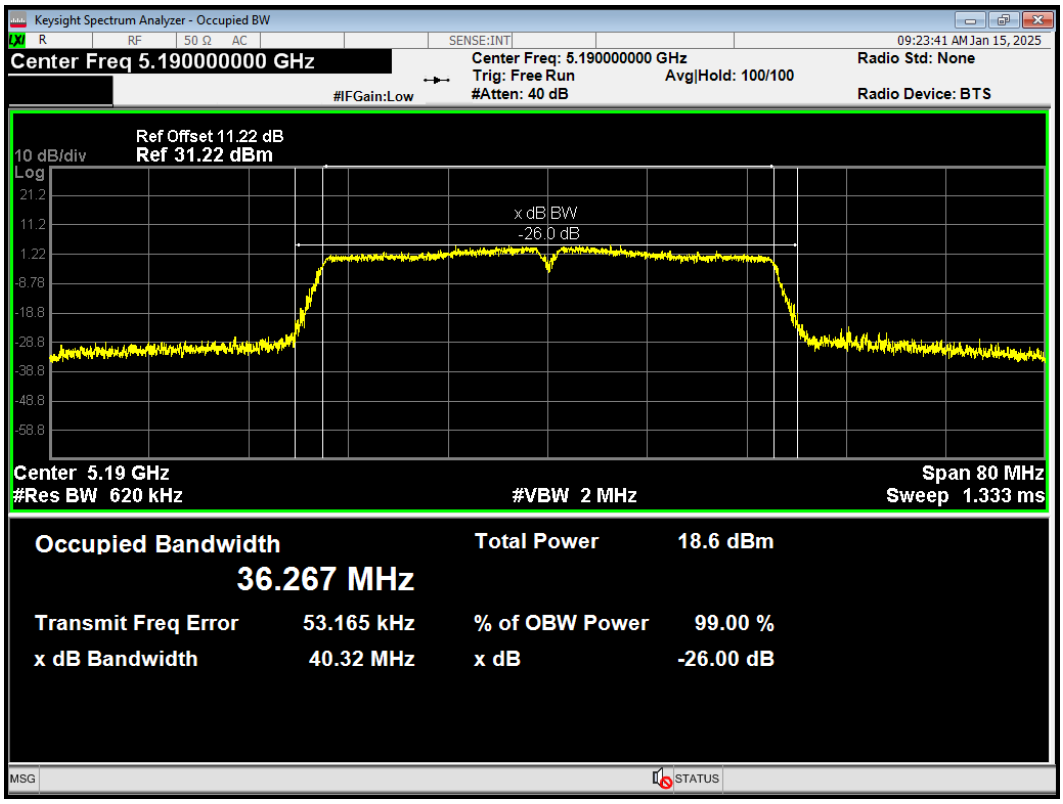
OBW 802.11ac(VHT20) 5200MHz



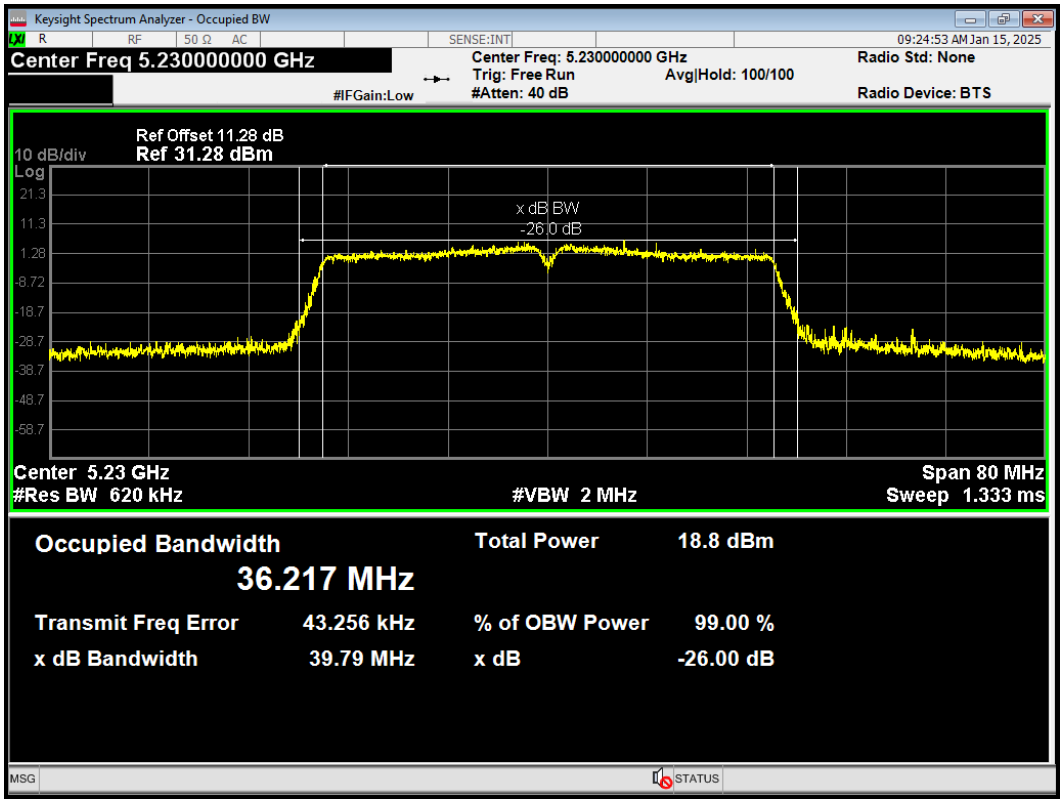
OBW 802.11ac(VHT20) 5240MHz



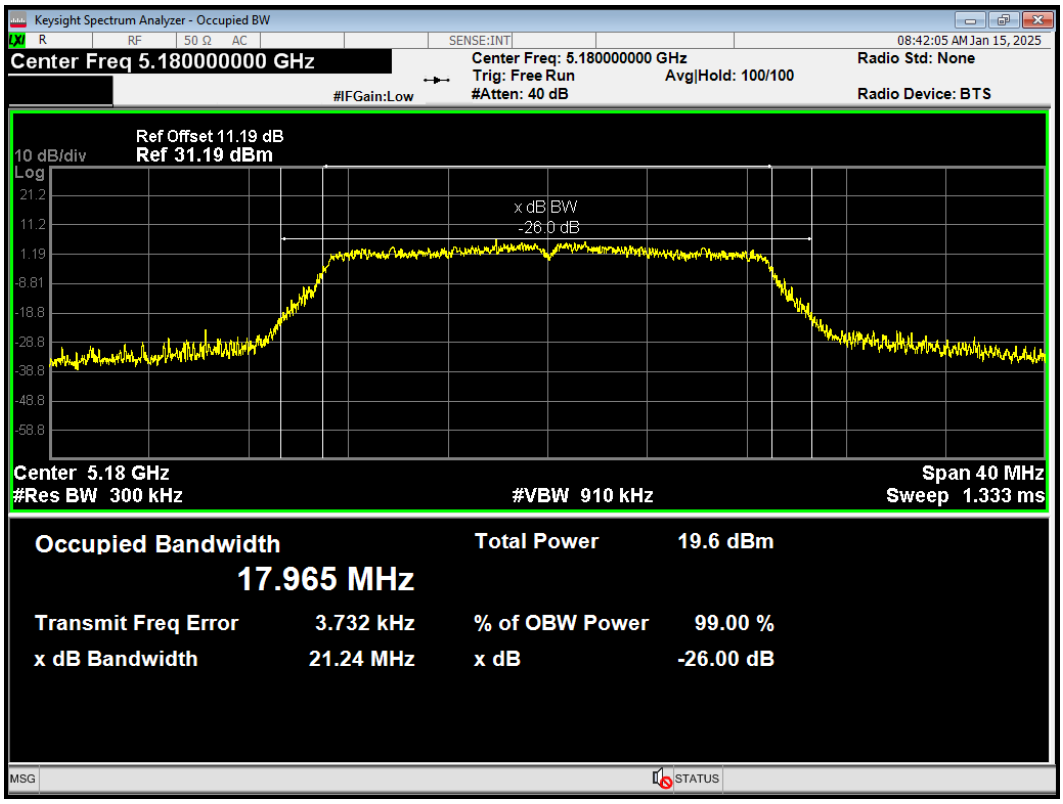
OBW 802.11ac(VHT40) 5190MHz



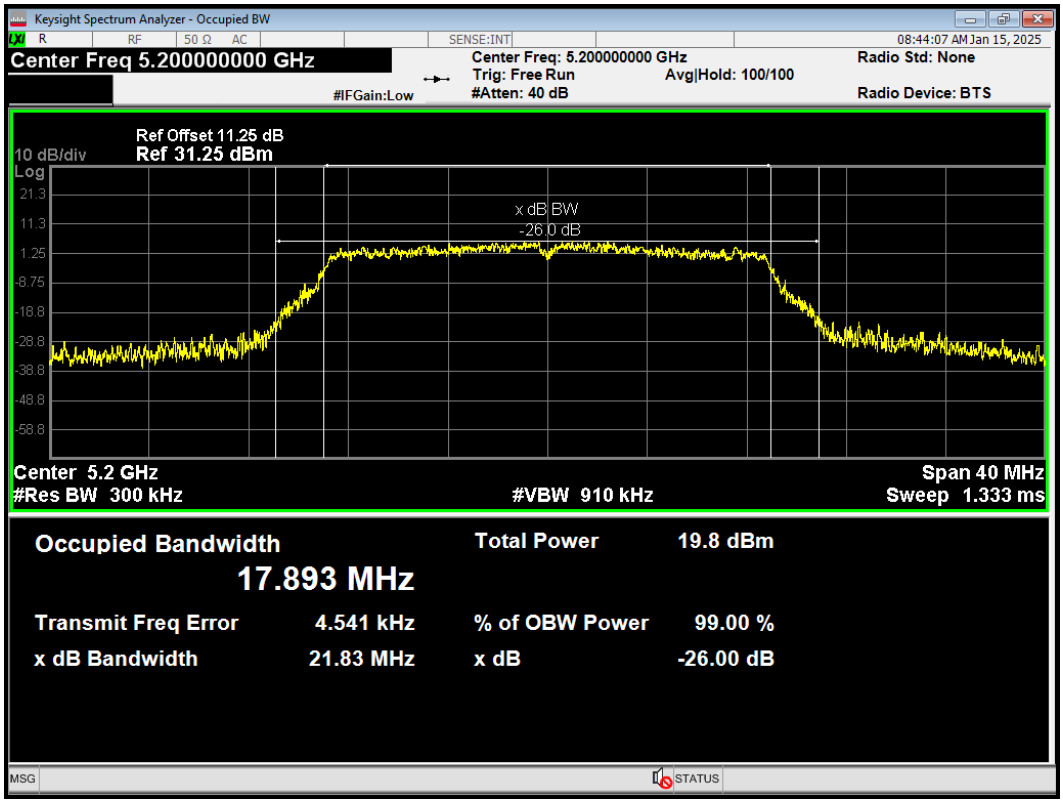
OBW 802.11ac(VHT40) 5230MHz



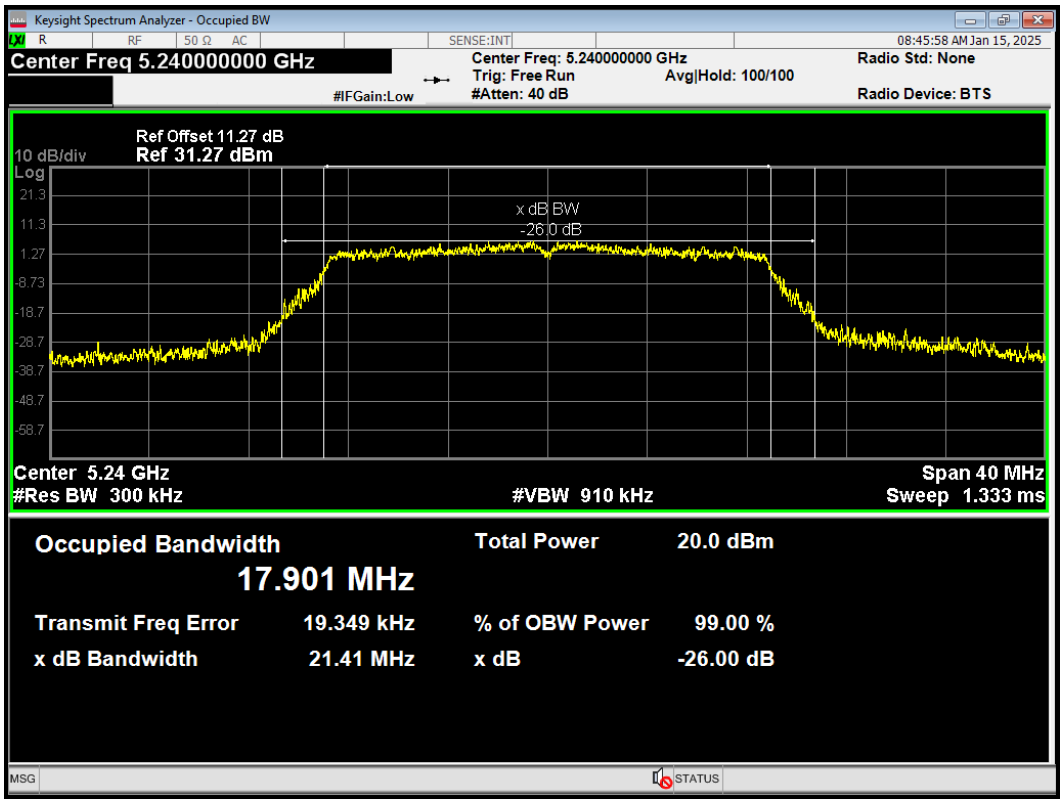
OBW 802.11n(HT20) 5180MHz



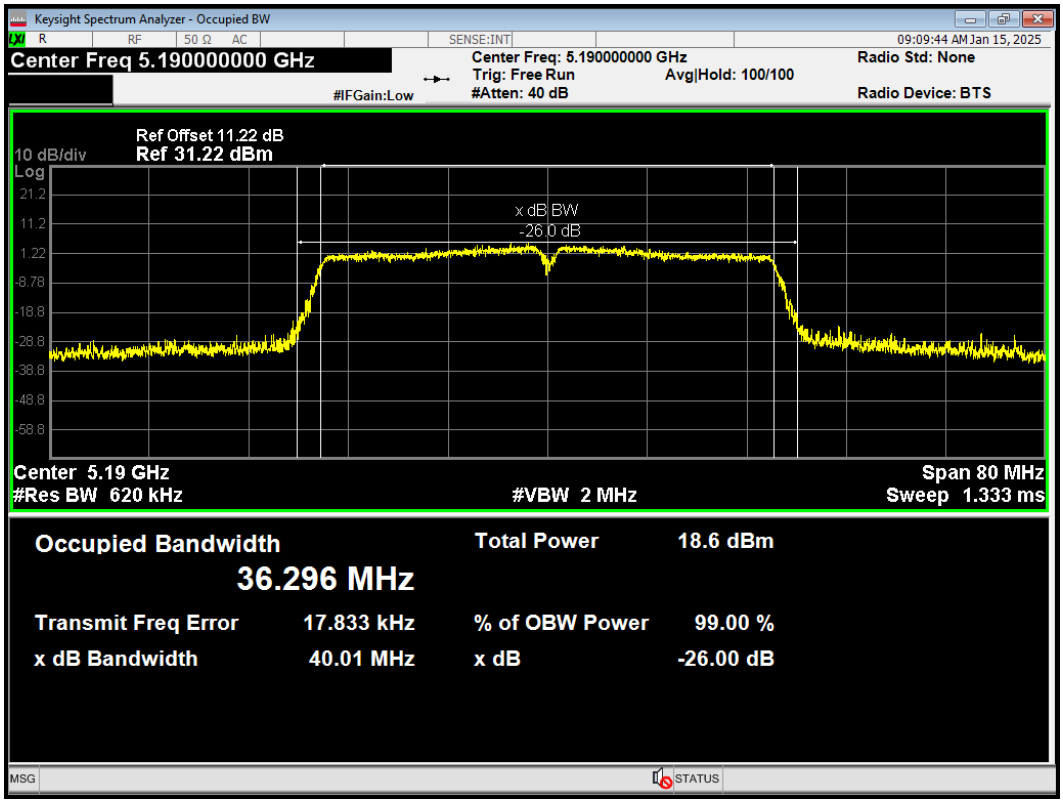
OBW 802.11n(HT20) 5200MHz



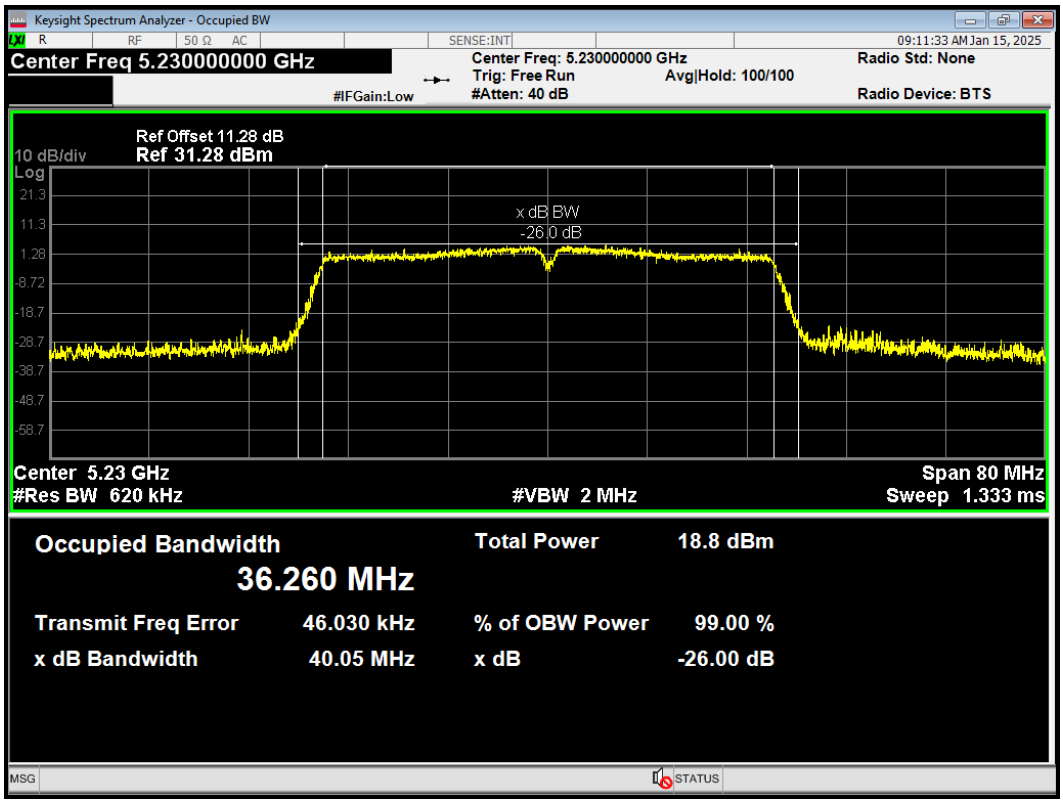
OBW 802.11n(HT20) 5240MHz



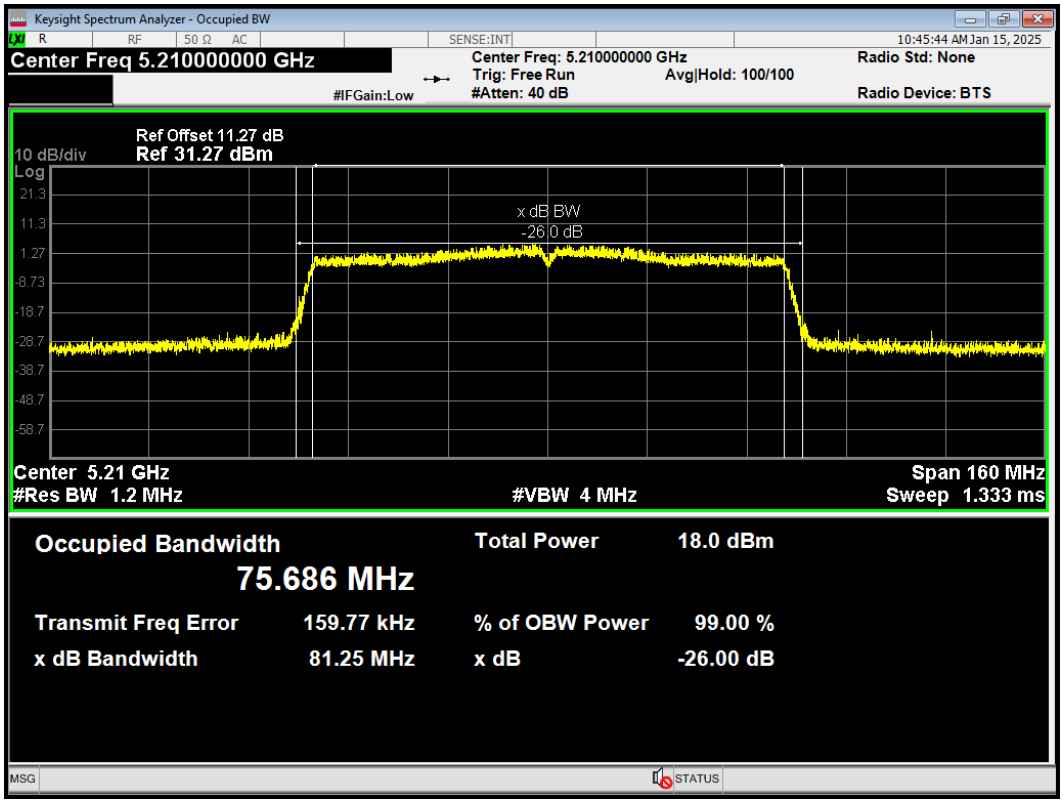
OBW 802.11n(HT40) 5190MHz



OBW 802.11n(HT40) 5230MHz

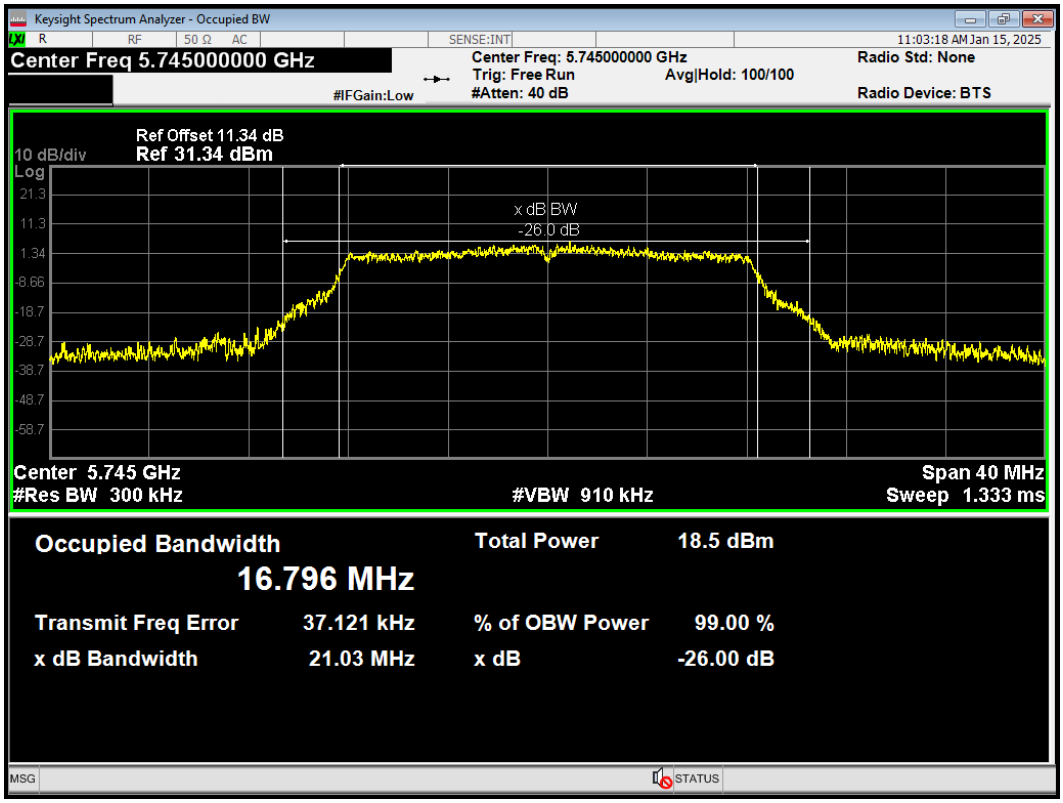


OBW 802.11ac(VHT80) 5210MHz

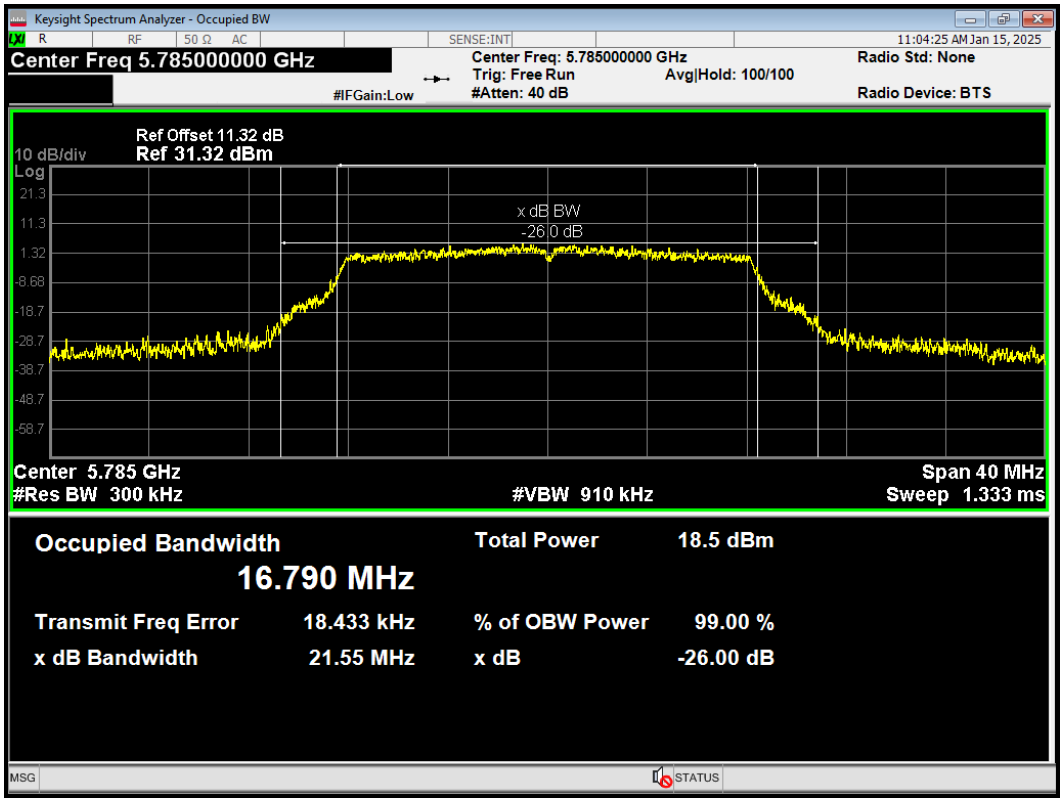


U-NII-3

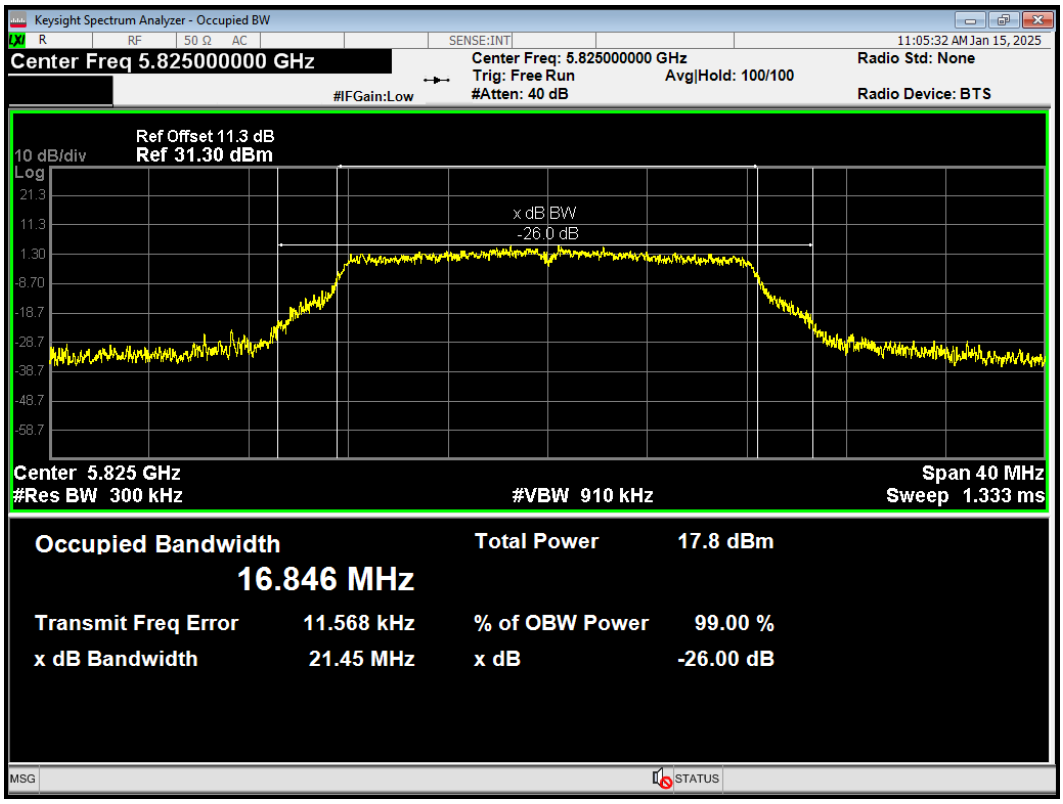
OBW 802.11a 5745MHz



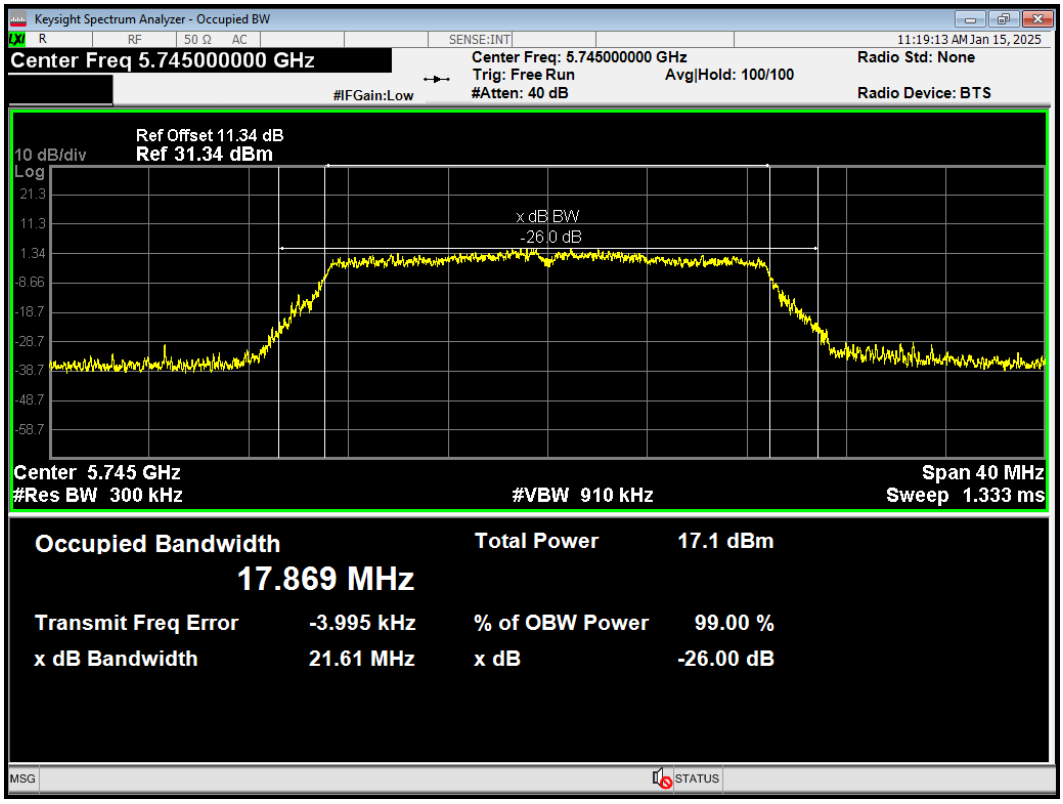
OBW 802.11a 5785MHz



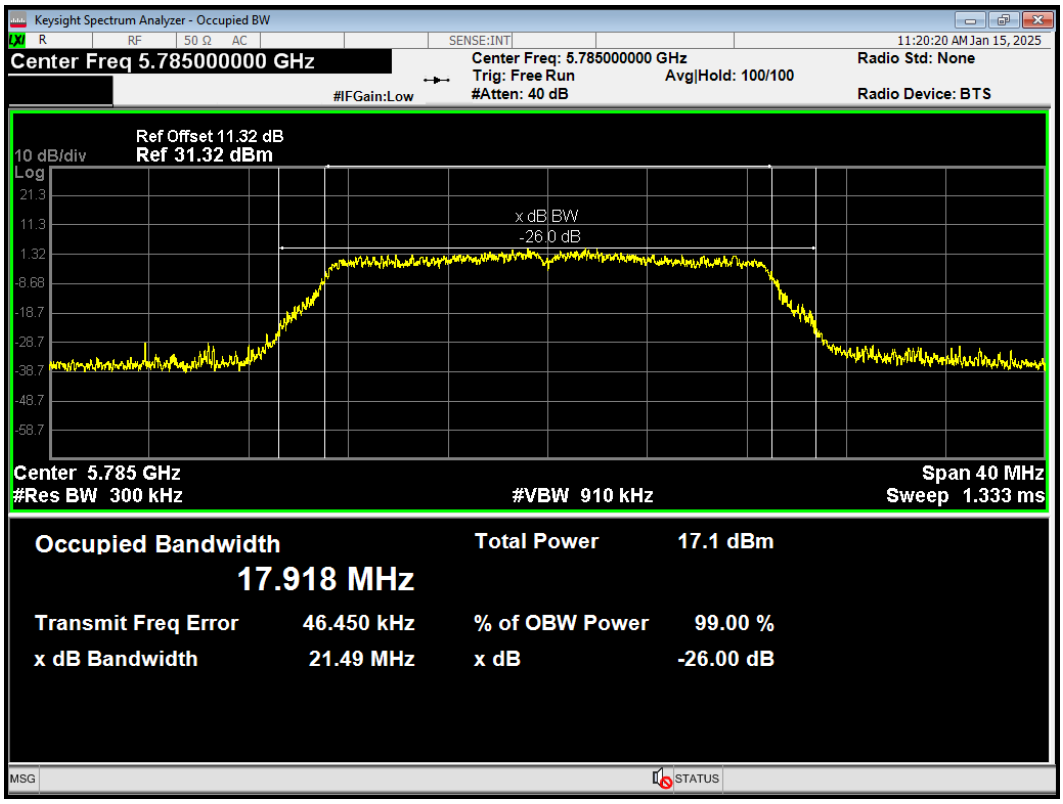
OBW 802.11a 5825MHz



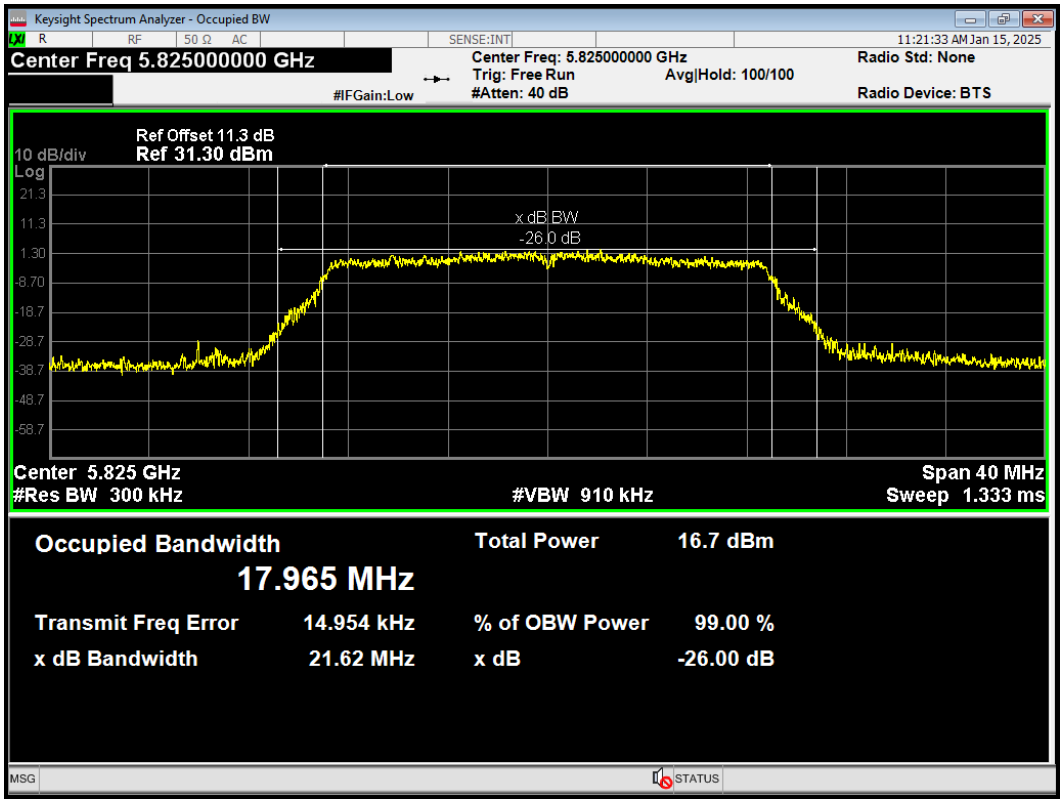
OBW 802.11ac(VHT20) 5745MHz



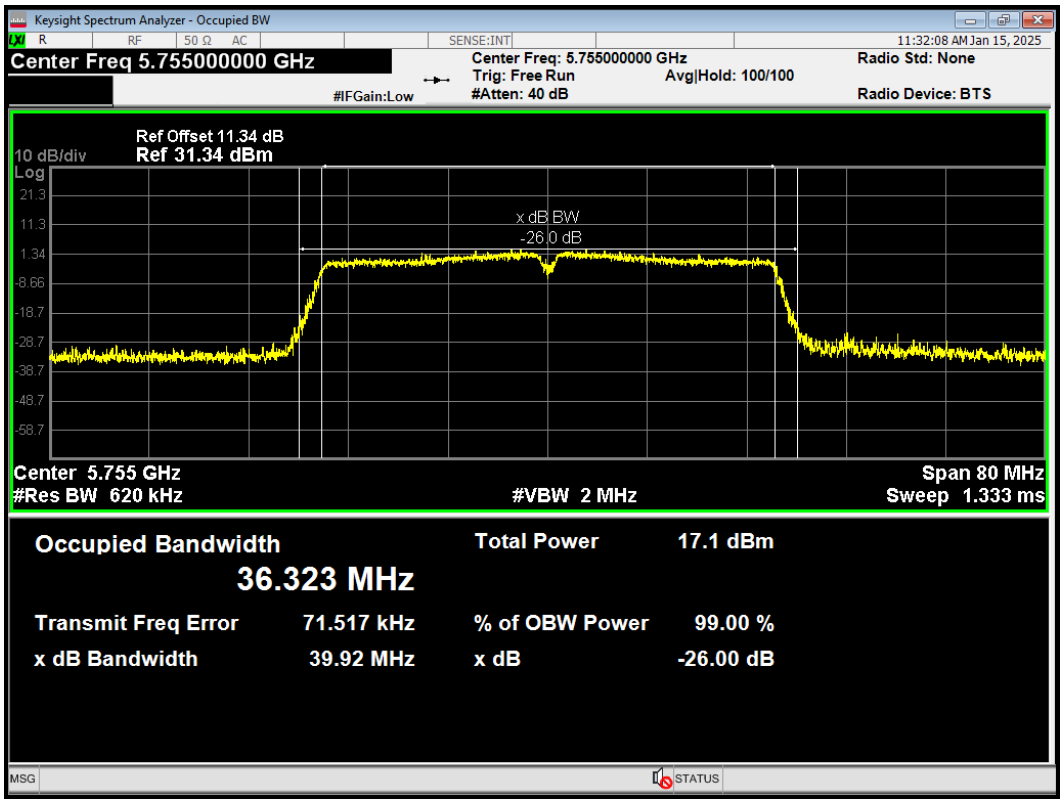
OBW 802.11ac(VHT20) 5785MHz



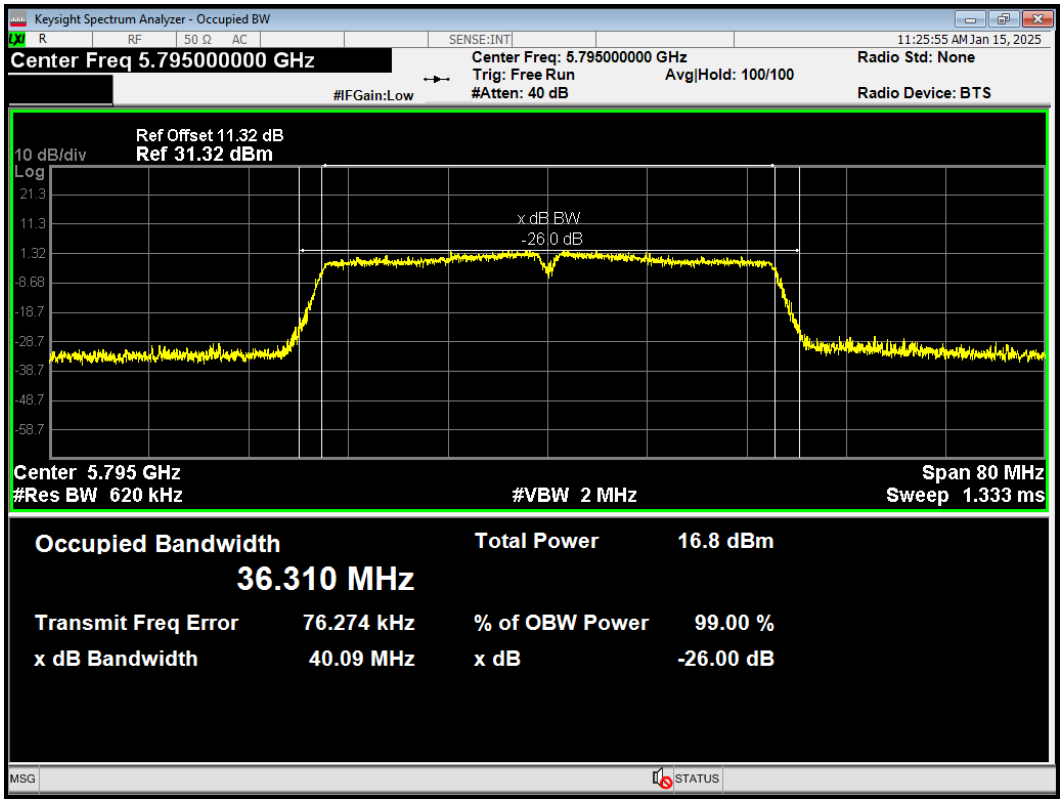
OBW 802.11ac(VHT20) 5825MHz



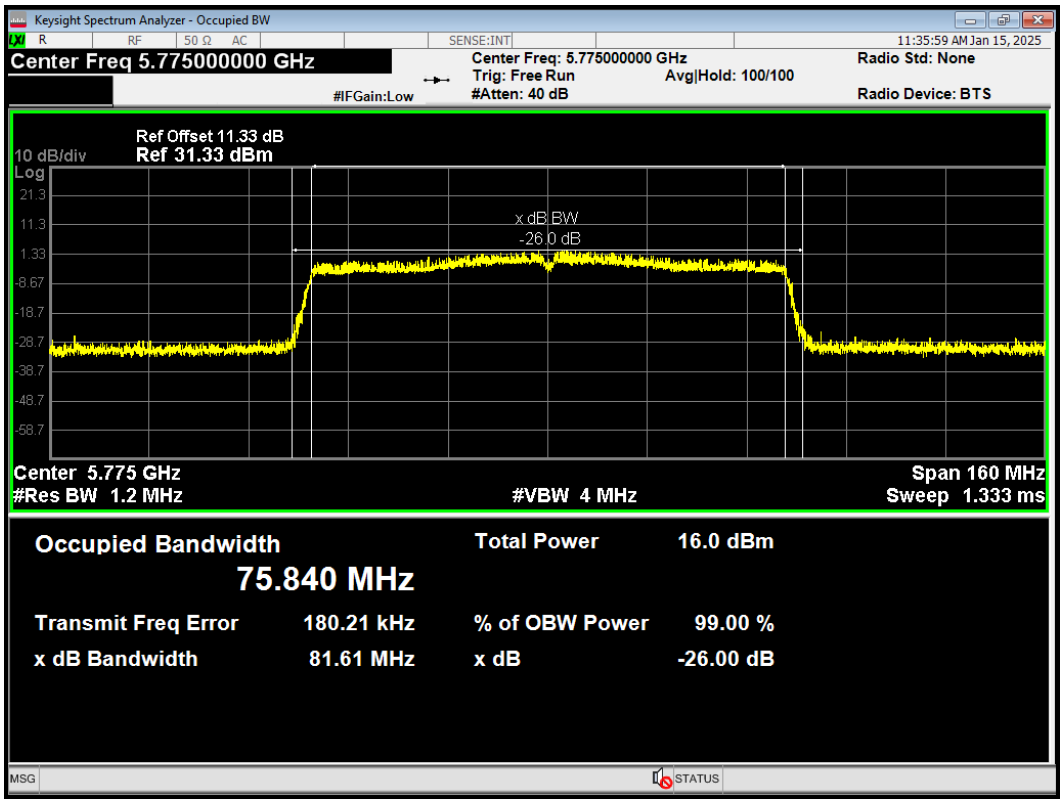
OBW 802.11ac(VHT40) 5755MHz



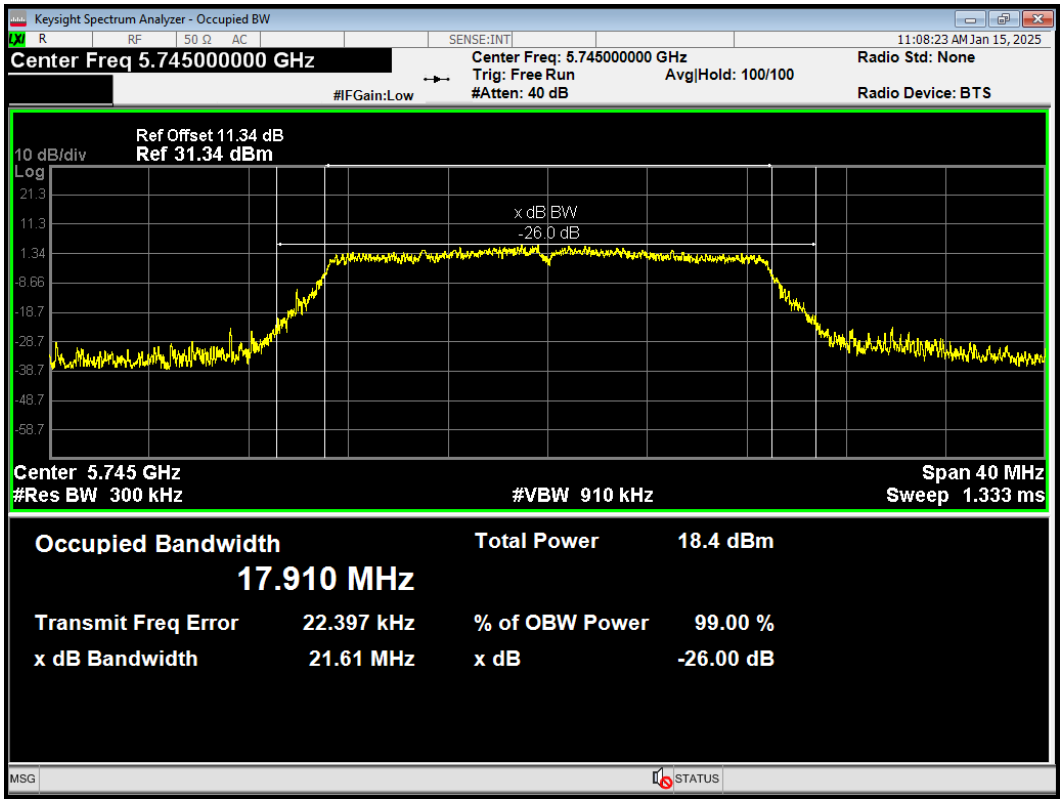
OBW 802.11ac(VHT40) 5795MHz



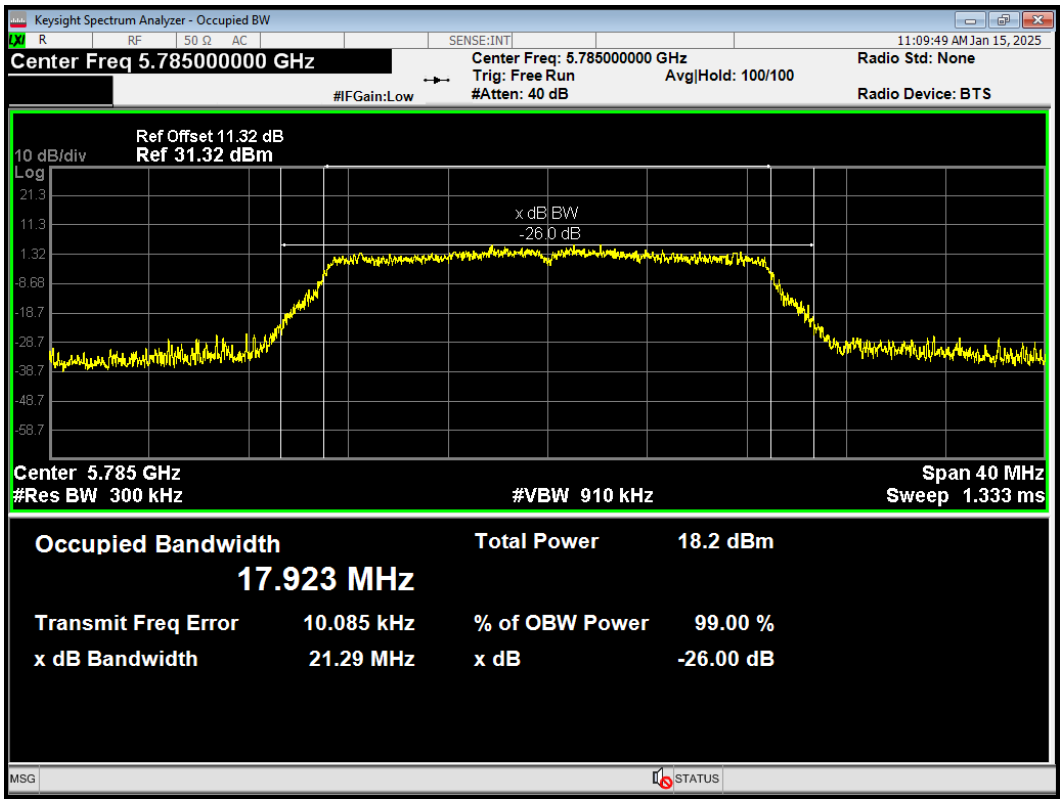
OBW 802.11ac(VHT80) 5775MHz



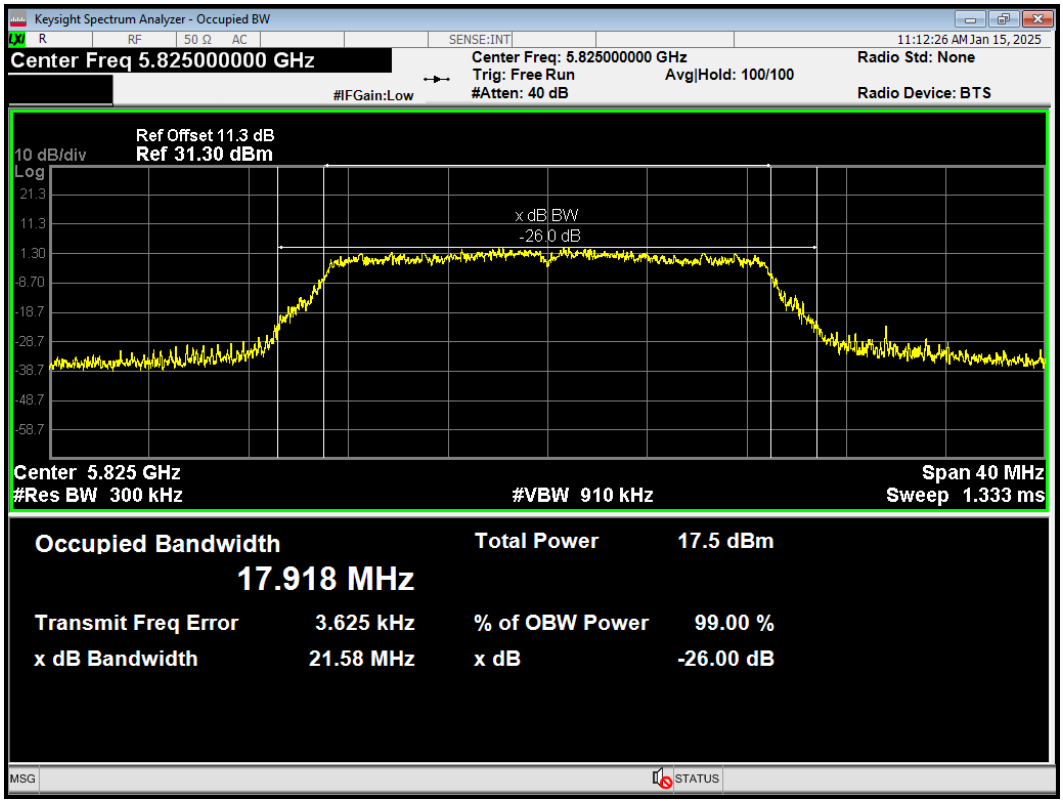
OBW 802.11n(HT20) 5745MHz



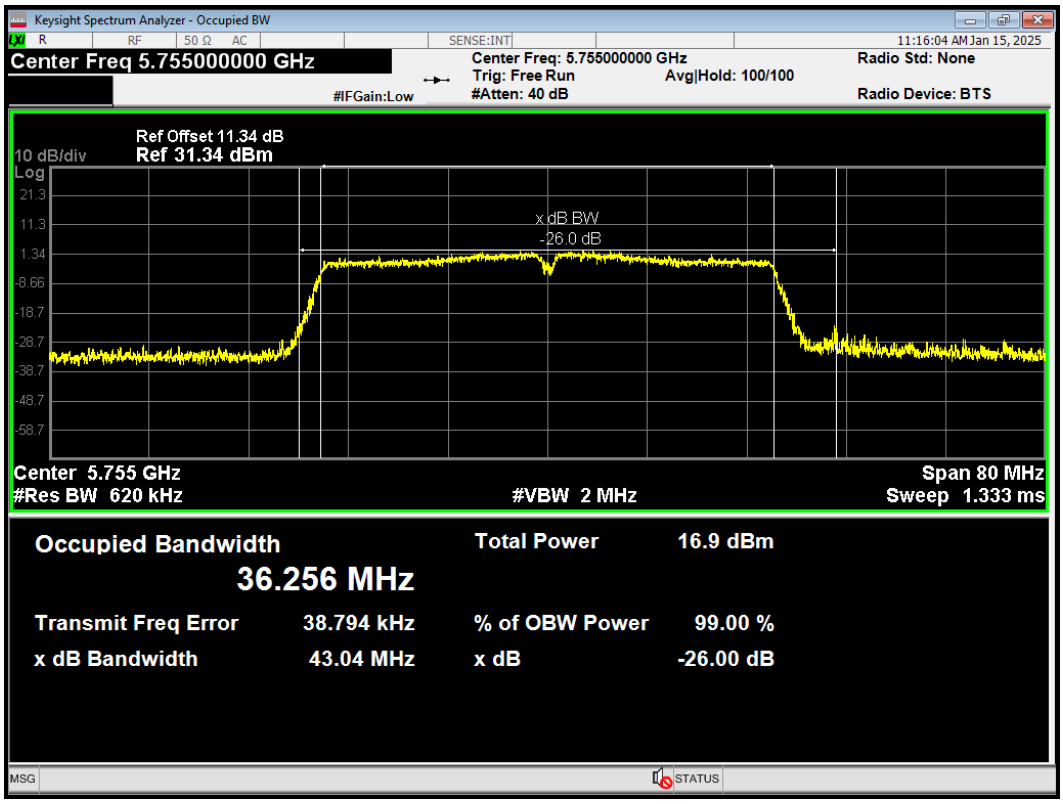
OBW 802.11n(HT20) 5785MHz



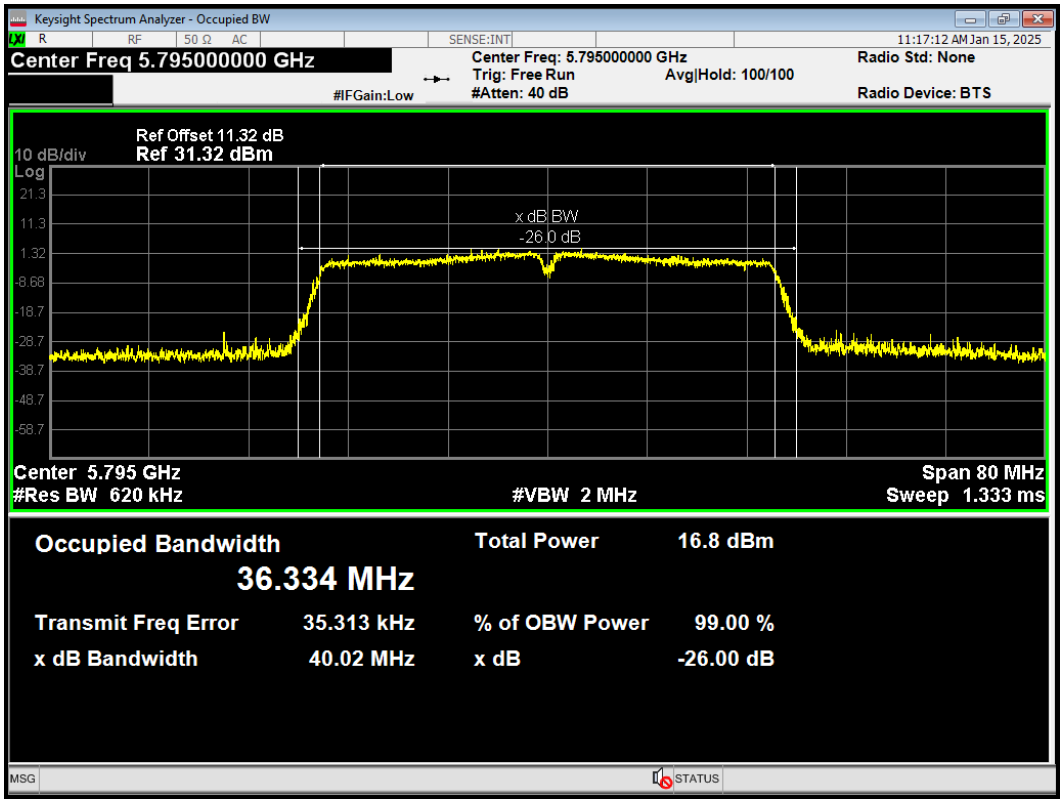
OBW 802.11n(HT20) 5825MHz



OBW 802.11n(HT40) 5755MHz



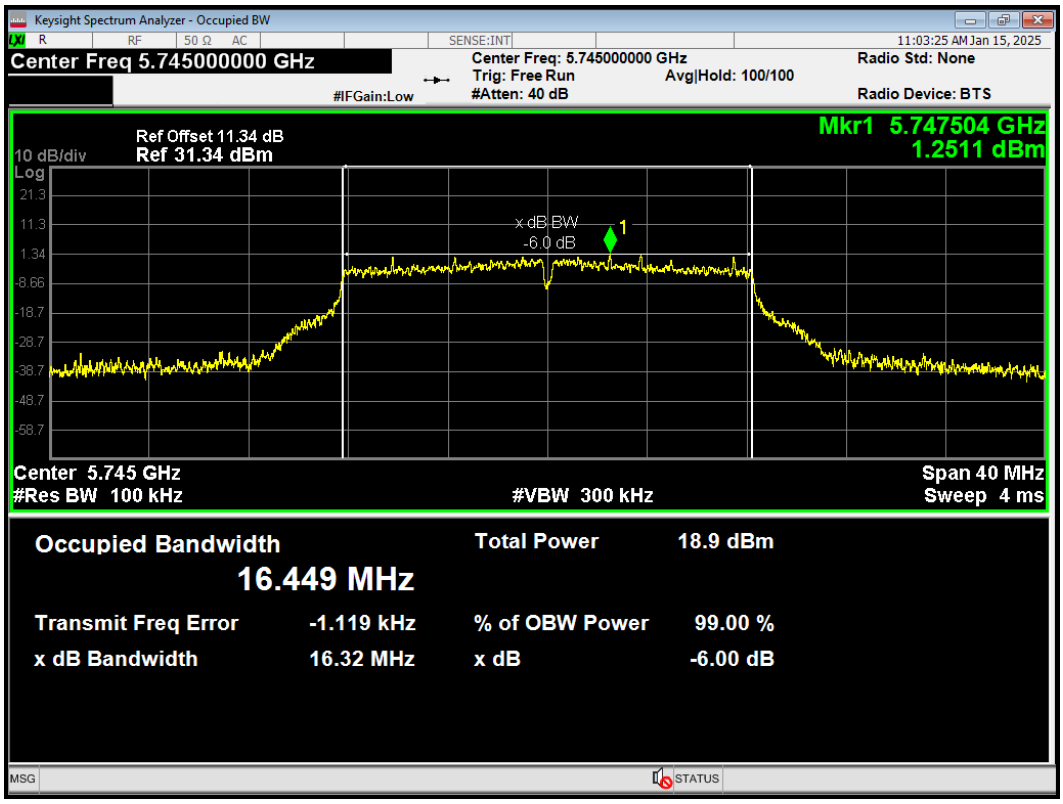
OBW 802.11n(HT40) 5795MHz



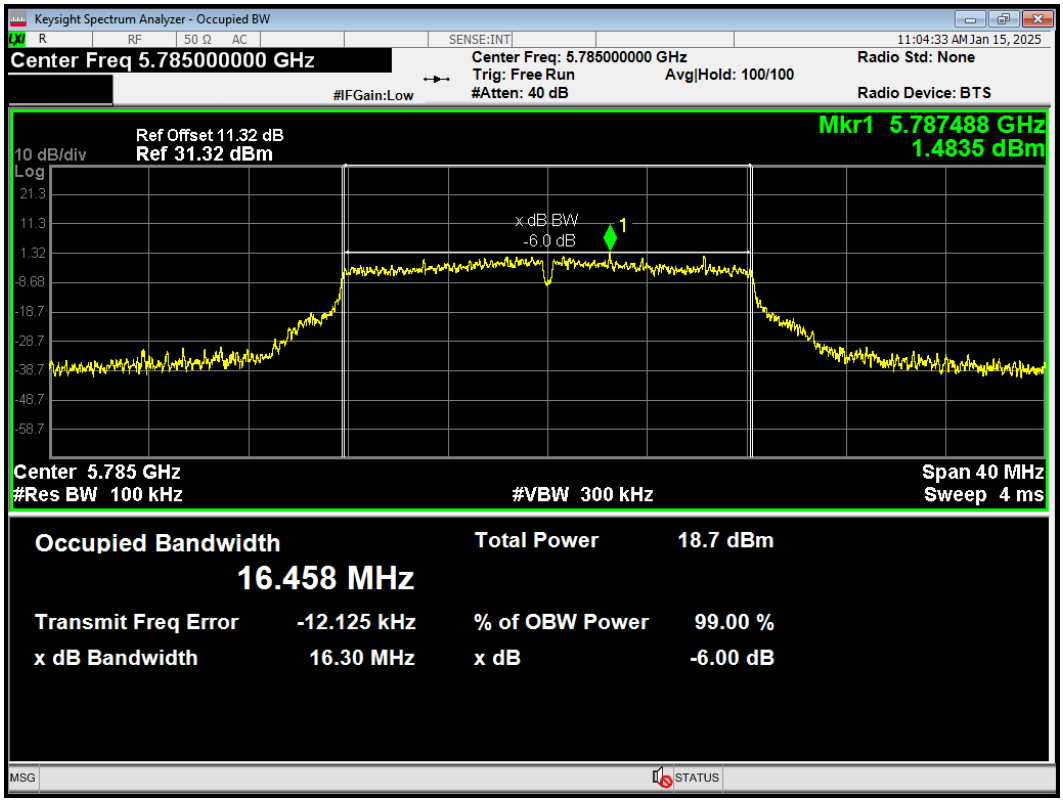
Minimum 6 dB bandwidth

U-NII-3

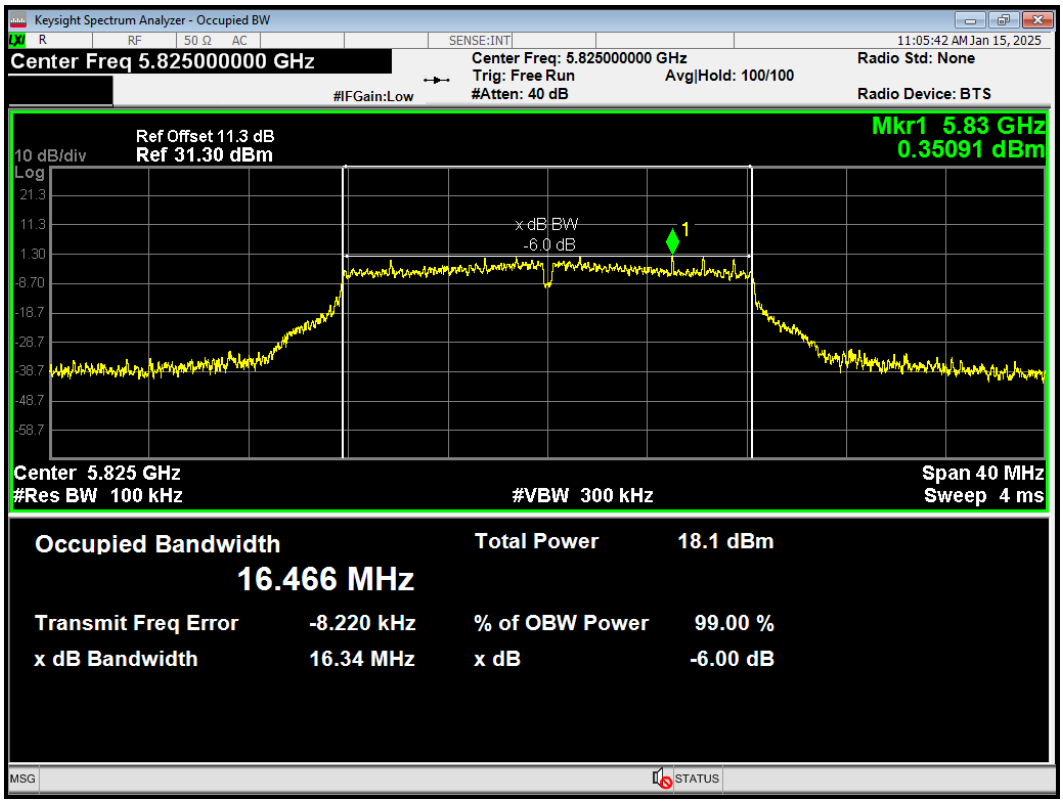
