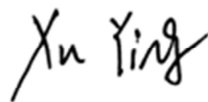


RF TEST REPORT

Applicant Gosuncn Technology Group Co., Ltd.
FCC ID 2APNR-GR531NA
Product Industrial Router
Brand GOSUNCN
Model GR531-NA
Report No. EFTA25120112-IE-03-R3V1
Issue Date March 25, 2026

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15E (2025)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.



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Version	Revision Description	Issue Date
Rev.0	Initial issue of report.	March 13, 2026
Rev.1	Updated information.	March 25, 2026
Note: This revised report (Report No.: EFTA25120112-IE-03-R3V1) supersedes and replaces the previously issued report (Report No.: EFTA25120112-IE-03-R3). Please discard or destroy the previously issued report and dispose of it accordingly.		

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), 15.205, 15.209	PASS
6	Conducted Emissions	15.207	PASS
Date of Testing: December 20, 2025 ~ January 22, 2026			
Date of Sample Received: December 9, 2025			
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
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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	Gosuncn Technology Group Co., Ltd.
Applicant address	6F, 2819 KaiChuang Blvd., Science Town, Huangpu District, Guangzhou City, Guangdong, China. 510530
Manufacturer	Gosuncn Technology Group Co., Ltd.
Manufacturer address	6F, 2819 KaiChuang Blvd., Science Town, Huangpu District, Guangzhou City, Guangdong, China. 510530

2.2. General information

EUT Description	
Model	GR531-NA
Lab internal SN	251209-02-005
Hardware Version	GR531-MB_N
Software Version	GRX_1_NA_00_04_00
Power Supply	AC adapter
Antenna Type	External Antenna
Antenna Connector	SMA male antenna (meet with the standard FCC Part 15.203 requirement)
Antenna Gain	U-NII-1: 0.71 dBi U-NII-2A: 0.85 dBi U-NII-2C: 0.21 dBi U-NII-3: 1.26 dBi
Operating Frequency Range(s)	U-NII-1: 5150MHz-5250MHz U-NII-2A: 5250MHz -5350MHz U-NII-2C: 5470MHz-5600MHz, 5650MHz-5725MHz U-NII-3: 5725MHz -5850MHz
Modulation Type	802.11a: OFDM 802.11n (HT20/HT40): OFDM 802.11ac (VHT20/VHT40/VHT80): OFDM
Max. Output Power	13.46 dBm
Operating temperature range	-30 ° C to 70 ° C
Operating voltage range	9 VDC to 30 VDC
Testing temperature range	-30 ° C to 50 ° C
Testing voltage range	9 VDC - 12 VDC - 30 VDC
State voltage	12 VDC
EUT Accessory	
Adapter	Manufacturer: Shenzhen ABP Technology Co.,LTD Model: AD0181-1201500GB

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. (a) Manufacturers implements security features in any digitally modulated devices capable of operating in any of the U-NII bands, so that third parties are not able to reprogram the device to operate outside the parameters for which the device was certified. The software prevents the user from operating the transmitter with operating frequencies, output power, modulation types or other radio frequency parameters outside those that were approved for the device. Manufacturers uses means including, but not limited to the use of a private network that allows only authenticated users to download software, electronic signatures in software or coding in hardware that is decoded by software to verify that new software can be legally loaded into a device to meet these requirements and must describe the methods in their application for equipment authorization.
(b) Manufacturers take steps to ensure that DFS functionality cannot be disabled by the operator of the U-NII device.

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 (2025) Unlicensed National Information Infrastructure Devices
ANSI C63.10-2020

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.

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.

The test software is used QRCT.

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-2A	20 MHz	52	5260MHz
			56	5280MHz
			60	5300MHz
			64	5320MHz
		40 MHz	54	5270MHz
			62	5310MHz
		80 MHz	58	5290MHz
	U-NII-2C	20 MHz	100	5500MHz
			104	5520MHz
			108	5540MHz
			112	5560MHz
			116	5580MHz
			132	5660MHz
			136	5680MHz
			140	5700MHz
		40 MHz	102	5510MHz
			110	5550MHz
			134	5670MHz
		80 MHz	106	5530MHz
		U-NII-3	20 MHz	149
	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

5.1. Occupied Bandwidth

Ambient condition

Temperature	Relative humidity	Pressure
25°C	57%	101.3 kPa

Method of Measurement

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

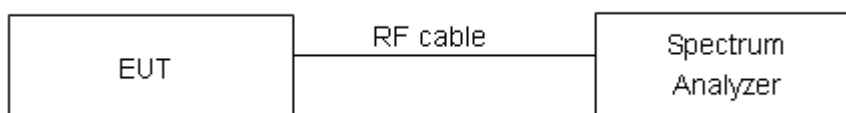
For U-NII-1/U-NII-2A/U-NII-2C, set RBW = 1% to 5% of the emission bandwidth, VBW > RBW, Detector = peak, Trace mode = max hold, measure the maximum width of the emission that is 26 dB down from the peak of emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is in the range of 1% to 5%.

For U-NII-3, Set RBW = 100 kHz, $VBW \geq 3 \times RBW$, Detector = peak, Trace mode = max hold, 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/U-NII-2A/U-NII-2C

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.

5.2. Average Power Output

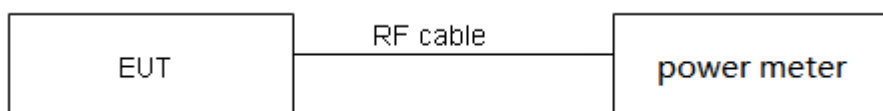
Ambient condition

Temperature	Relative humidity	Pressure
25°C	57%	101.3 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) (2) / 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 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 $11 \text{ dBm} + 10 \log B$, 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 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.

(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.

Measurement Uncertainty

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

5.3. Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
25°C	57%	101.3 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 than 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 $k = 2$, $U = 936\text{Hz}$

5.4. Power Spectral Density

Ambient condition

Temperature	Relative humidity	Pressure
25°C	57%	101.3 kPa

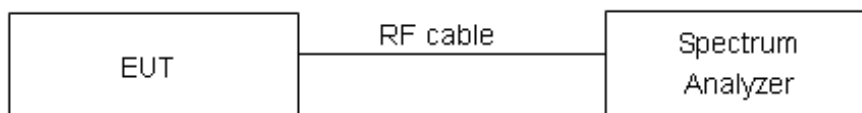
Method of Measurement

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

Set RBW = 1MHz, VBW =3MHz for the band 5.150-5.250GHz, 5.250-5.350GHz, 5.470-5.725GHz.
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)(2) / 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 5.25-5.35 GHz and 5.47-5.725 GHz bands, 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 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.

Frequency Bands/GHz	Limits
5.15-5.25	11dBm/MHz
5.25-5.35 and 5.47-5.725	11dBm/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 $k = 2$, $U = 0.75\text{dB}$.

5.5. Unwanted Emission

Ambient condition

Temperature	Relative humidity	Pressure
25°C	57%	101.3 kPa

Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.10. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m/10m below 1GHz, 3m above 1GHz between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration.

Sweep the whole frequency band range from 9kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.

Set the spectrum analyzer in the following:

9kHz~150 kHz

RBW=200Hz, VBW=1kHz/ Sweep=AUTO

150 kHz~30MHz

RBW=9kHz, VBW=30kHz,/ Sweep=AUTO

Below 1GHz

RBW=100kHz / VBW=300kHz / Sweep=AUTO

a) Peak emission levels are measured by setting the instrument as follows:

Above 1GHz

PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO

b) Average emission levels are measured by setting the instrument as follows:

Above 1GHz

AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO

c) Detector: The measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.)

e) Sweep time = auto.

f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, then the number of traces shall be increased by a factor of 1 / D, where D is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific

emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 100 traces shall be averaged.)

g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:

1) If power averaging (rms) mode was used in the preceding step e), then the correction factor is $[10 \log (1 / D)]$, where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.

2) If linear voltage averaging mode was used in the preceding step e), then the correction factor is $[20 \log (1 / D)]$, where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB shall be added to the measured emission levels.

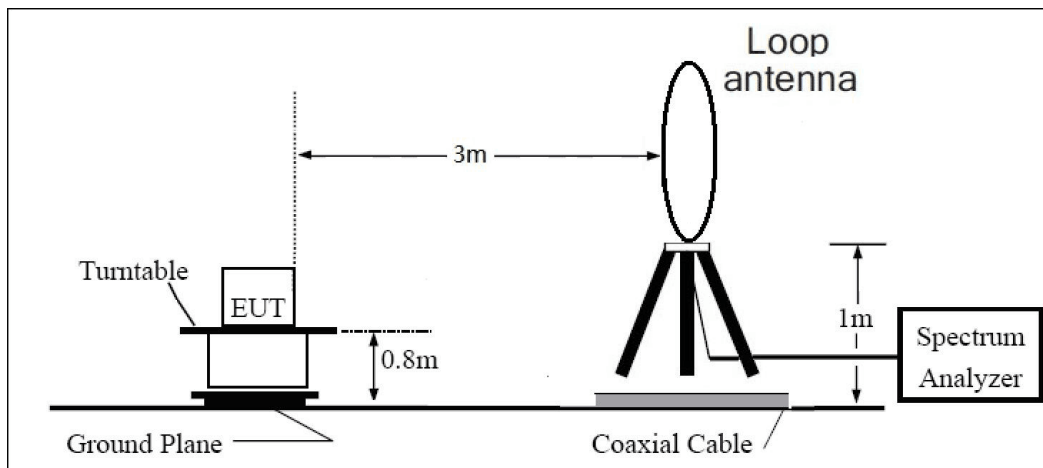
3) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission.

Reduce the video bandwidth until no significant variations in the displayed signal are observed in subsequent traces, provided the video bandwidth is no less than 1 Hz. For regulatory requirements that specify averaging only over the transmit duration (e.g., digital transmission system [DTS] and Unlicensed National Information Infrastructure [U-NII]), the video bandwidth shall be greater than $[1 / (\text{minimum transmitter on time})]$ and no less than 1 Hz.

The test is in transmitting mode.

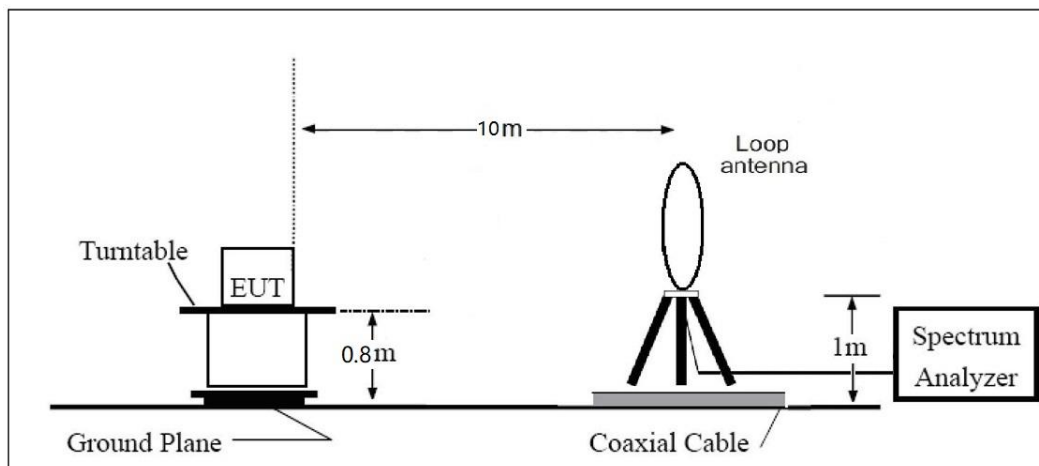
Test setup

9kHz~ 30MHz



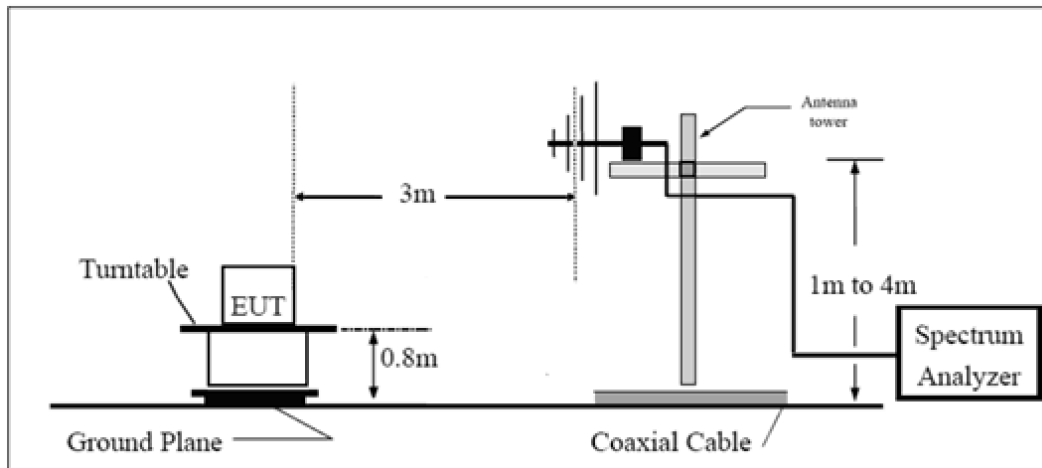
Note: Area side:2.4mX3.6m

Distance 10m



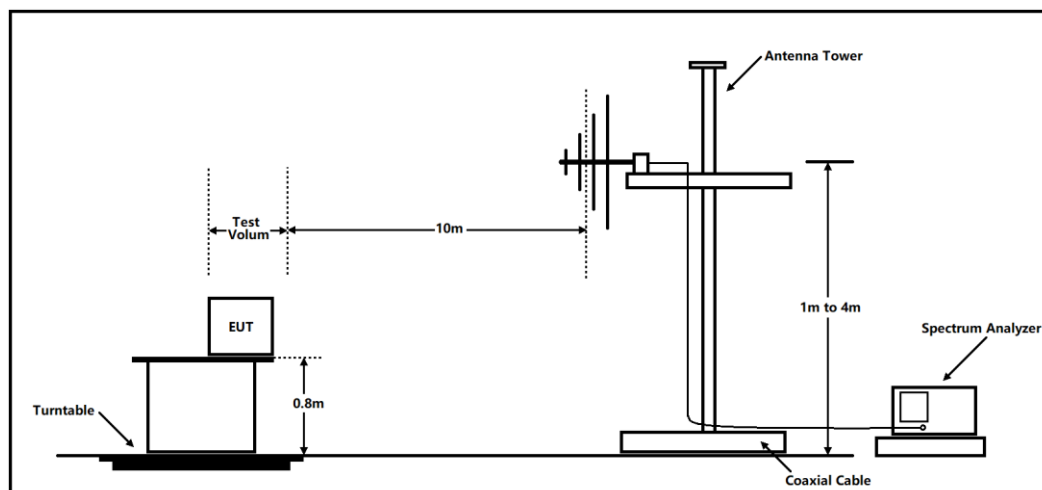
Note: Area side: 21m x 12m

30MHz~ 1GHz



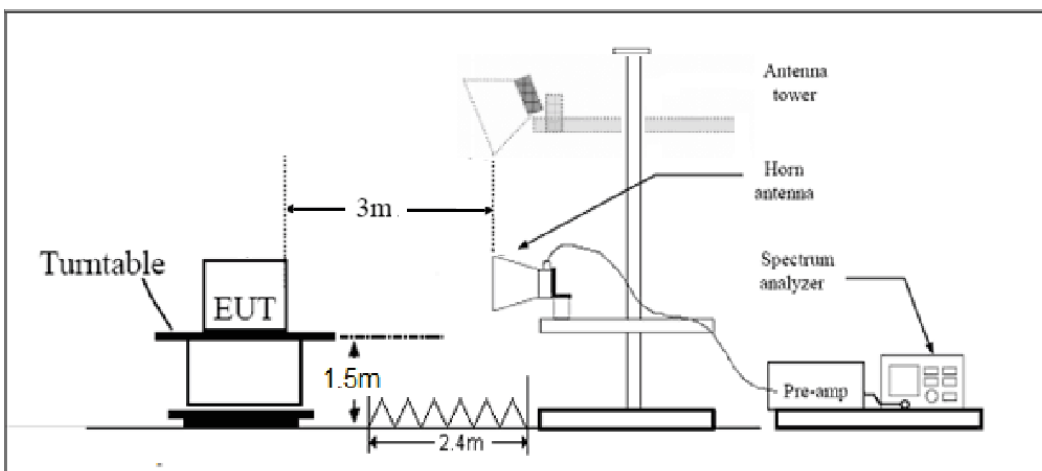
Note: Area side:2.4mX3.6m

Distance 10m



Note: Area side: 21m x 12m

Above 1GHz



Note: Area side:2.4mX3.6m

Limits

- (1) For transmitters operating in the 5725-5850 MHz band: 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.
- (2) 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(68.2dBμV/m).
- (3) For transmitters operating in the 5.25-5.35 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(68.2dBμV/m).
- (4) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz(68.2dBμV/m).

Note: the following formula is used to convert the EIRP to field strength

§1、 $E[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] - 20 \log(d[\text{meters}]) + 104.77$, where E = field strength and

d = distance at which field strength limit is specified in the rules;

§2、 $E[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] + 95.2$, for d = 3 meters

- (5) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table.

Frequency of emission (MHz)	Field strength(μV/m)	Field strength(dBμV/m)
0.009–0.490	2400/F(kHz)	/
0.490–1.705	24000/F(kHz)	/
1.705–30.0	30	/
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty for 3m
9kHz-30MHz	3.55 dB
30MHz-200MHz	4.17 dB
200MHz-1GHz	4.84 dB
1-18GHz	4.35 dB
18-26.5GHz	5.90 dB
26.5GHz~40GHz	5.92 dB
Frequency	Uncertainty for 10m
30MHz – 200MHz	3.39 dB
200MHz – 1GHz	3.82 dB
1GHz – 18GHz	6.51 dB
18GHz – 40GHz	6.31 dB

5.6. Conducted Emission

Ambient condition

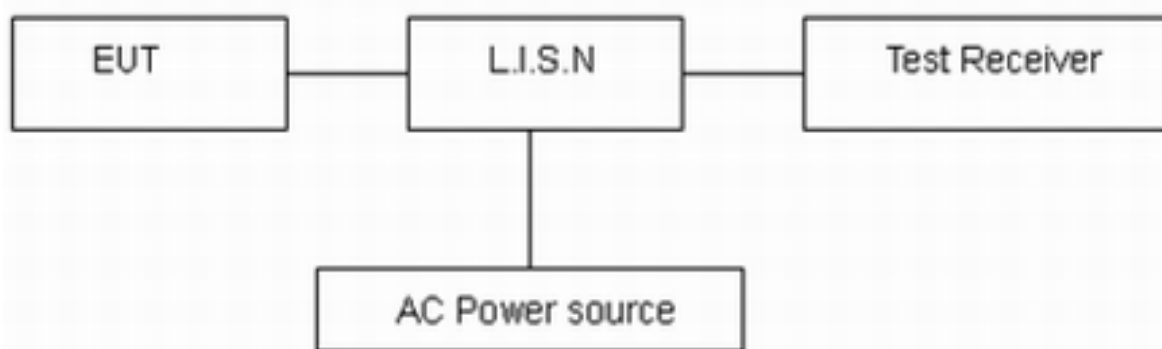
Temperature	Relative humidity	Pressure
25°C	57%	101.3 kPa

Methods of Measurement

The EUT IS placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.10. Connect the AC power line of the EUT to the LISN Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9kHz, VBW is set to 30kHz The measurement result should include both L line and N line.