-6dB Bandwidth 802.11a 5745MHz



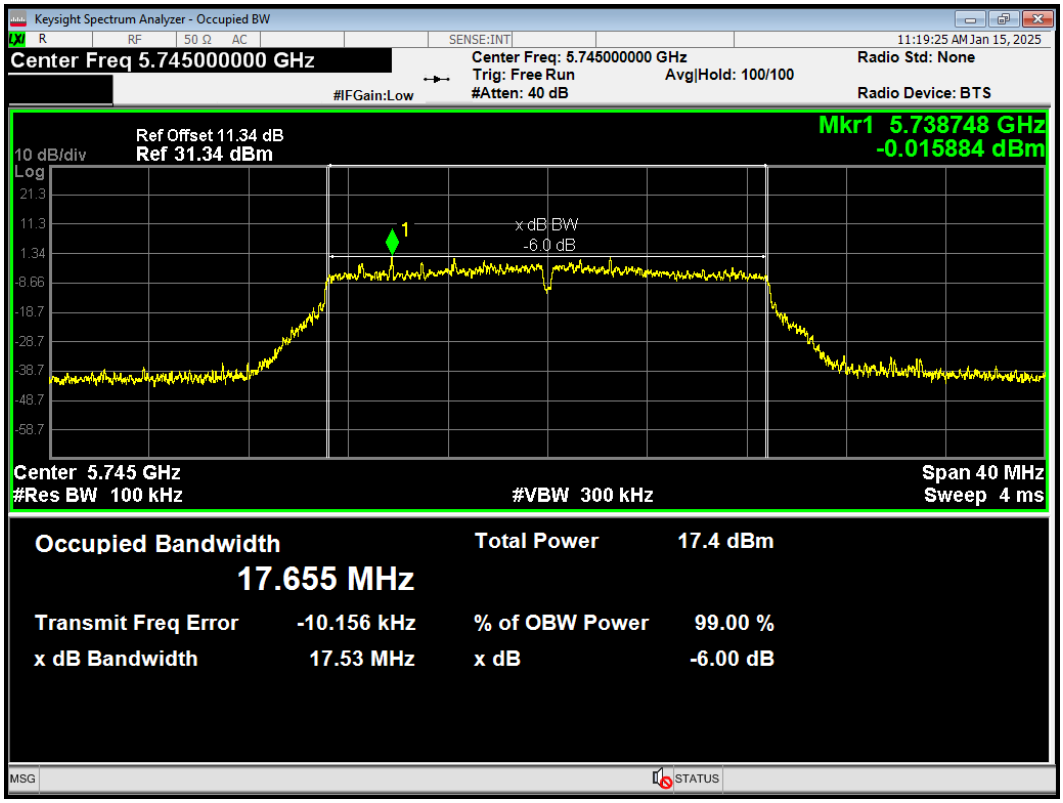
-6dB Bandwidth 802.11a 5785MHz



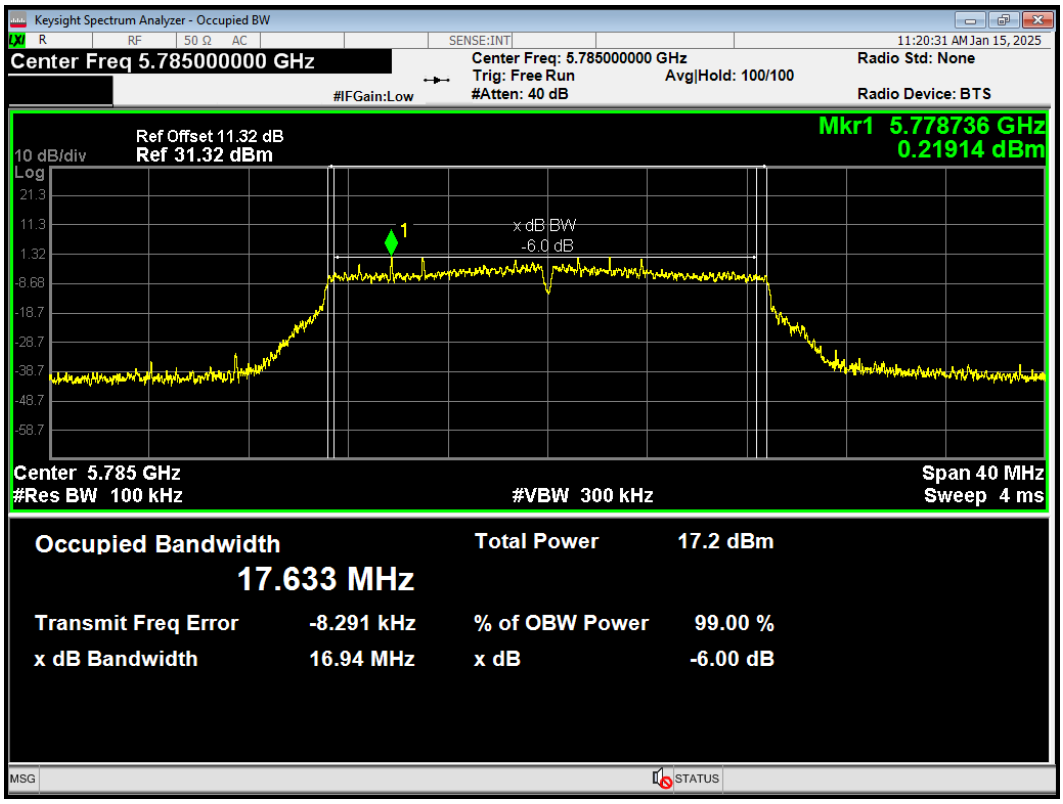
-6dB Bandwidth 802.11a 5825MHz



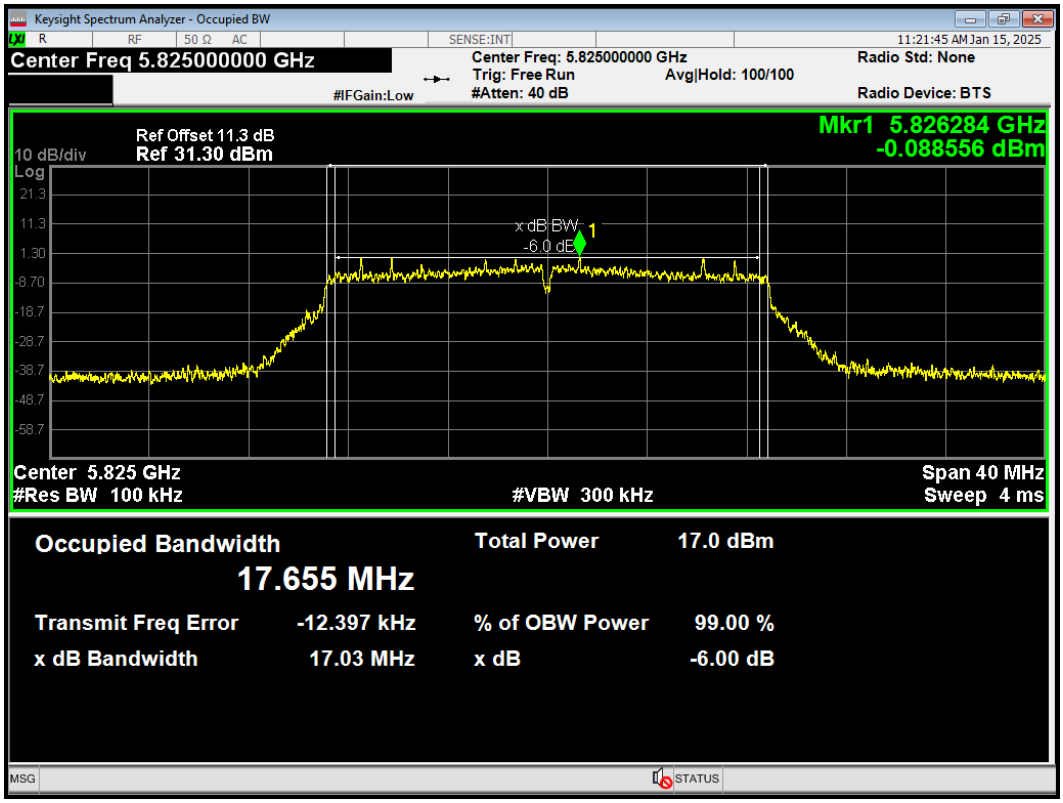
-6dB Bandwidth 802.11ac(VHT20) 5745MHz



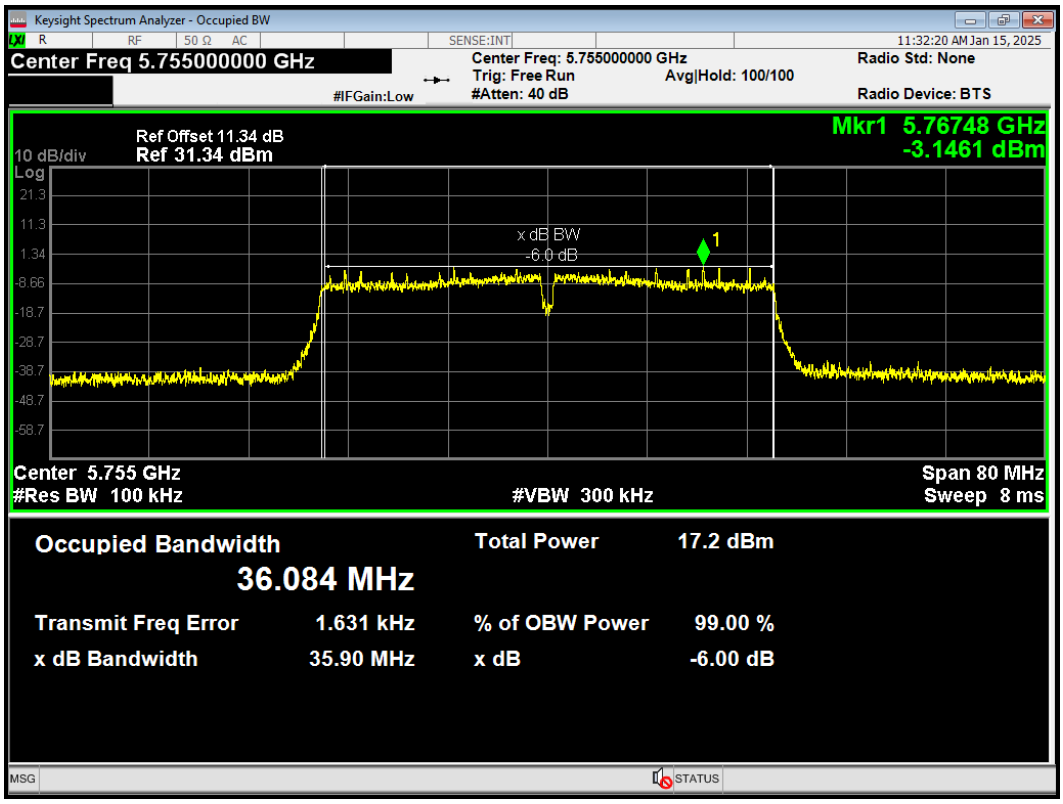
-6dB Bandwidth 802.11ac(VHT20) 5785MHz



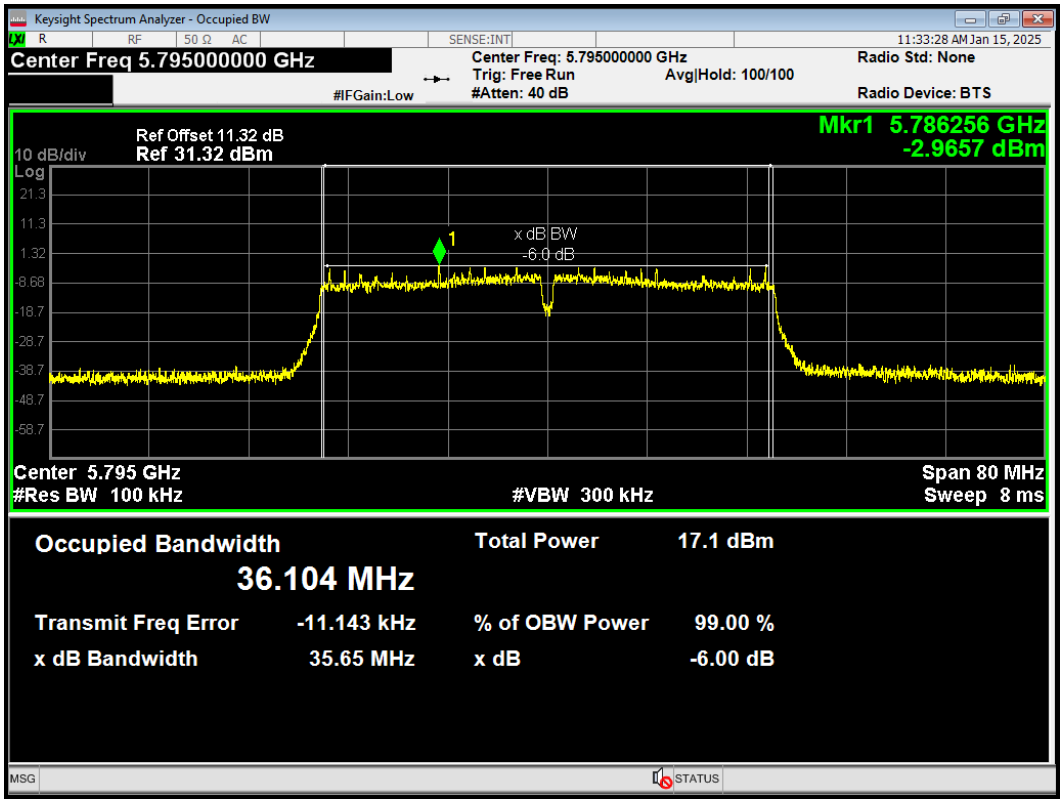
-6dB Bandwidth 802.11ac(VHT20) 5825MHz



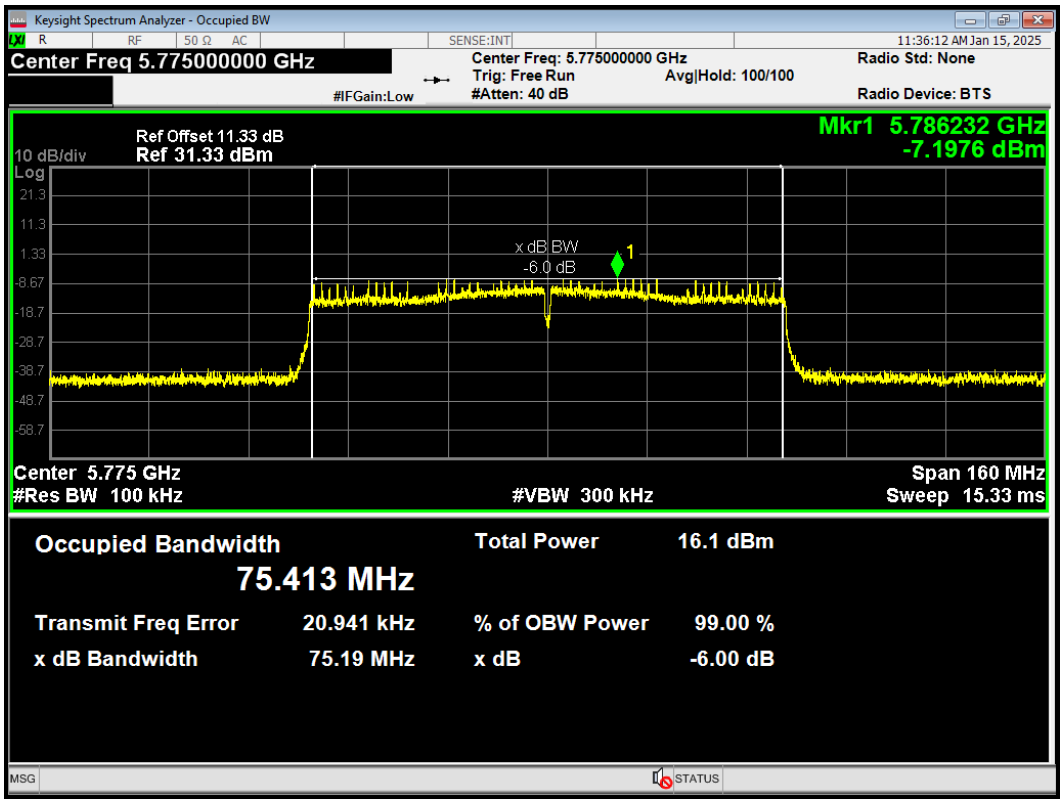
-6dB Bandwidth 802.11ac(VHT40) 5755MHz



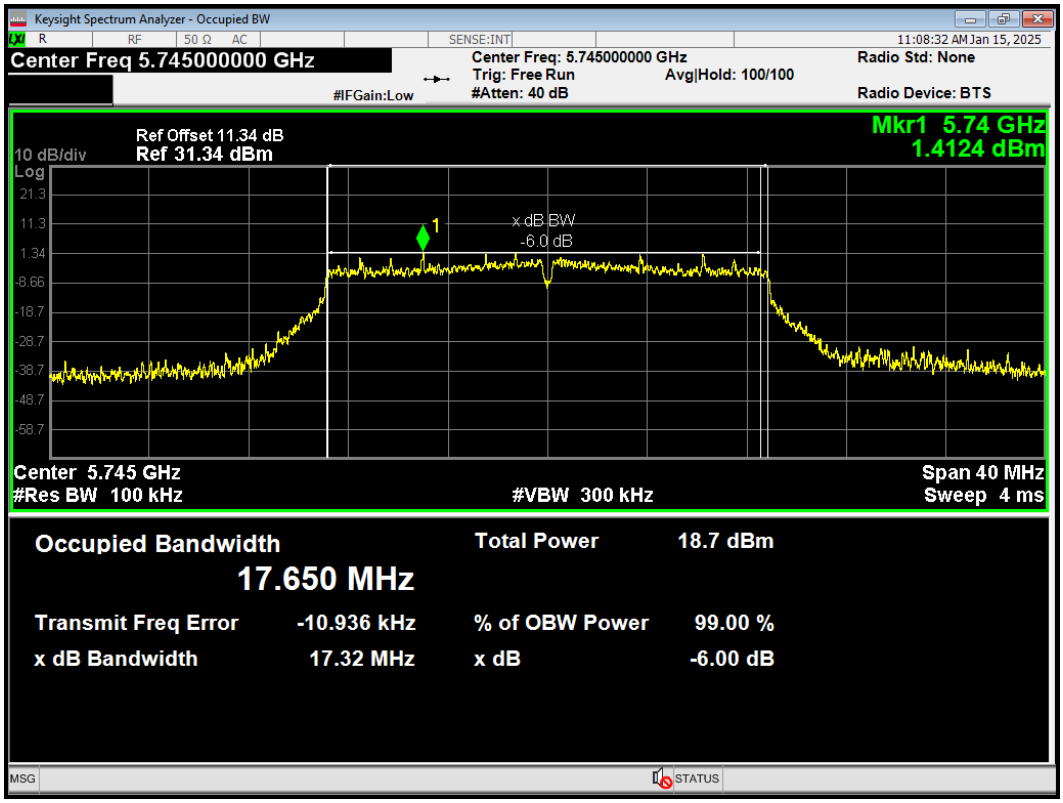
-6dB Bandwidth 802.11ac(VHT40) 5795MHz



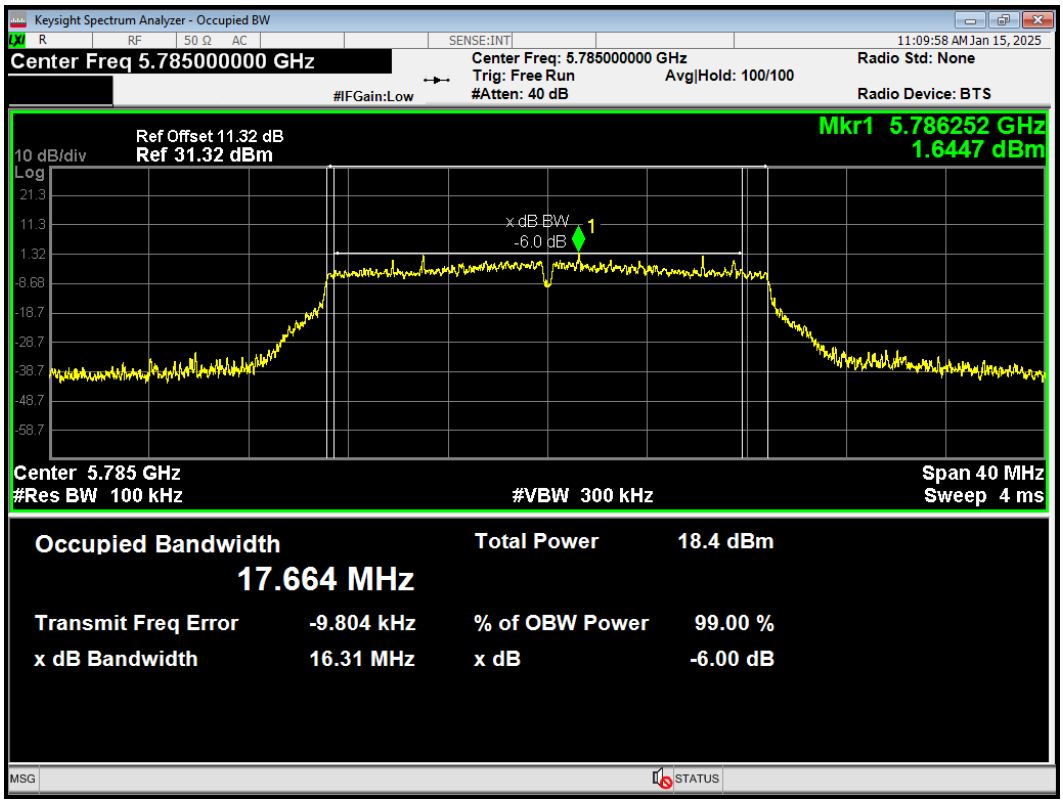
-6dB Bandwidth 802.11ac(VHT80) 5775MHz



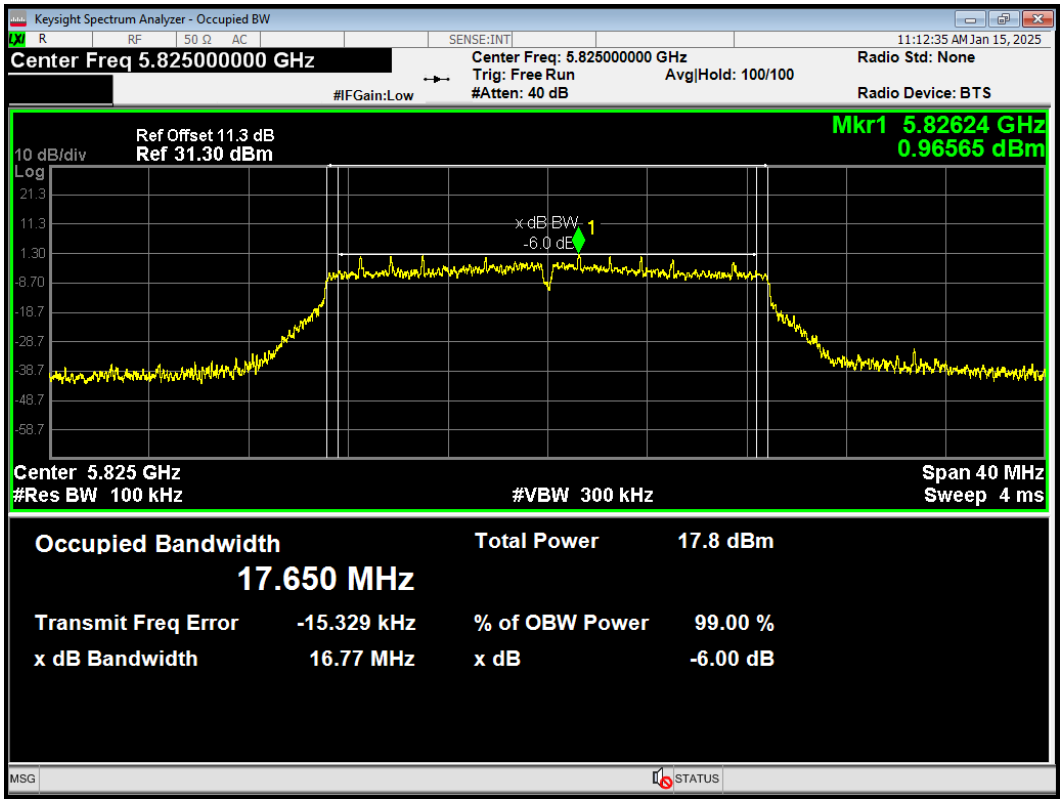
-6dB Bandwidth 802.11n(HT20) 5745MHz



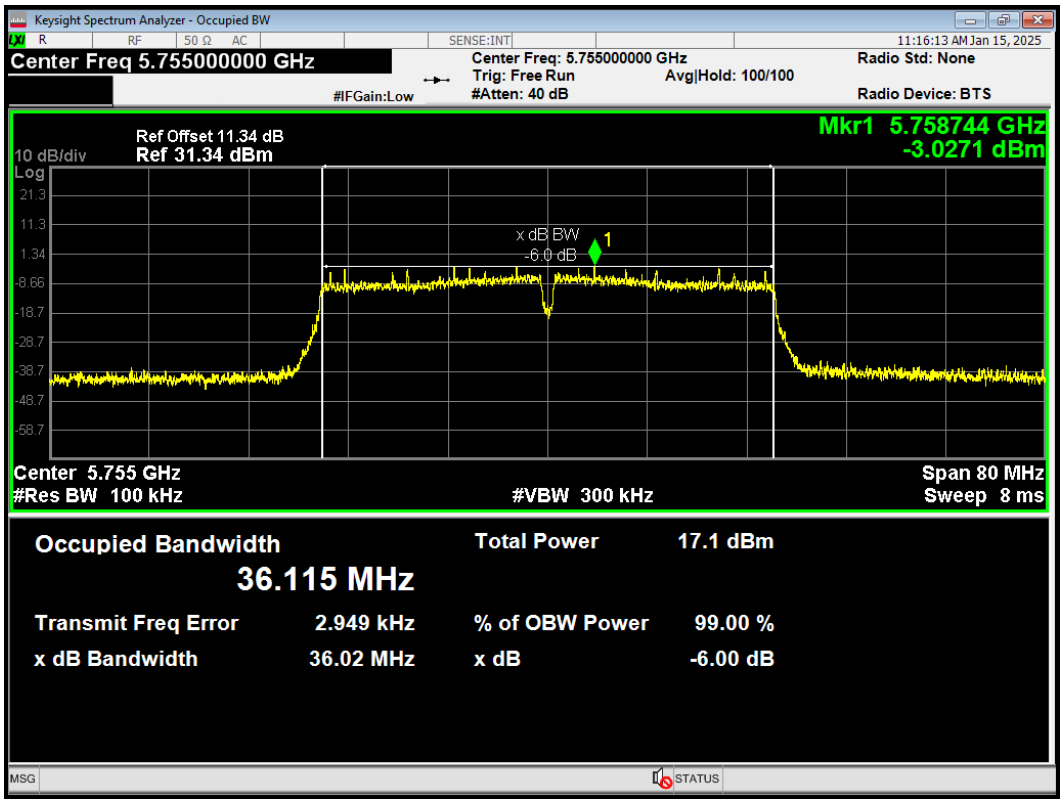
-6dB Bandwidth 802.11n(HT20) 5785MHz



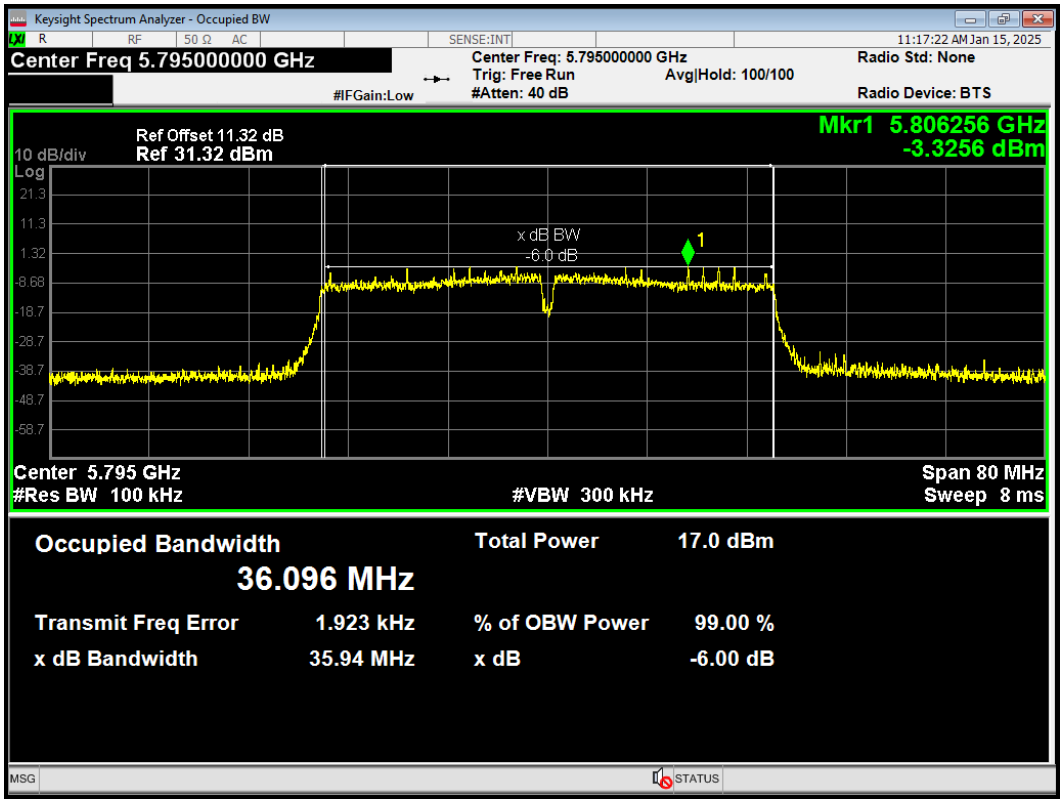
-6dB Bandwidth 802.11n(HT20) 5825MHz



-6dB Bandwidth 802.11n(HT40) 5755MHz



-6dB Bandwidth 802.11n(HT40) 5795MHz



5.2. Average Power Output

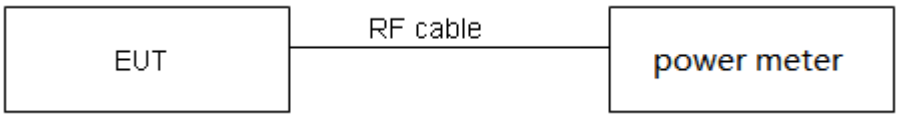
Ambient condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Methods of Measurement

During the process of the testing, The EUT was connected to the average power meter through an external attenuator and a known loss cable. The EUT is max power transmission with proper modulation. We use Maximum average Conducted Output Power Level Method in KDB789033 for this test

Test Setup



Limits

Rule FCC Part 15.407(a)(1) / FCC Part 15.407(a) (3)
(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. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. 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 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 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.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.44 dB.