The test is in transmitting mode.

Test Setup



Note: AC Power source is used to change the voltage 110V/60Hz.

Limits

Frequency (MHz)	Conducted Limits(dBμV)	
	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.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U = 2.69$ dB.

6. Test Results

6.1. Occupied Bandwidth

U-NII-1

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	5180	16.309	19.766	PASS
	5200	16.306	19.585	PASS
	5240	16.339	19.626	PASS
802.11n HT20	5180	17.449	19.769	PASS
	5200	17.442	20.186	PASS
	5240	17.435	20.367	PASS
802.11n HT40	5190	35.872	40.230	PASS
	5230	35.881	41.315	PASS
802.11ac VHT20	5180	17.446	20.036	PASS
	5200	17.417	19.932	PASS
	5240	17.431	20.357	PASS
802.11ac VHT40	5190	35.843	41.562	PASS
	5230	35.887	41.229	PASS
802.11ac VHT80	5210	75.011	81.976	PASS

U-NII-2A

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	5260	16.317	19.425	PASS
	5300	16.304	19.467	PASS
	5320	16.326	19.805	PASS
802.11n HT20	5260	17.447	20.257	PASS
	5300	17.451	20.093	PASS
	5320	17.422	20.096	PASS
802.11n HT40	5270	35.849	40.962	PASS
	5310	35.827	40.936	PASS
802.11ac VHT20	5260	17.431	20.537	PASS
	5300	17.449	20.552	PASS
	5320	17.437	20.000	PASS
802.11ac VHT40	5270	35.877	40.677	PASS
	5310	35.911	40.398	PASS
802.11ac VHT80	5290	75.086	83.901	PASS

U-NII-2C

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	5500	16.311	20.192	PASS
	5580	16.335	19.584	PASS
	5700	16.311	19.379	PASS
802.11n HT20	5500	17.437	19.948	PASS
	5580	17.438	20.345	PASS
	5700	17.444	20.091	PASS
802.11n HT40	5510	35.870	40.657	PASS
	5550	35.898	42.003	PASS
	5670	35.881	40.955	PASS
802.11ac VHT20	5500	17.457	19.973	PASS
	5580	17.463	20.333	PASS
	5700	17.435	20.202	PASS
802.11ac VHT40	5510	35.851	40.346	PASS
	5550	35.847	40.926	PASS
	5670	35.855	40.297	PASS
802.11ac VHT80	5530	75.103	83.643	PASS

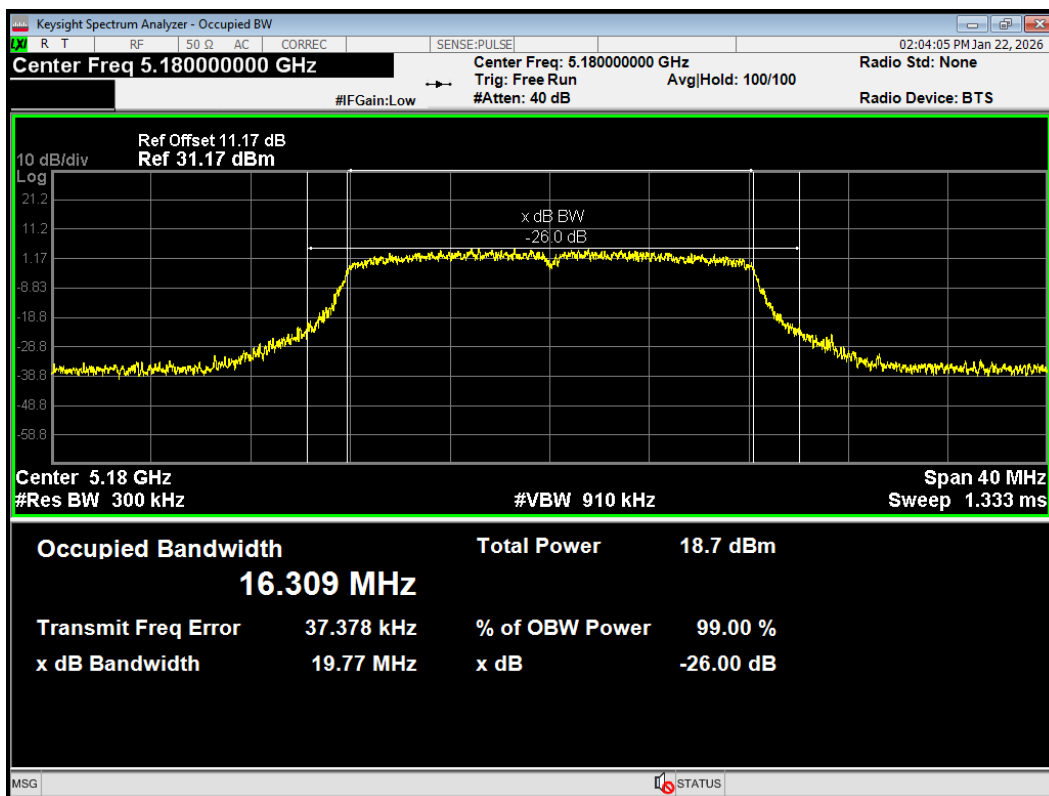
U-NII-3

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11a	5745	16.322	15.300	500	PASS
	5785	16.323	15.048	500	PASS
	5825	16.311	15.350	500	PASS
802.11n HT20	5745	17.456	14.625	500	PASS
	5785	17.446	14.810	500	PASS
	5825	17.443	16.517	500	PASS
802.11n HT40	5755	35.891	34.921	500	PASS
	5795	35.823	33.814	500	PASS
802.11ac VHT20	5745	17.425	13.009	500	PASS
	5785	17.447	14.738	500	PASS
	5825	17.433	14.775	500	PASS
802.11ac VHT40	5755	35.857	35.107	500	PASS
	5795	35.885	32.609	500	PASS
802.11ac VHT80	5775	75.208	73.816	500	PASS

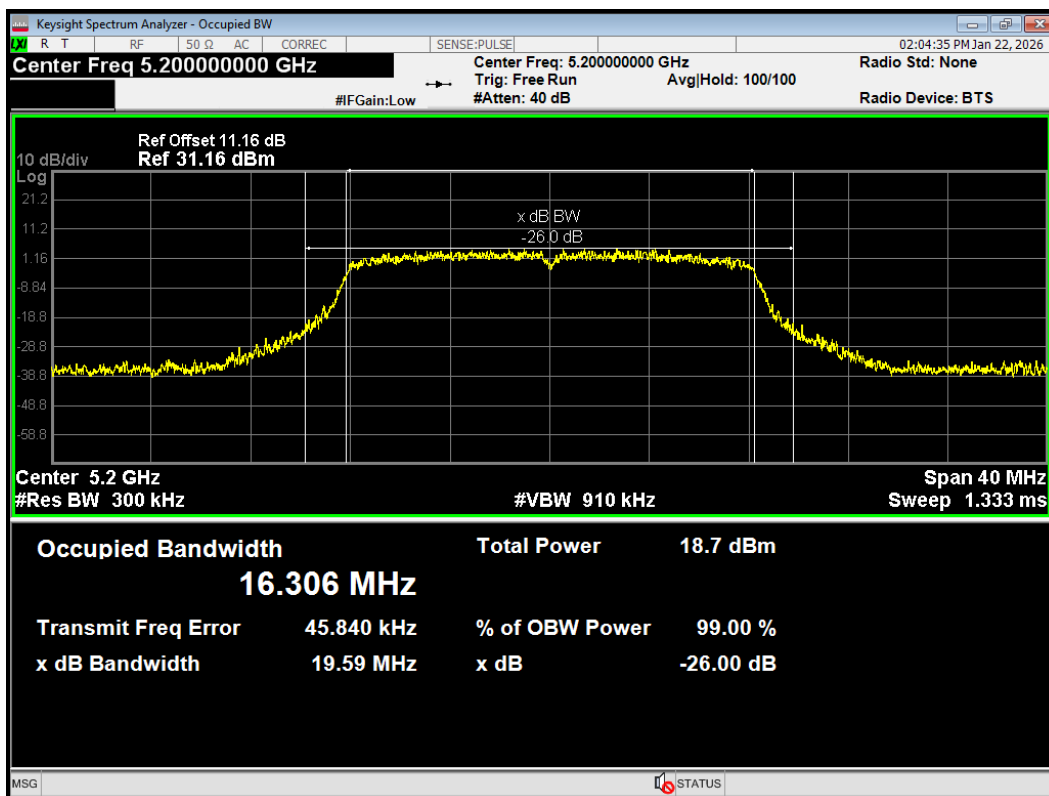
99% bandwidth

U-NII-1

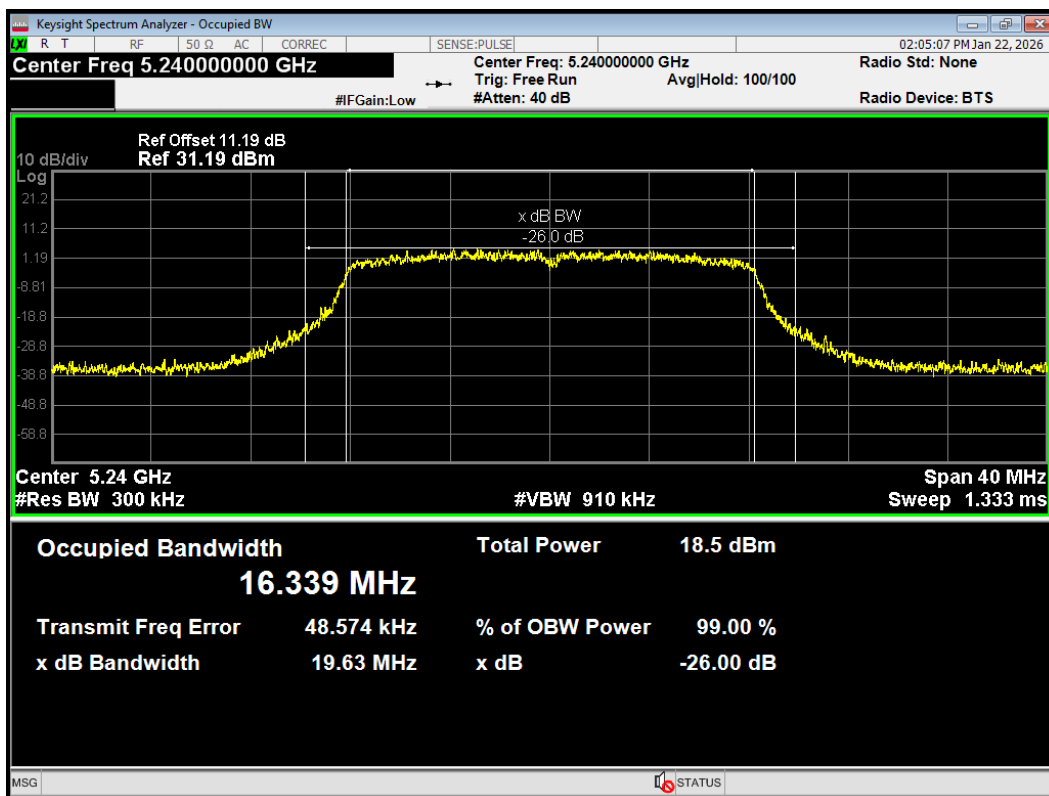
OBW 802.11a 5180MHz



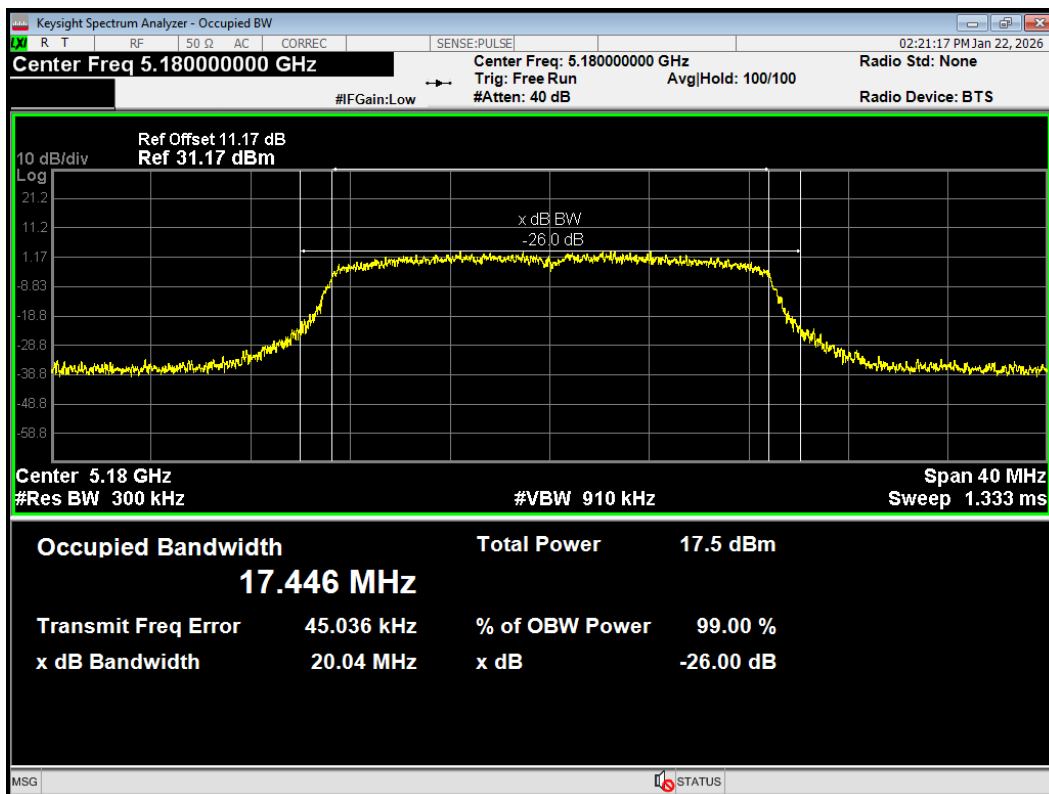
OBW 802.11a 5200MHz



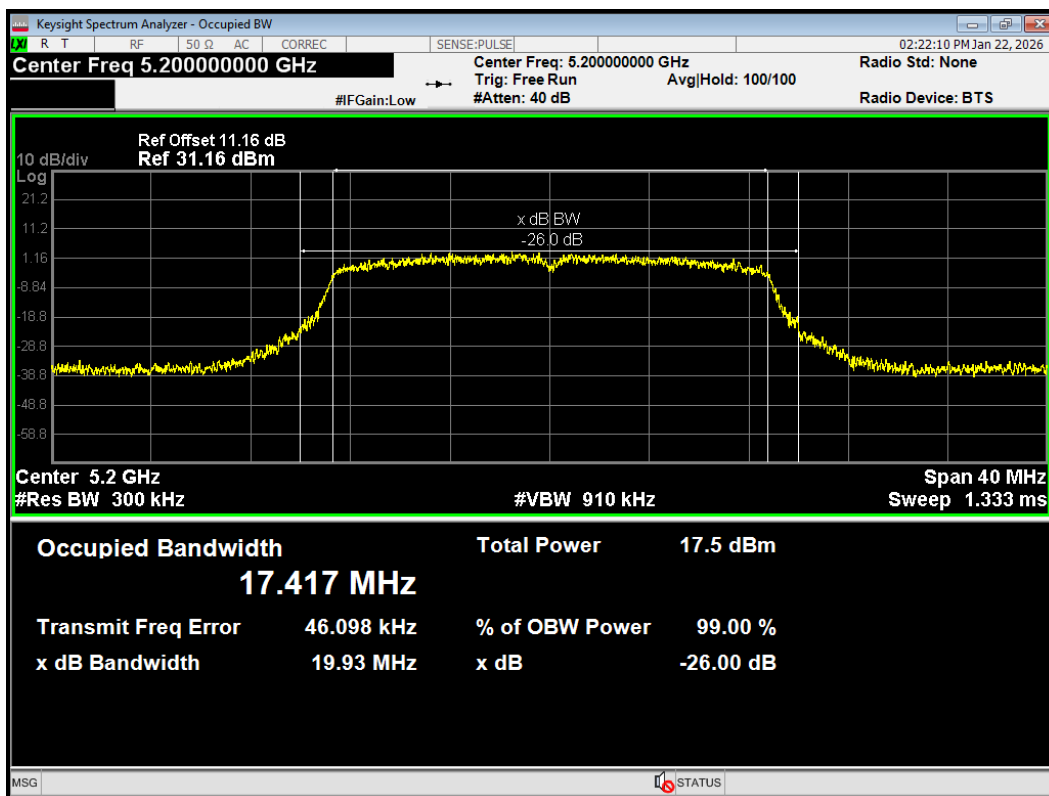
OBW 802.11a 5240MHz



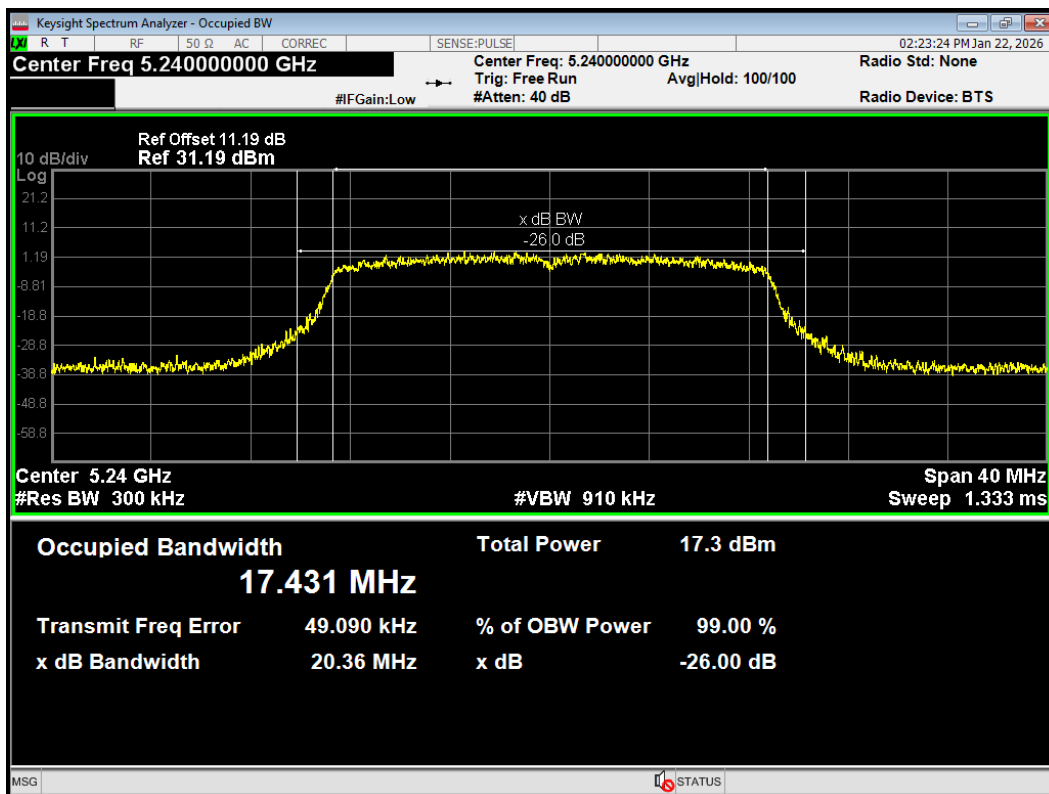