Test Results

Mode	Duty cycle	Duty cycle correction Factor (dB)
802.11a	0.99	0.00
802.11n HT20	0.96	0.16
802.11n HT40	0.90	0.45
802.11ac VHT20	0.95	0.22
802.11ac VHT40	0.90	0.44
802.11ac VHT80	0.82	0.86
Note: when Duty cycle⩾0.98, Duty cycle correction Factor not required.		

Power Index								
Channel	802.11a	802.11n HT20	802.11ac VHT20	Channel	802.11n HT40	802.11ac VHT40	Channel	802.11ac VHT80
CH36	15	15	14	CH38	15	13	CH42	13
CH40	15	15	14	CH46	15	13	/	/
CH48	15	15	14	/	/	/	/	/
CH149	15	15	14	CH151	15	13	CH155	13
CH157	15	15	14	CH159	15	13	/	/
CH165	15	15	14	/	/	/	/	/

U-NII-1

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	36/5180	14.37	14.37	24	PASS
	40/5200	14.55	14.55	24	PASS
	48/5240	14.60	14.60	24	PASS
802.11n HT20	36/5180	13.78	13.94	24	PASS
	40/5200	13.94	14.10	24	PASS
	48/5240	14.12	14.27	24	PASS
802.11n HT40	38/5190	12.37	12.82	24	PASS
	46/5230	12.40	12.84	24	PASS
802.11ac VHT20	36/5180	12.66	12.88	24	PASS
	40/5200	12.92	13.15	24	PASS
	48/5240	13.01	13.23	24	PASS
802.11ac VHT40	38/5190	12.30	12.74	24	PASS
	46/5230	12.41	12.84	24	PASS
802.11ac VHT80	42/5210	10.69	11.55	24	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

U-NII-3

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	149/5745	12.94	12.94	30	PASS
	157/5785	12.69	12.69	30	PASS
	165/5825	12.36	12.36	30	PASS
802.11n HT20	149/5745	12.38	12.54	30	PASS
	157/5785	12.24	12.40	30	PASS
	165/5825	11.63	11.79	30	PASS
802.11n HT40	151/5755	10.54	10.99	30	PASS
	159/5795	10.44	10.88	30	PASS
802.11ac VHT20	149/5745	11.32	11.54	30	PASS
	157/5785	11.16	11.38	30	PASS
	165/5825	10.83	11.05	30	PASS
802.11ac VHT40	151/5755	10.64	11.08	30	PASS
	159/5795	10.52	10.95	30	PASS