OBW 802.11ac(VHT20) 5180MHz



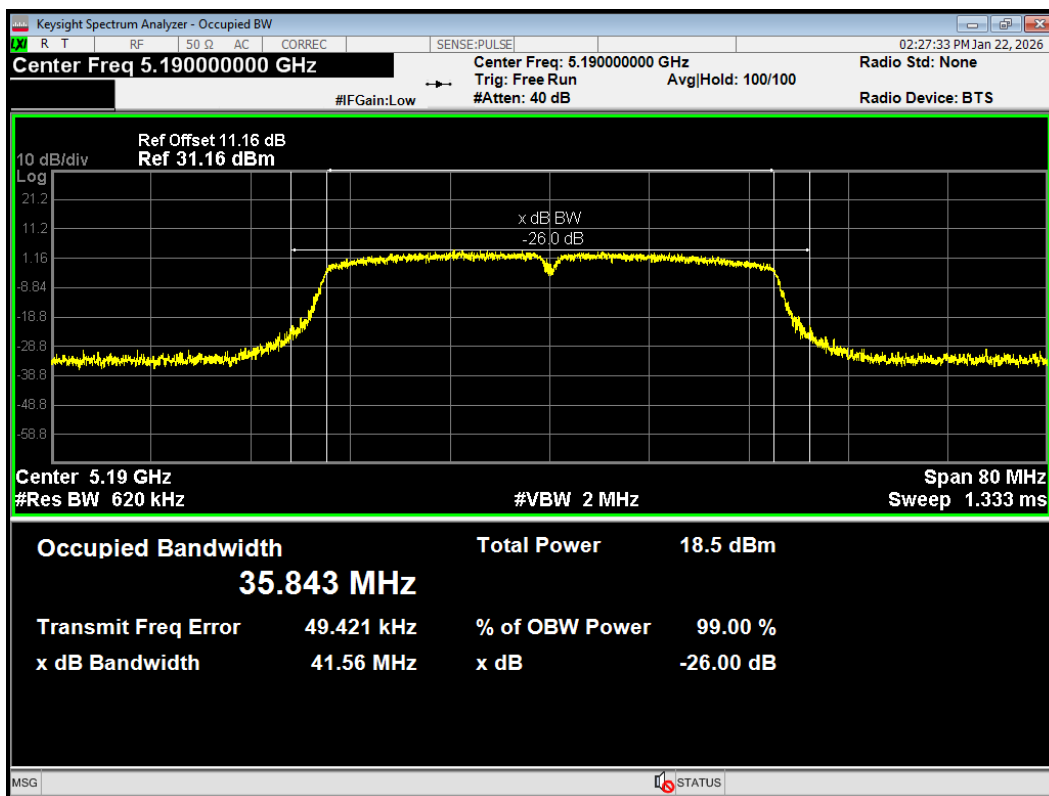
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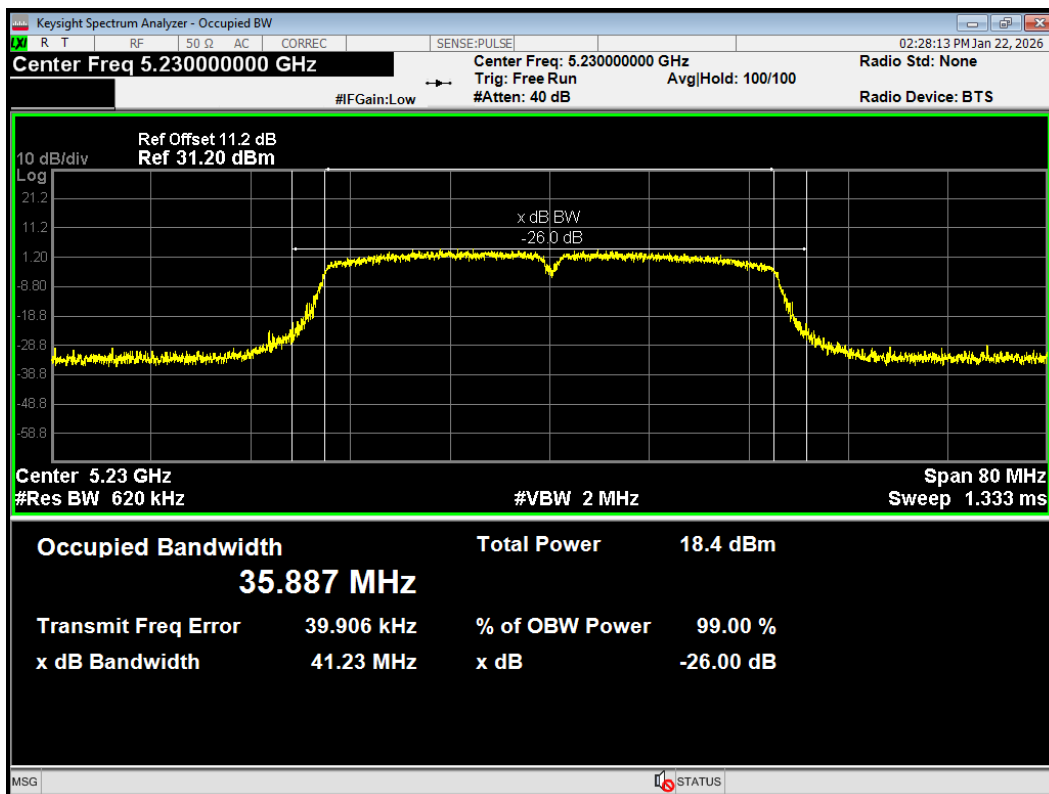
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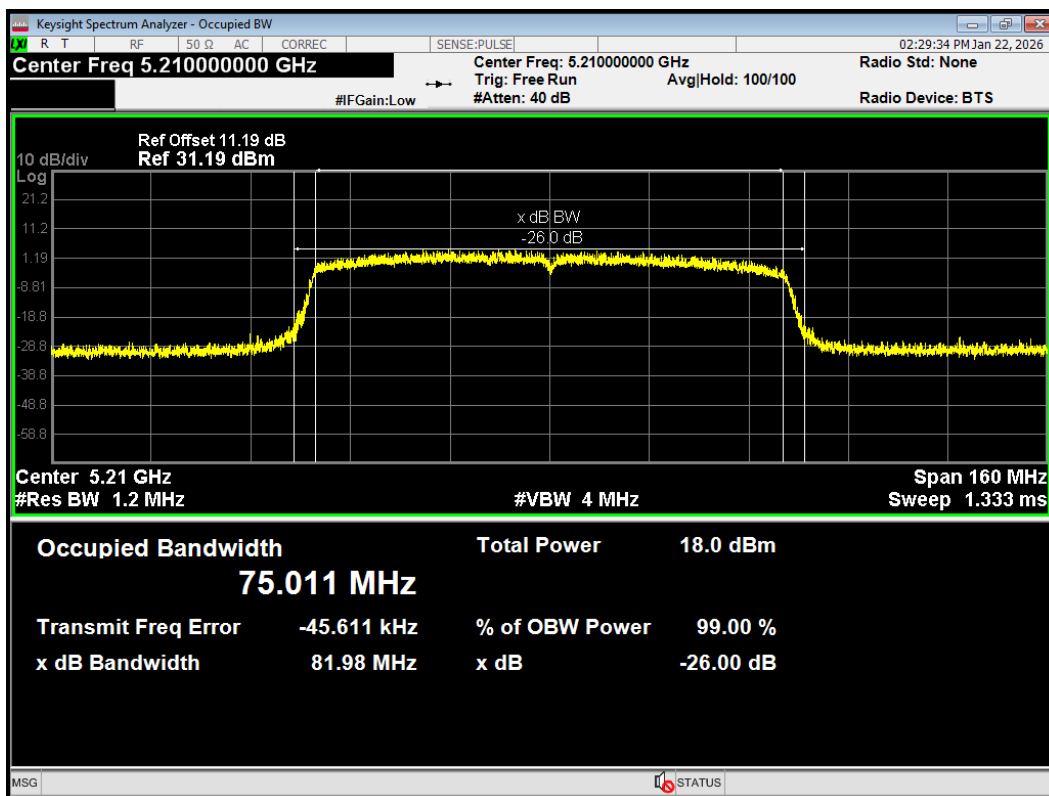
OBW 802.11ac(VHT40) 5190MHz



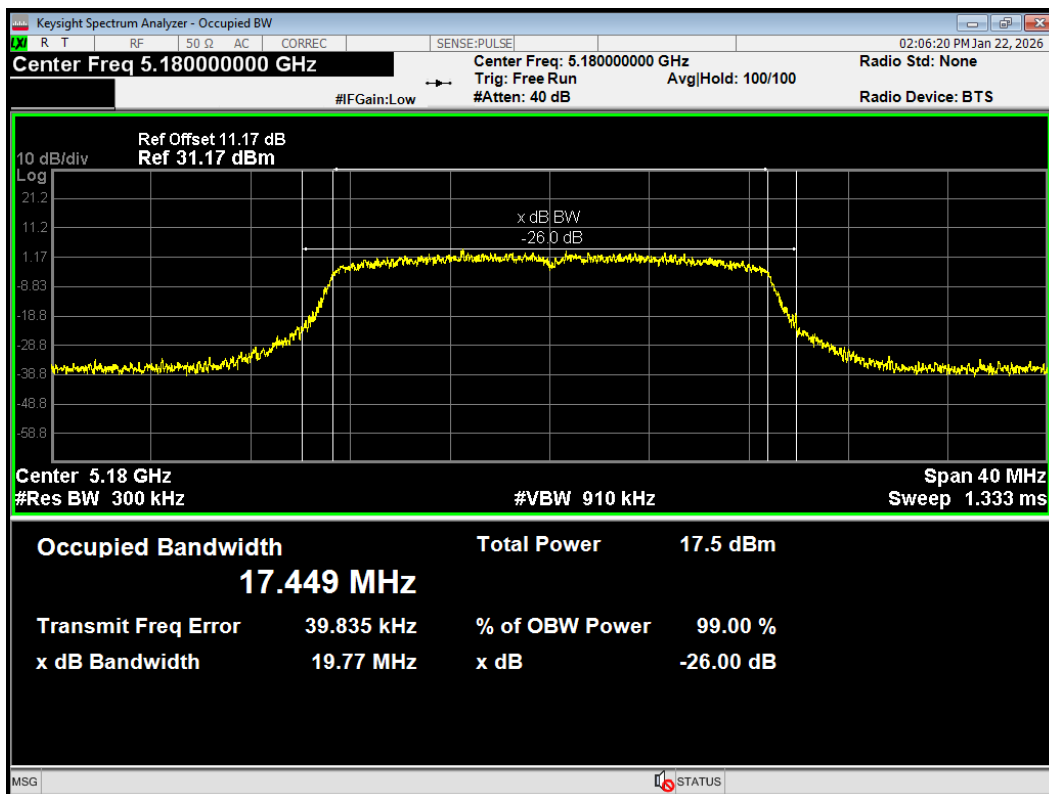
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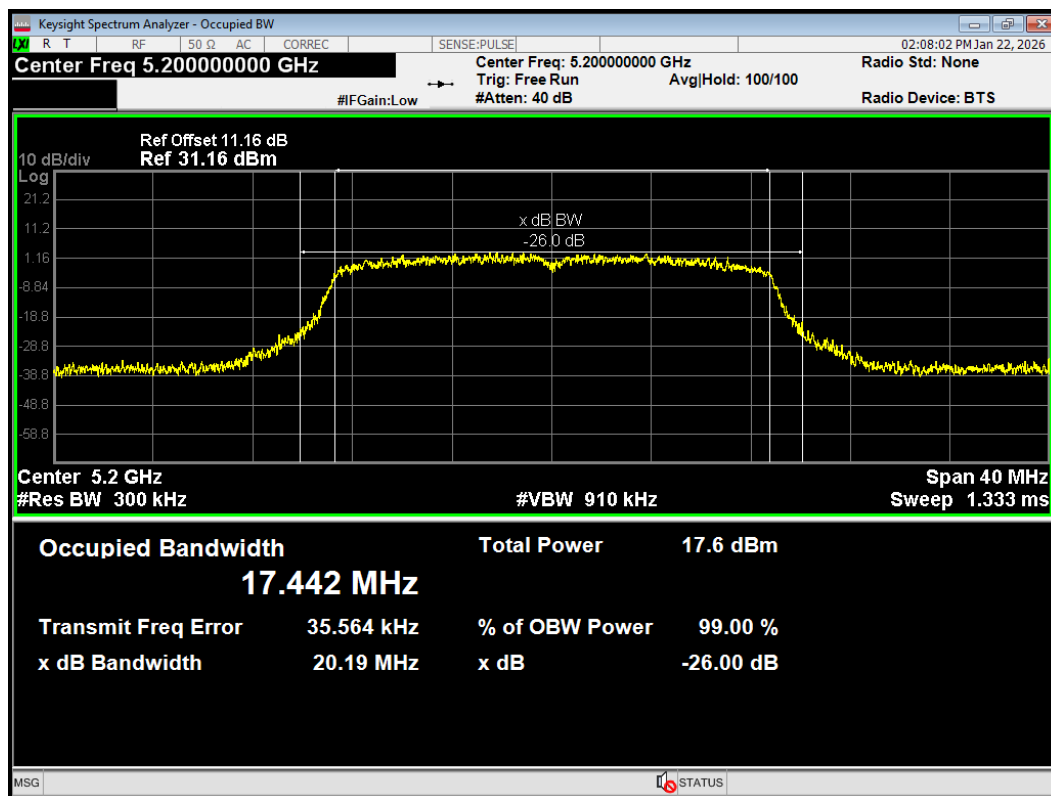
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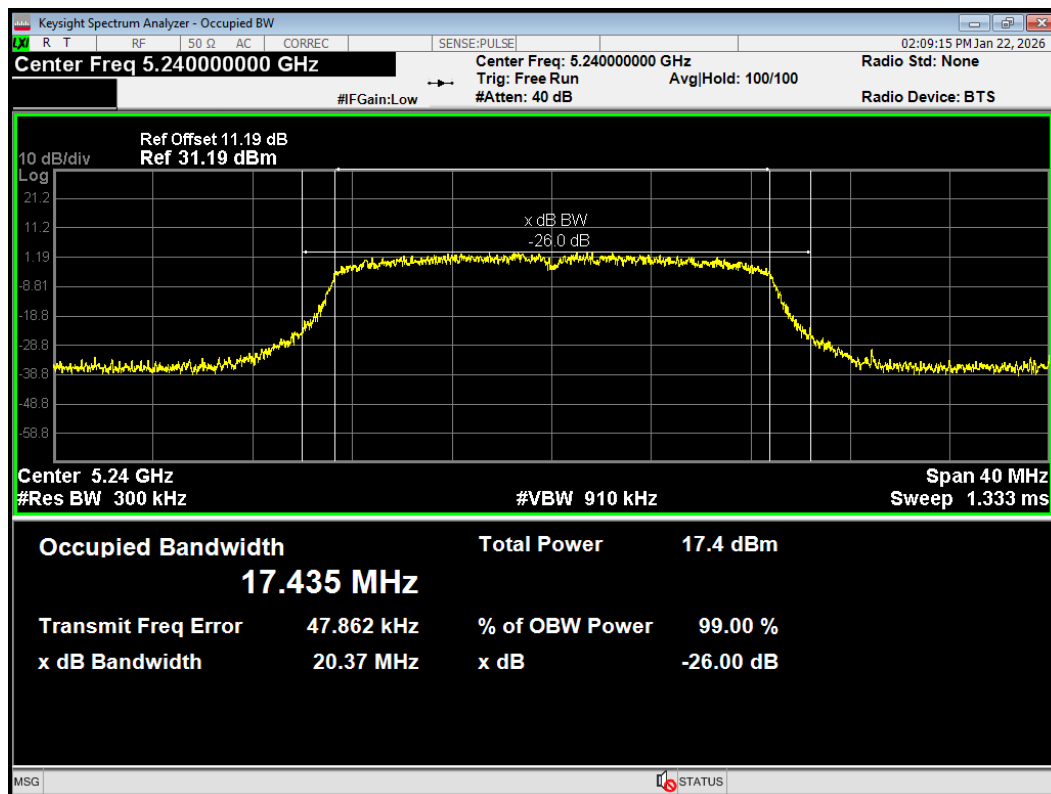
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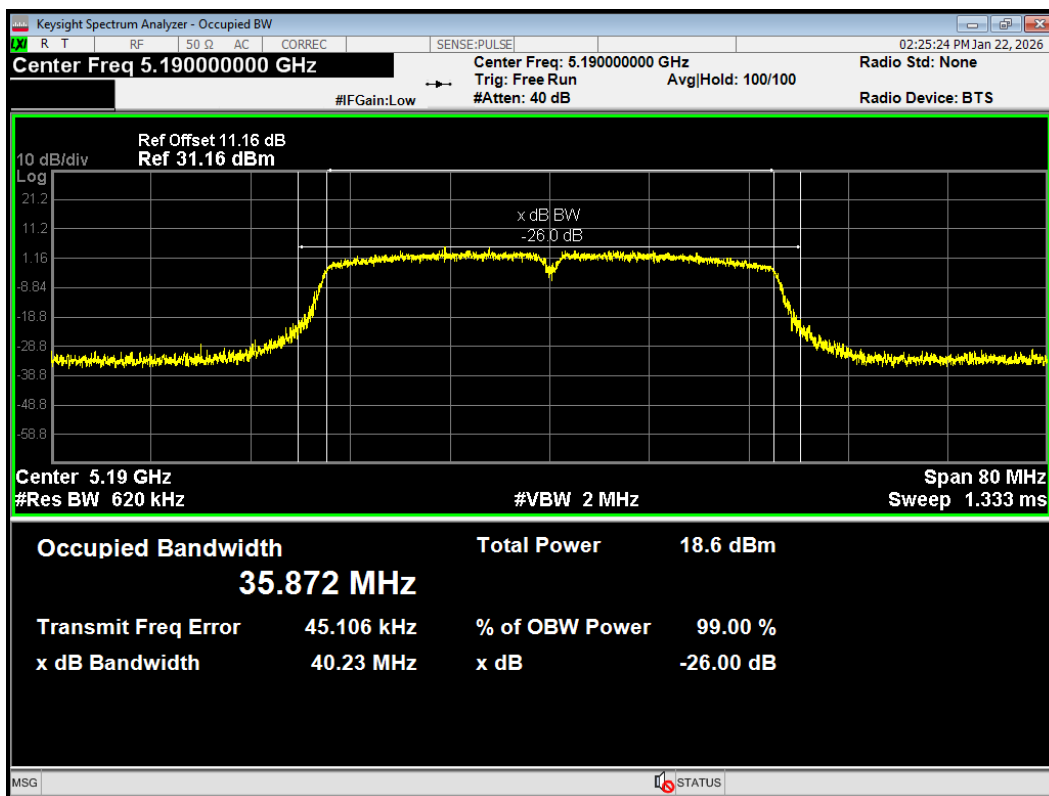
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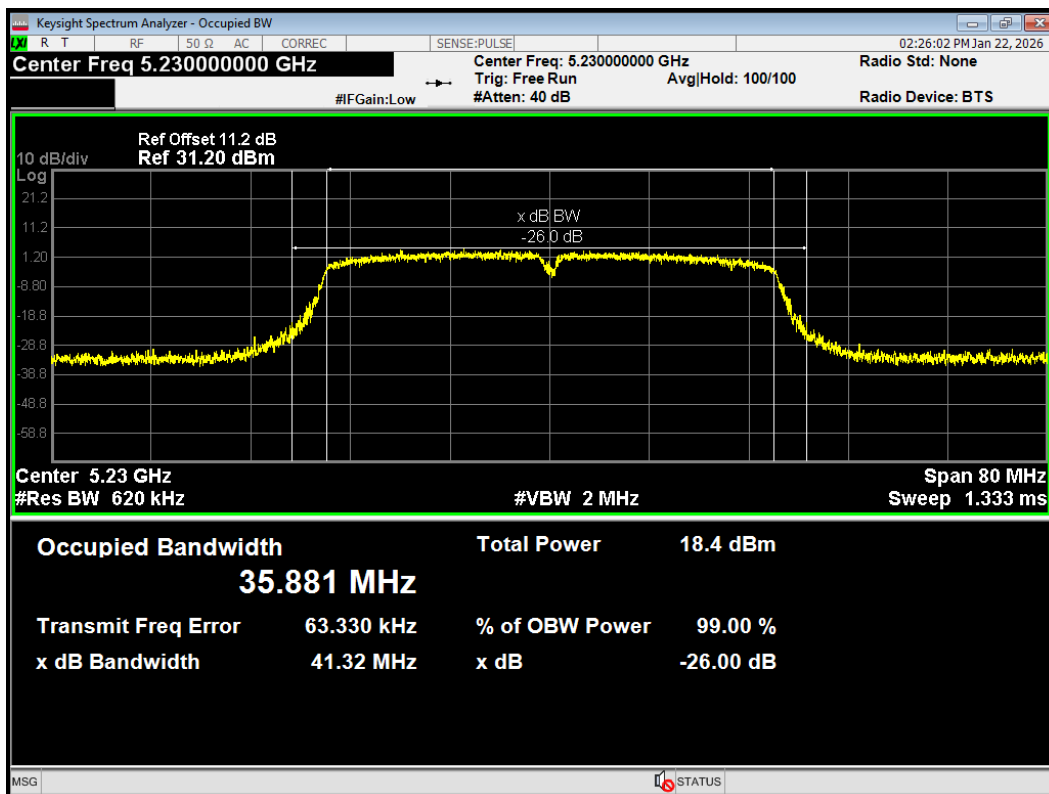
OBW 802.11n(HT20) 5240MHz