802.11ac VHT80	155/5775	8.74	9.60	30	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

5.3. Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Method of Measurement

1. Frequency stability with respect to ambient temperature

a) Supply the EUT with a nominal ac voltage or install a new or fully charged battery in the EUT. If possible, a dummy load shall be connected to the EUT because an antenna near the metallic walls of an environmental test chamber could affect the output frequency of the EUT. If the EUT is equipped with a permanently attached, adjustable-length antenna, then the EUT shall be placed in the center of the chamber with the antenna adjusted to the shortest length possible. Turn ON the EUT and tune it to one of the number of frequencies shown in 5.6.

b) Couple the unlicensed wireless device output to the measuring instrument by connecting an antenna to the measuring instrument with a suitable length of coaxial cable and placing the measuring antenna near the EUT (e.g., 15 cm away), or by connecting a dummy load to the measuring instrument, through an attenuator if necessary.

c) Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).

d) Turn the EUT OFF and place it inside the environmental temperature chamber. For devices that have oscillator heaters, energize only the heater circuit.

e) Set the temperature control on the chamber to the highest specified in the regulatory requirements for the type of device and allow the oscillator heater and the chamber temperature to stabilize.

f) While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.

g) Measure the frequency at each of frequencies specified in 5.6.

h) Switch OFF the EUT but do not switch OFF the oscillator heater.

i) Lower the chamber temperature by not more that 10°C, and allow the temperature inside the chamber to stabilize.