OBW 802.11n(HT40) 5190MHz

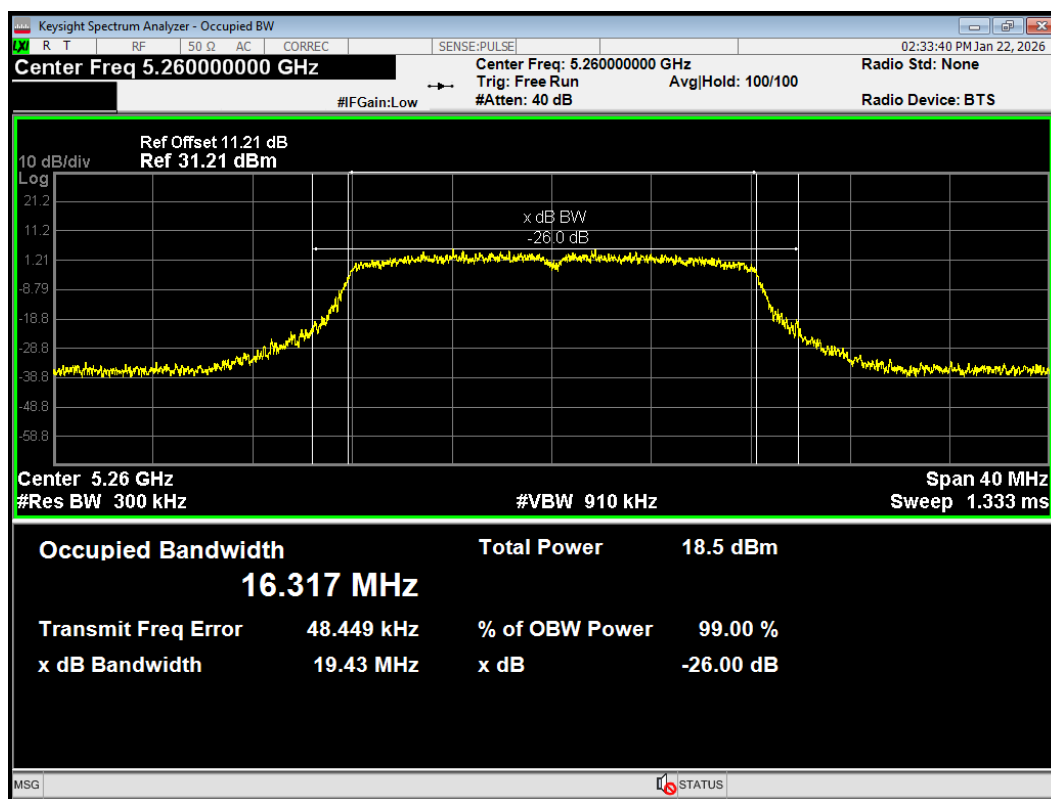


OBW 802.11n(HT40) 5230MHz

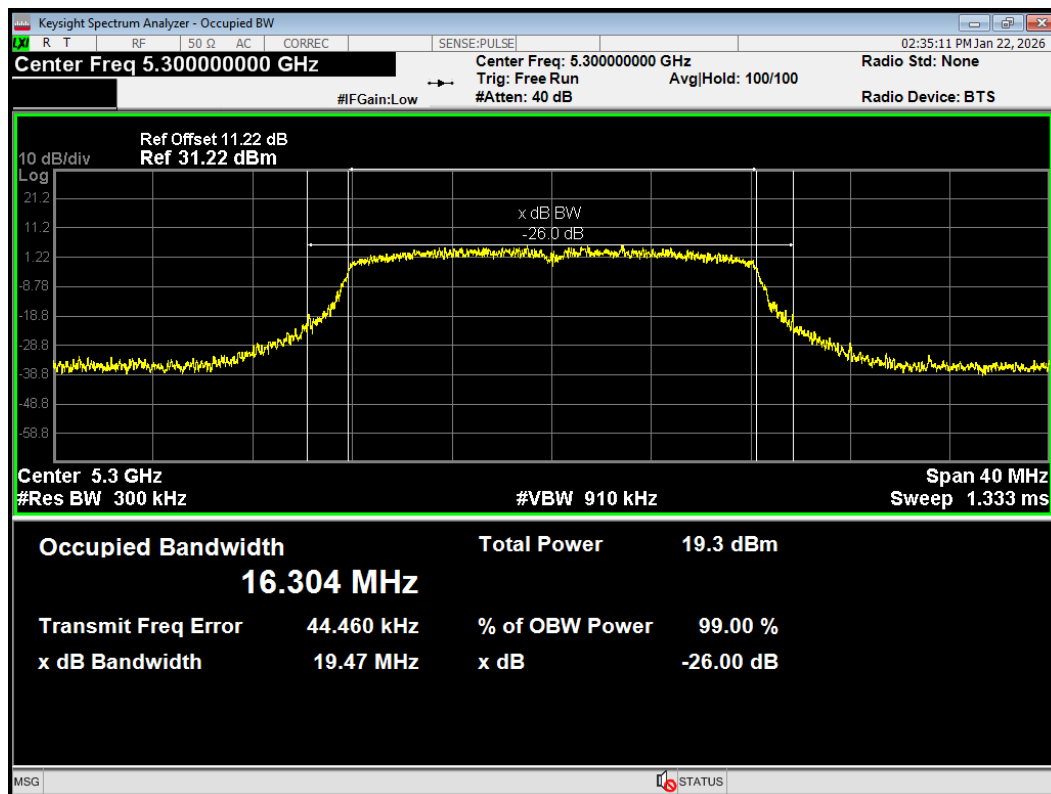


U-NII-2A

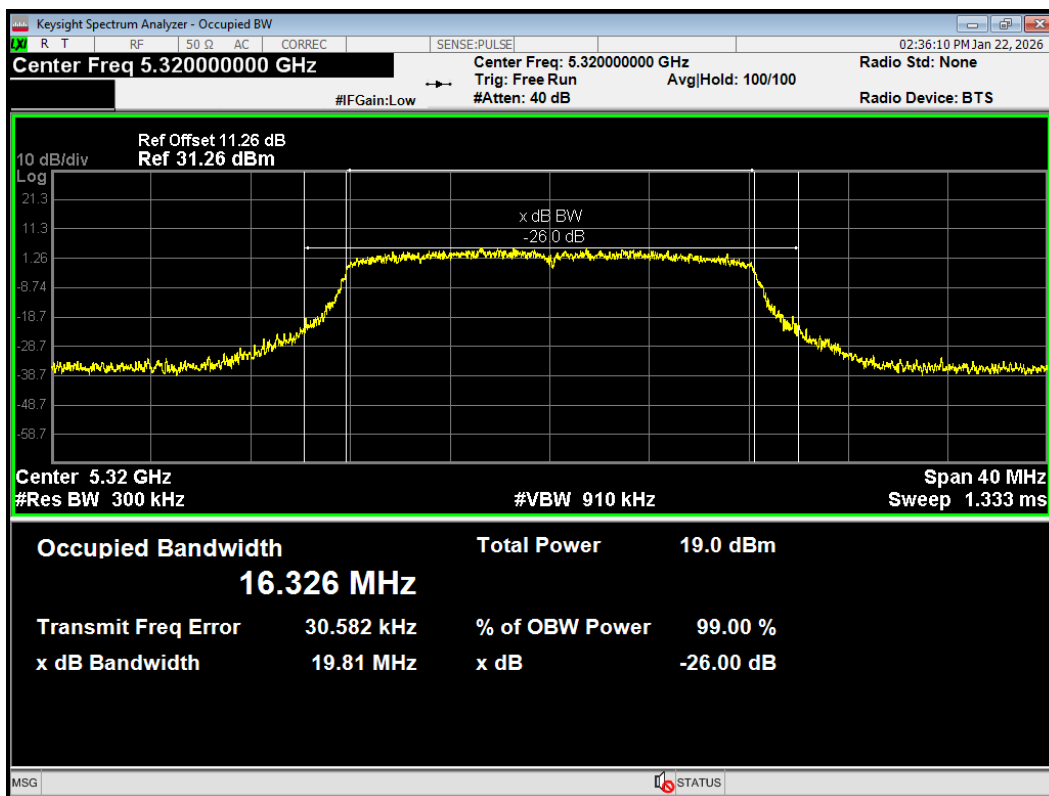