j) Repeat step f) through step i) down to the lowest specified temperature.

2. Frequency stability when varying supply voltage

Unless otherwise specified, these tests shall be made at ambient room temperature (+15°C to +25 °C). An antenna shall be connected to the antenna output terminals of the EUT if possible. If the EUT is equipped with or uses an adjustable-length antenna, then it shall be fully extended.

a) Supply the EUT with nominal voltage or install a new or fully charged battery in the EUT. Turn ON the EUT and couple its output to a frequency counter or other frequency-measuring instrument.

b) Tune the EUT to one of the number of frequencies required in 5.6. Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).
c) Measure the frequency at each of the frequencies specified in 5.6.
d) Repeat the above procedure at 85% and 115% of the nominal supply voltage.

Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 936Hz

Test Results

Voltage (V)	Temperature (°C)	U-NII-1 Test Results			
		5200MHz			
		1min	2min	5min	10min
3.6	-30	5199.990136	5199.989279	5199.983931	5199.982865
3.6	-20	5200.000069	5199.984515	5199.975210	5199.975482
3.6	-10	5199.992135	5199.978149	5199.973720	5199.966106
3.6	0	5199.991022	5199.979358	5199.965750	5199.968385
3.6	10	5199.989373	5199.977255	5199.962689	5199.962487
3.6	20	5199.985764	5199.974369	5199.955700	5199.959529
3.6	30	5199.983446	5199.974007	5199.948106	5199.957741
3.6	40	5199.978371	5199.970361	5199.940536	5199.955303
3.6	50	5199.977297	5199.966455	5199.937281	5199.953747
3.3	20	5199.977058	5199.963362	5199.931838	5199.950438
4.2	20	5199.971284	5199.961625	5199.928973	5199.950048
Max. ΔMHz		-0.028716	-0.038375	-0.071027	-0.049952
PPM		-5.522308	-7.379808	-13.659038	-9.606154

Voltage (V)	Temperature (°C)	U-NII-3 Test Results			
		5785MHz			
		1min	2min	5min	10min
3.6	-30	5784.998950	5784.997131	5784.994377	5784.993922
3.6	-20	5784.997207	5784.991642	5784.991979	5784.991965
3.6	-10	5784.990293	5784.985181	5784.984103	5784.982047
3.6	0	5784.993708	5784.985232	5784.983015	5784.991199
3.6	10	5784.986370	5784.977114	5784.979754	5784.983980
3.6	20	5784.982699	5784.967195	5784.976035	5784.976472
3.6	30	5784.982238	5784.965694	5784.976028	5784.973763
3.6	40	5784.975147	5784.963452	5784.968662	5784.963898
3.6	50	5784.970299	5784.957162	5784.964524	5784.963440
3.3	20	5784.964086	5784.954992	5784.956644	5784.955530
4.2	20	5784.963512	5784.953637	5784.951581	5784.951044
Max. ΔMHz		-0.036488	-0.046363	-0.048419	-0.048956
PPM		-6.307347	-8.014347	-8.369749	-8.462576

5.4. Power Spectral Density

Ambient condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

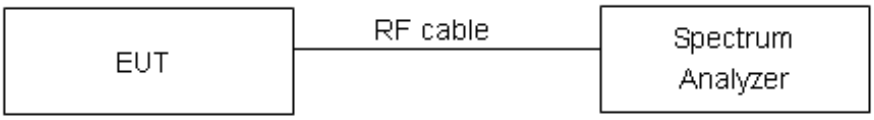
Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

Set RBW = 1MHz, VBW =3MHz for the band 5.150-5.250GHz.
Set RBW = 470kHz, VBW =1.5MHz for the band 5.725-5.850GHz

The conducted PSD is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically.

Test setup



Limits

Rule FCC Part 15.407(a)(1)/ FCC Part 15.407(a)(3)
For an indoor access point operating in the band 5.15-5.25 GHz, 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.
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. 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.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500kHz band. If transmittingantennas 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.

Frequency Bands/GHz	Limits
5.15-5.25	17/MHz
5.725-5.85	30dBm/500kHz

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.75dB.

Test Results:

U-NII-1

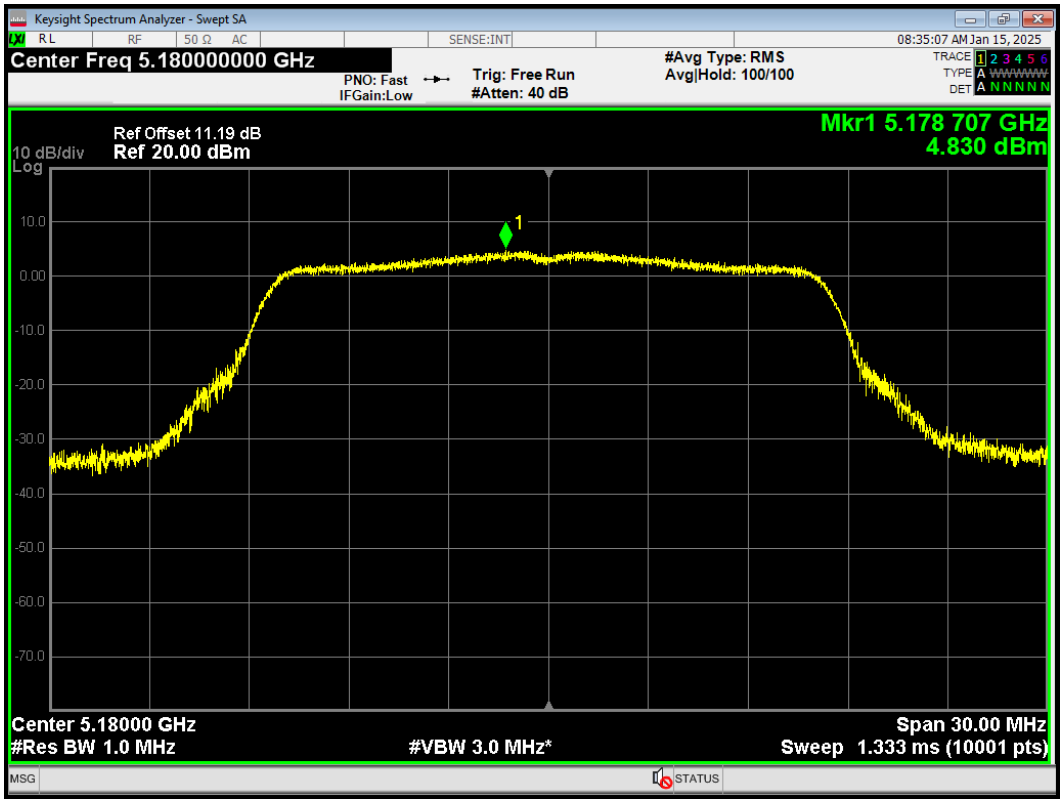
Mode	Channel/ Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	36/5180	4.83	4.83	11	PASS
	40/5200	5.12	5.12	11	PASS
	48/5240	4.95	4.95	11	PASS
802.11n HT20	36/5180	4.26	4.42	11	PASS
	40/5200	3.98	4.14	11	PASS
	48/5240	4.52	4.68	11	PASS
802.11n HT40	38/5190	-0.31	0.14	11	PASS
	46/5230	-0.03	0.42	11	PASS
802.11ac VHT20	36/5180	2.93	3.15	11	PASS
	40/5200	3.24	3.46	11	PASS
	48/5240	3.13	3.35	11	PASS
802.11ac VHT40	38/5190	-0.09	0.35	11	PASS
	46/5230	-0.24	0.20	11	PASS
802.11ac VHT80	42/5210	-4.86	-4.00	11	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor					

U-NII-3

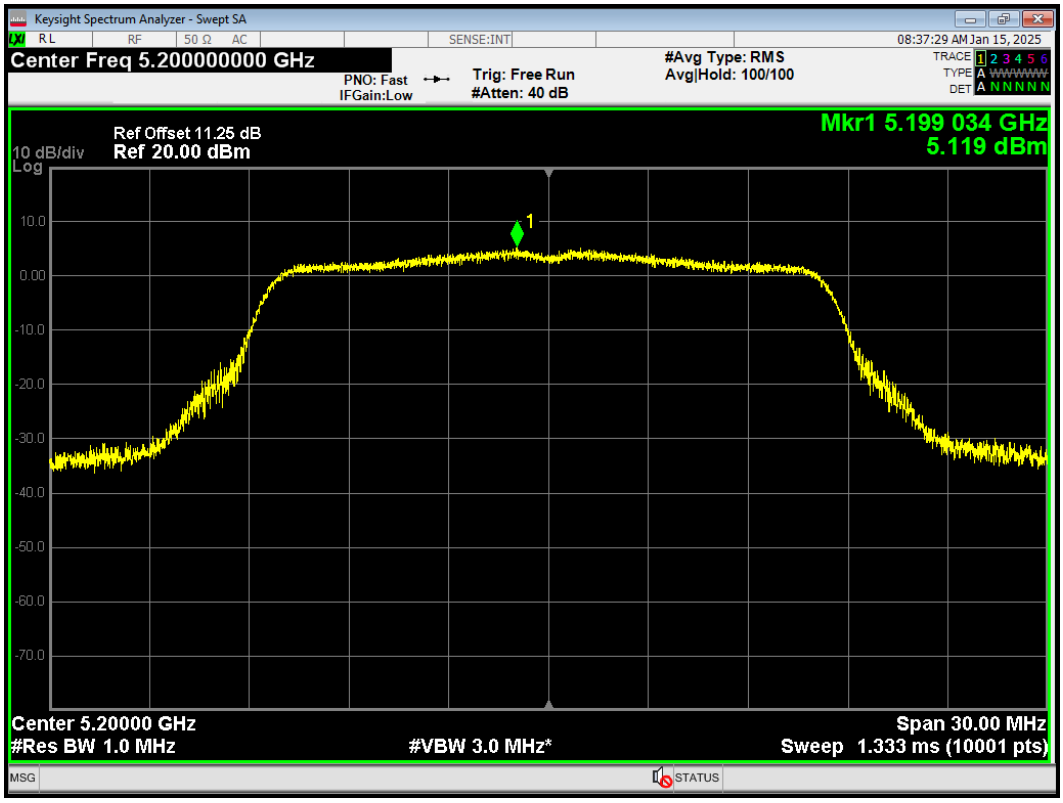
Mode	Channel /Frequency (MHz)	Read Value (dBm/470kHz)	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)	Conclusion
802.11a	149/5745	0.24	0.51	30	PASS
	157/5785	0.27	0.54	30	PASS
	165/5825	-0.59	-0.32	30	PASS
802.11n HT20	149/5745	-0.42	0.01	30	PASS
	157/5785	-0.61	-0.18	30	PASS
	165/5825	-1.19	-0.76	30	PASS
802.11n HT40	151/5755	-5.2	-4.48	30	PASS
	159/5795	-5.82	-5.10	30	PASS
802.11ac VHT20	149/5745	-1.79	-1.30	30	PASS
	157/5785	-1.95	-1.46	30	PASS
	165/5825	-1.95	-1.46	30	PASS
802.11ac VHT40	151/5755	-5.36	-4.65	30	PASS
	159/5795	-5.42	-4.71	30	PASS
802.11ac VHT80	155/5775	-10.59	-9.46	30	PASS
Note: PSD=Read Value+Duty cycle correction factor +10*log(500/470)					

U-NII-1

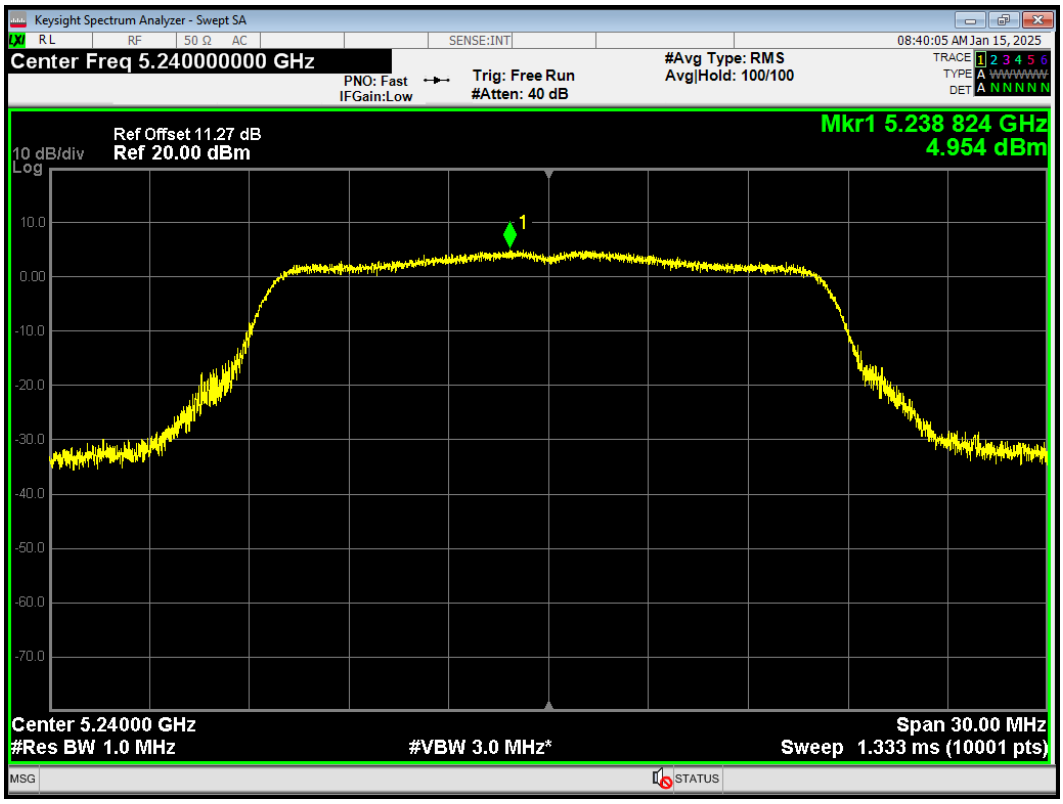
PSD 802.11a 5180MHz



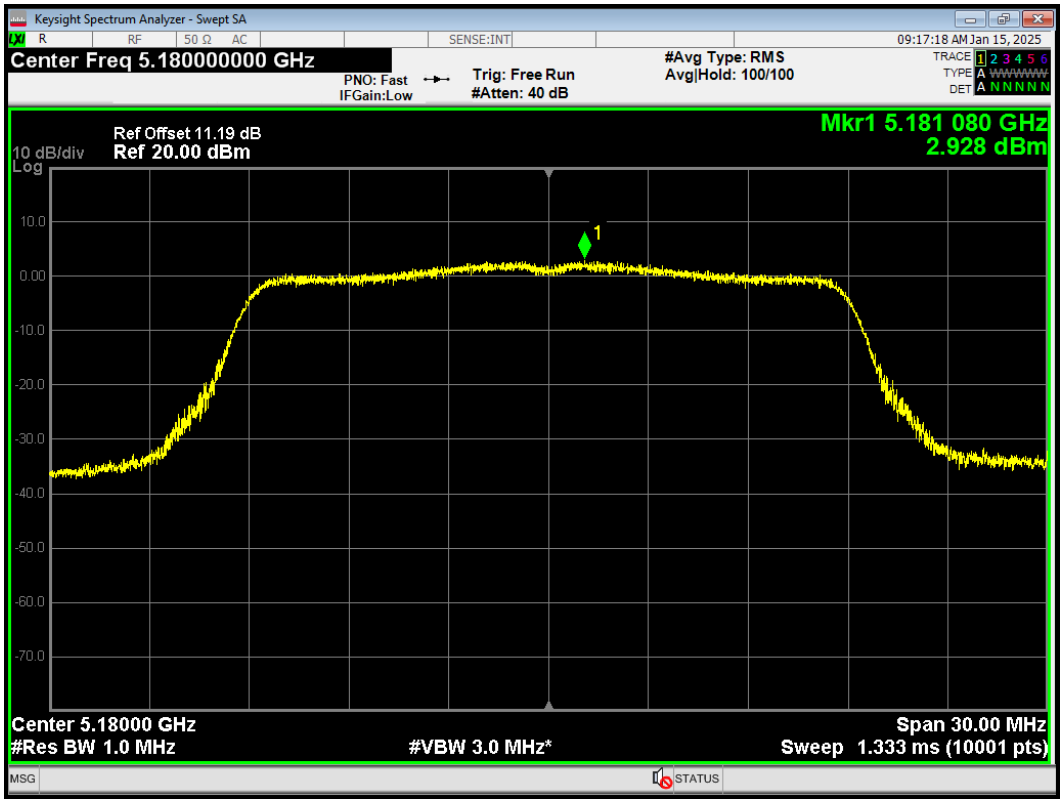
PSD 802.11a 5200MHz



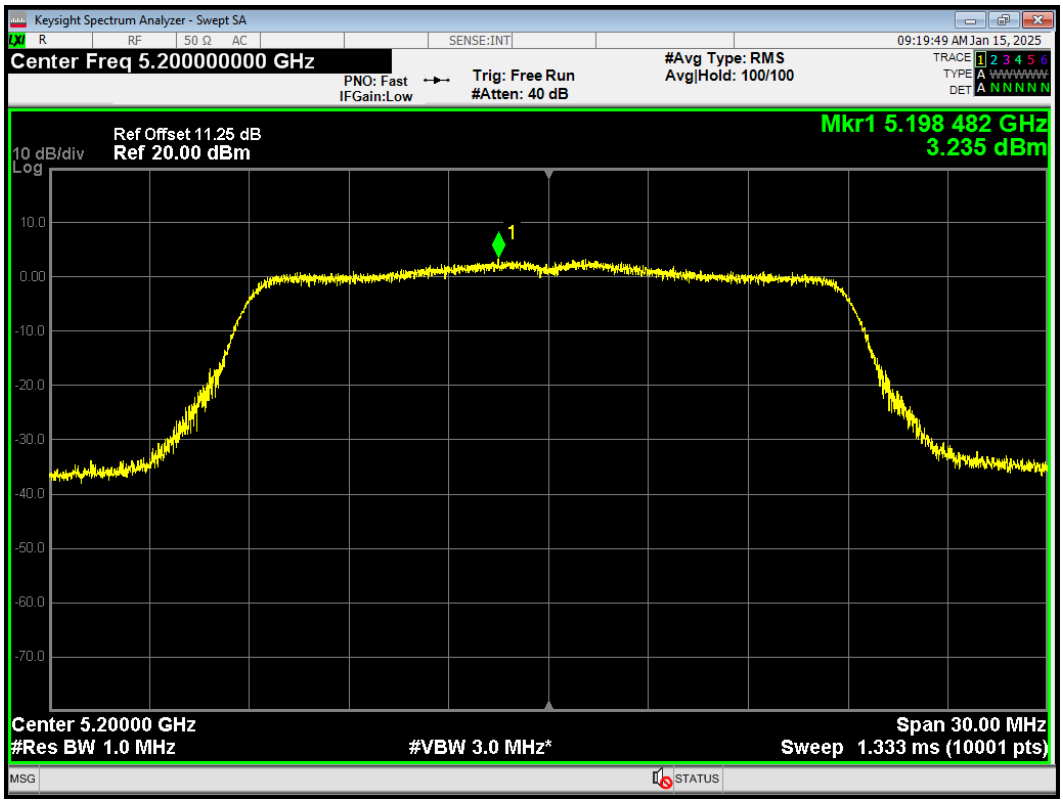
PSD 802.11a 5240MHz



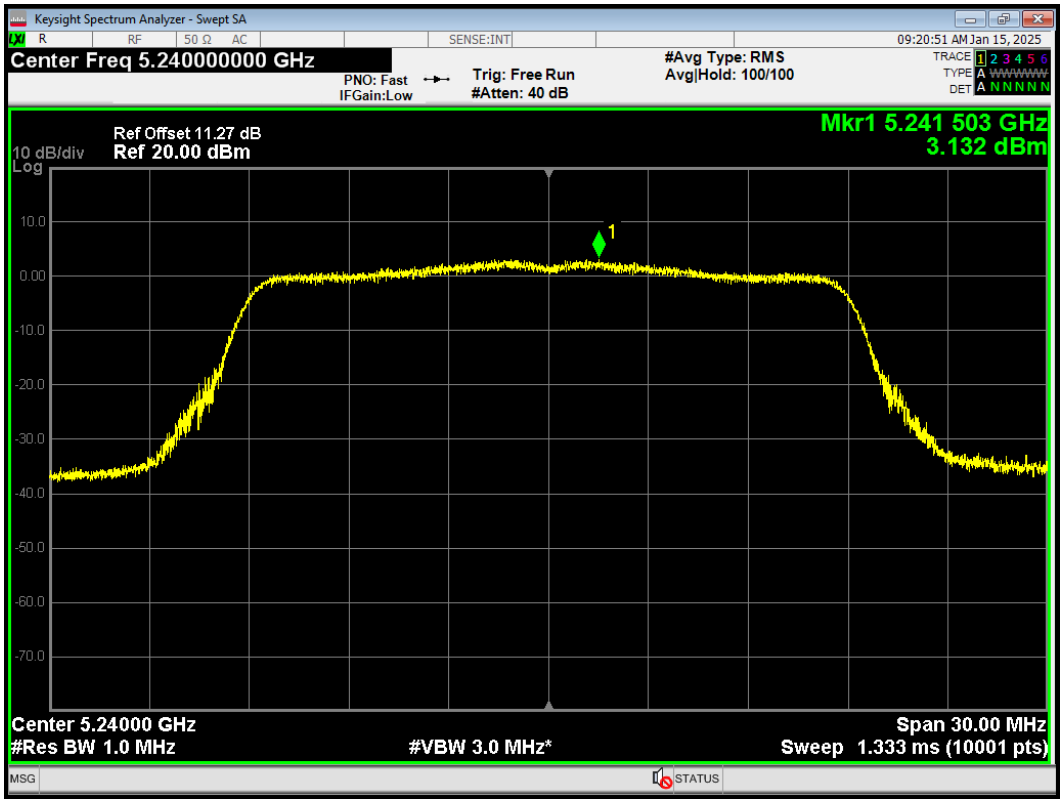
PSD 802.11ac(VHT20) 5180MHz



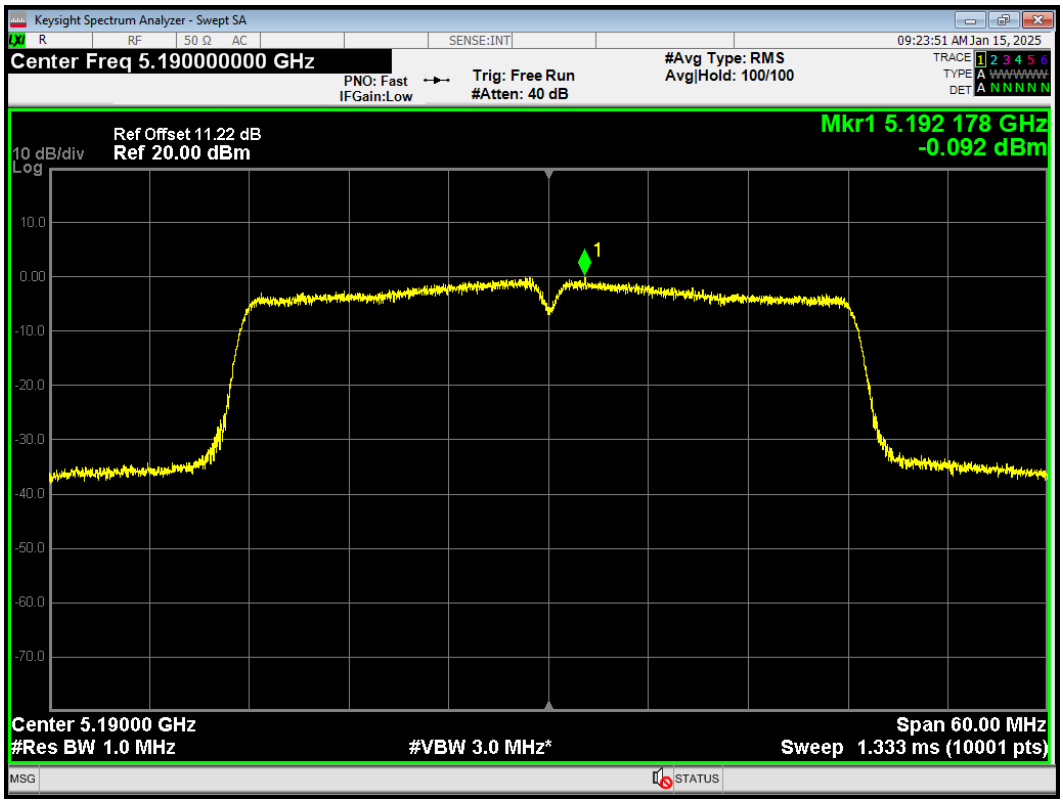
PSD 802.11ac(VHT20) 5200MHz



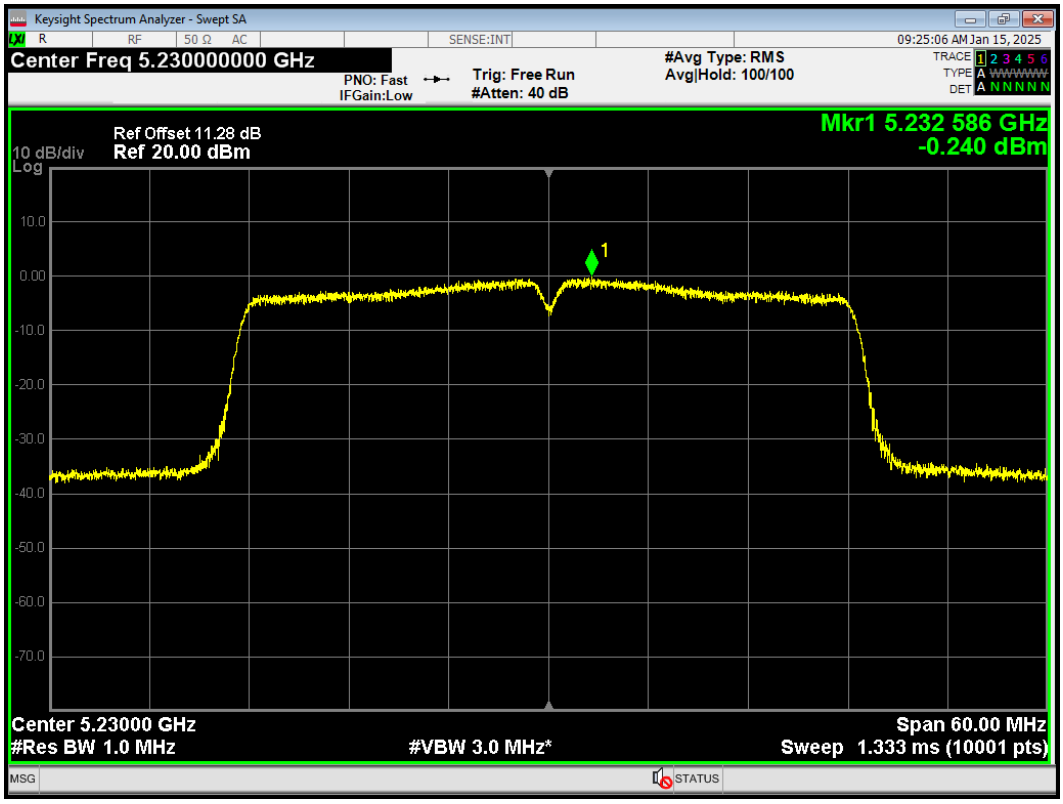
PSD 802.11ac(VHT20) 5240MHz



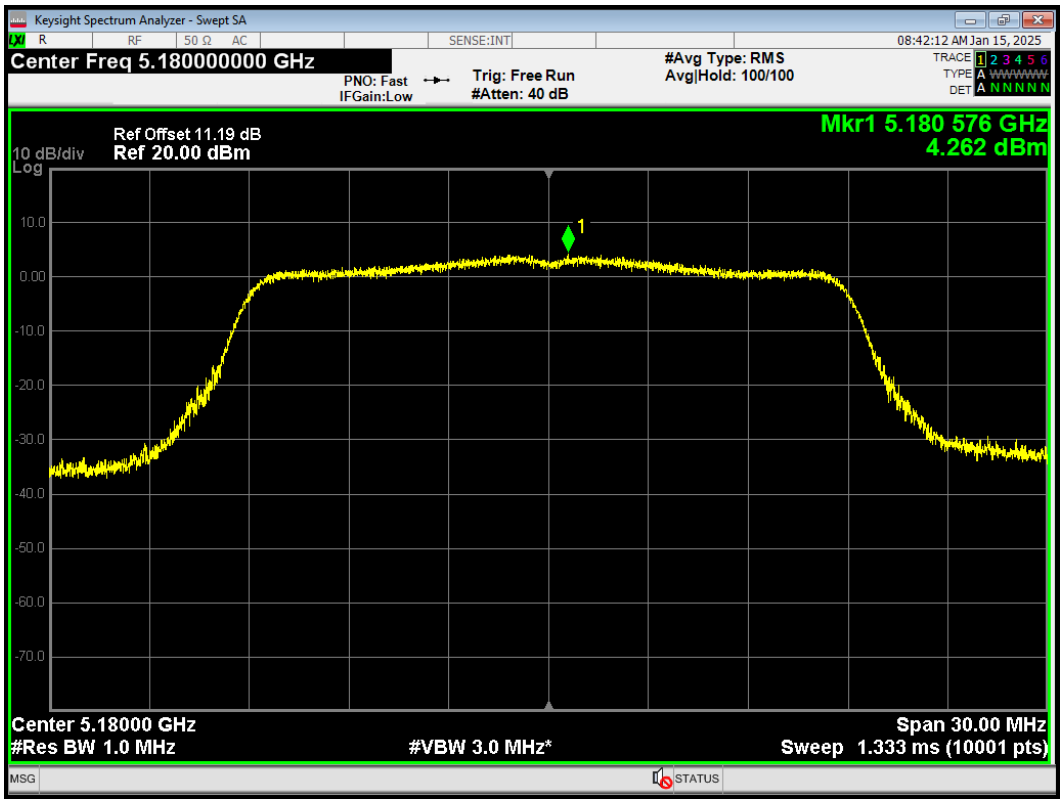
PSD 802.11ac(VHT40) 5190MHz



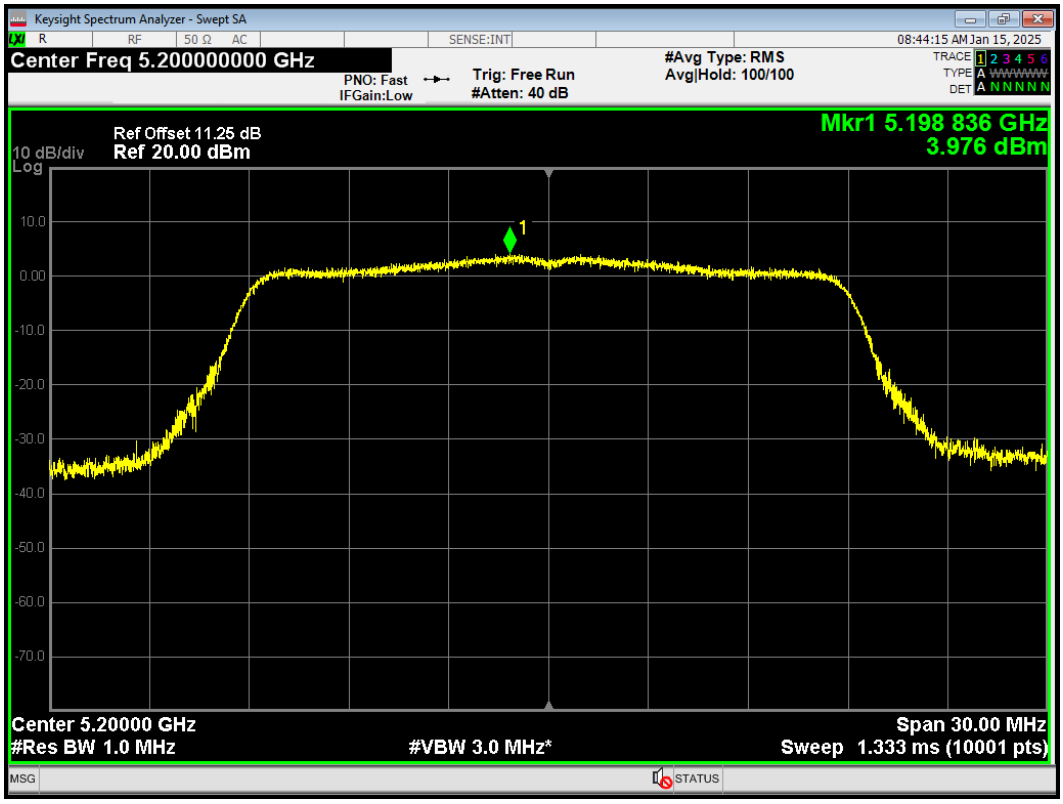
PSD 802.11ac(VHT40) 5230MHz



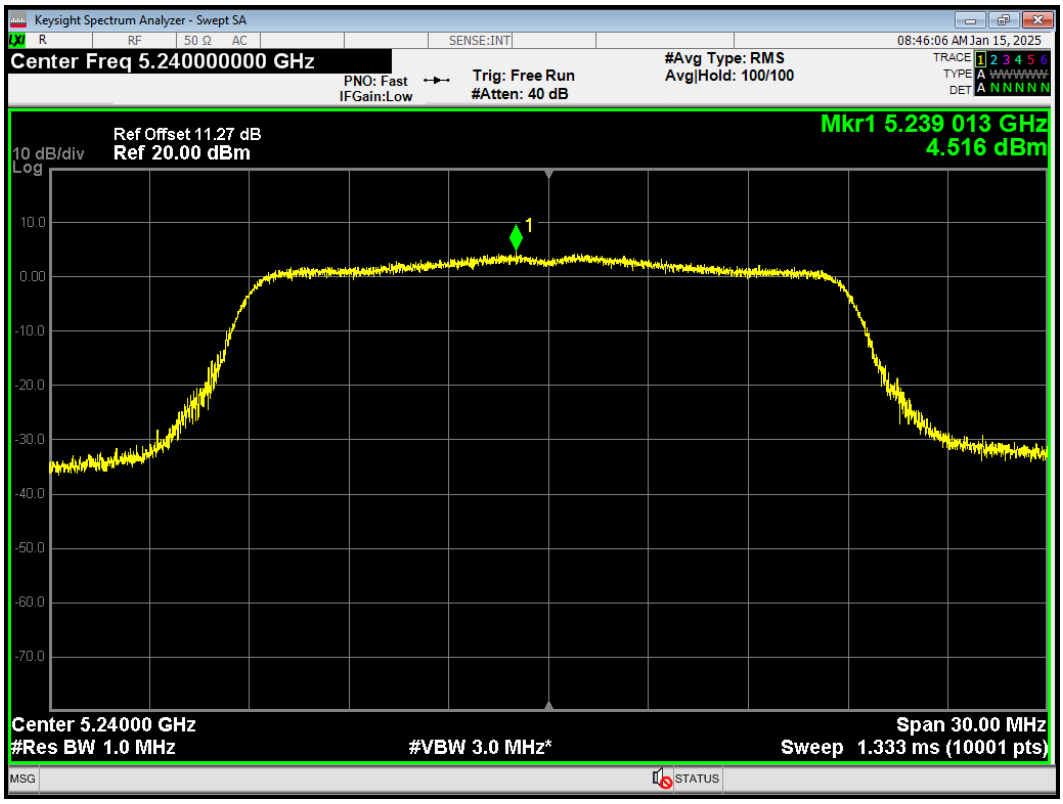
PSD 802.11n(HT20) 5180MHz



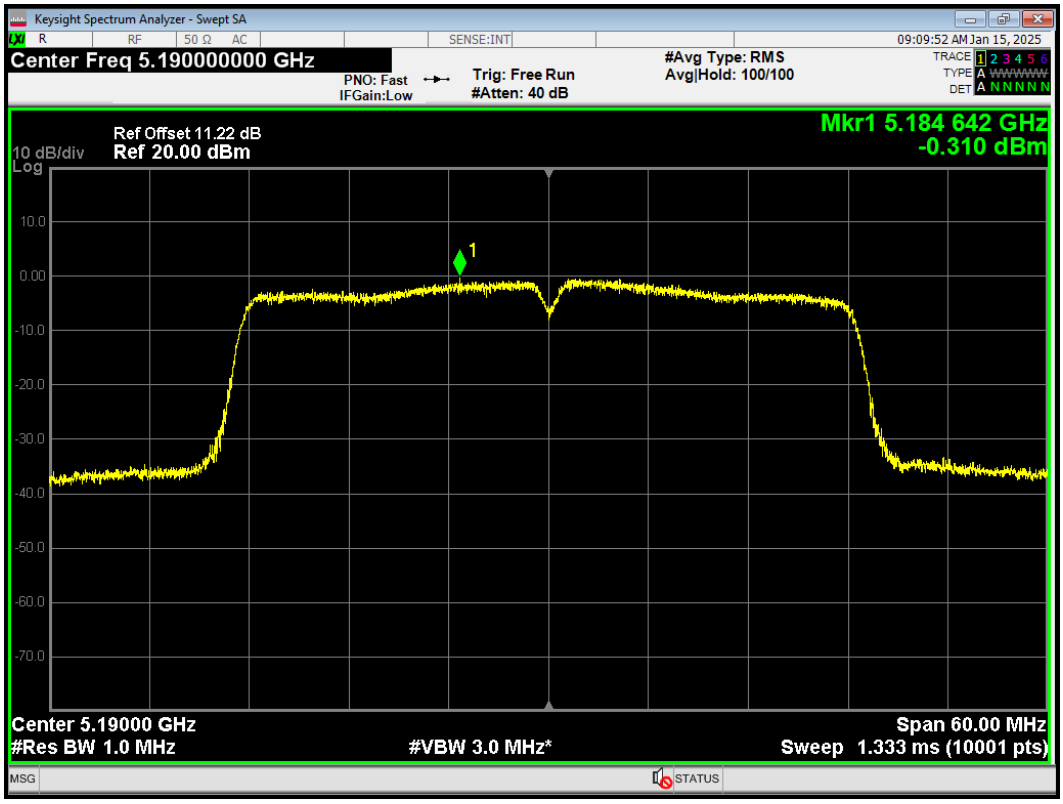
PSD 802.11n(HT20) 5200MHz



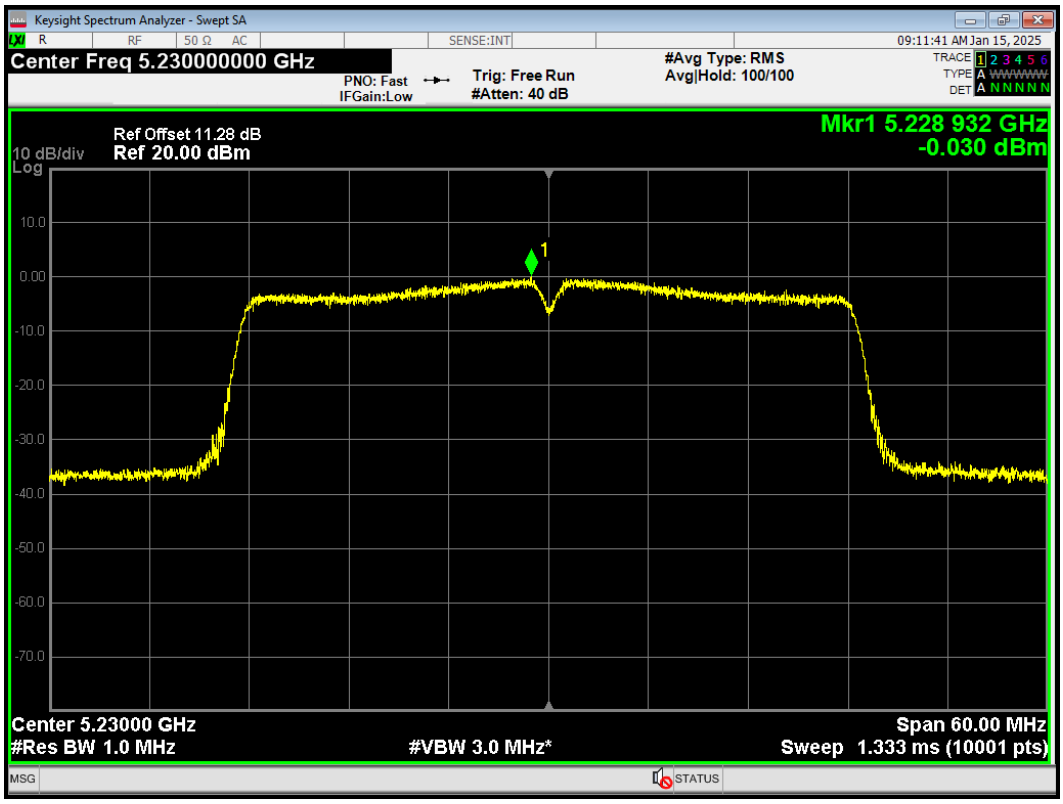
PSD 802.11n(HT20) 5240MHz



PSD 802.11n(HT40) 5190MHz



PSD 802.11n(HT40) 5230MHz



PSD 802.11ac(VHT80) 5210MHz