OBW 802.11a 5260MHz



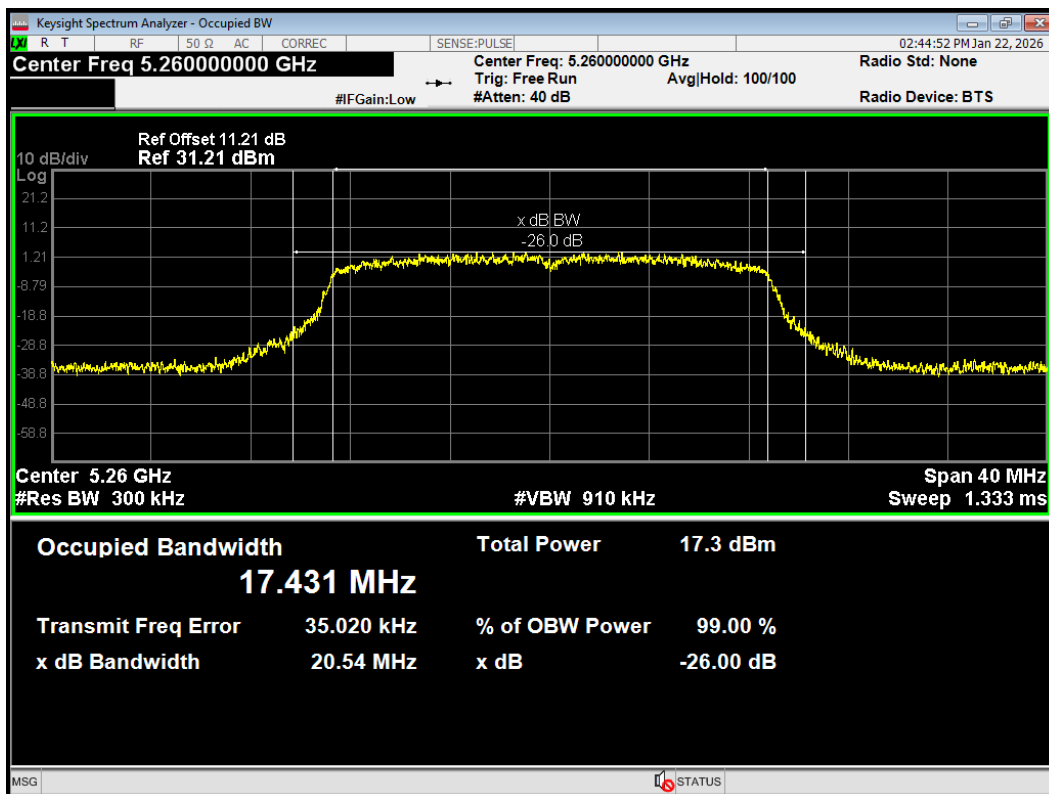
OBW 802.11a 5300MHz



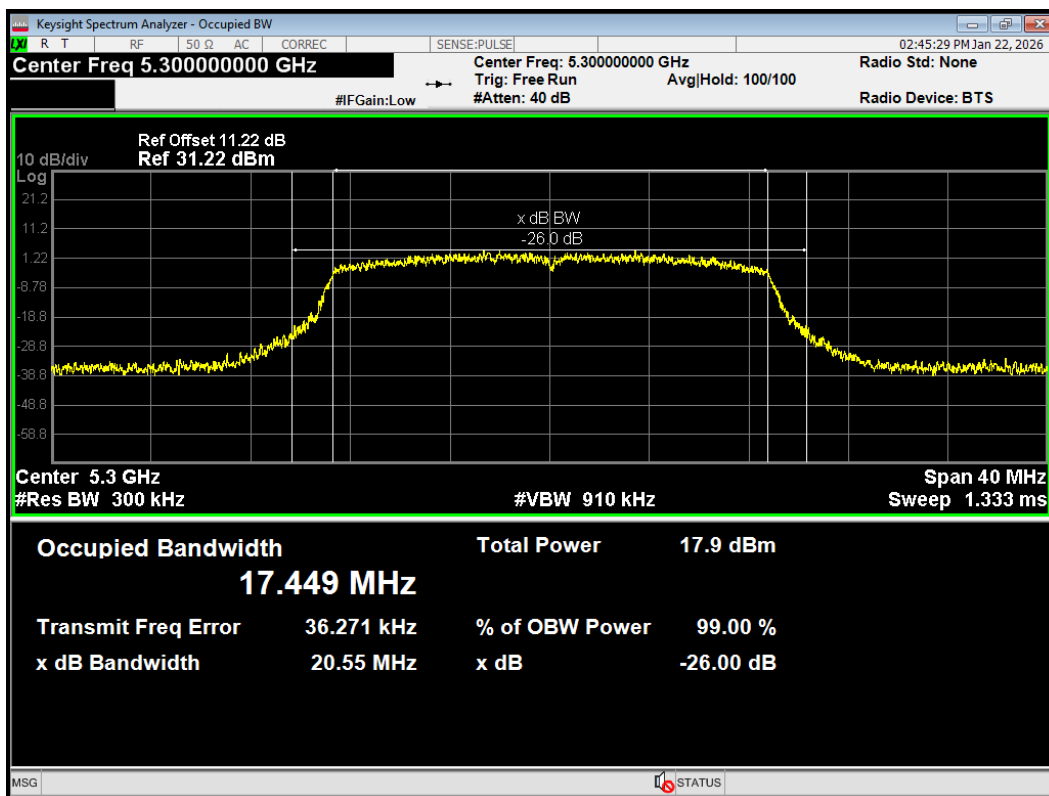
OBW 802.11a 5320MHz



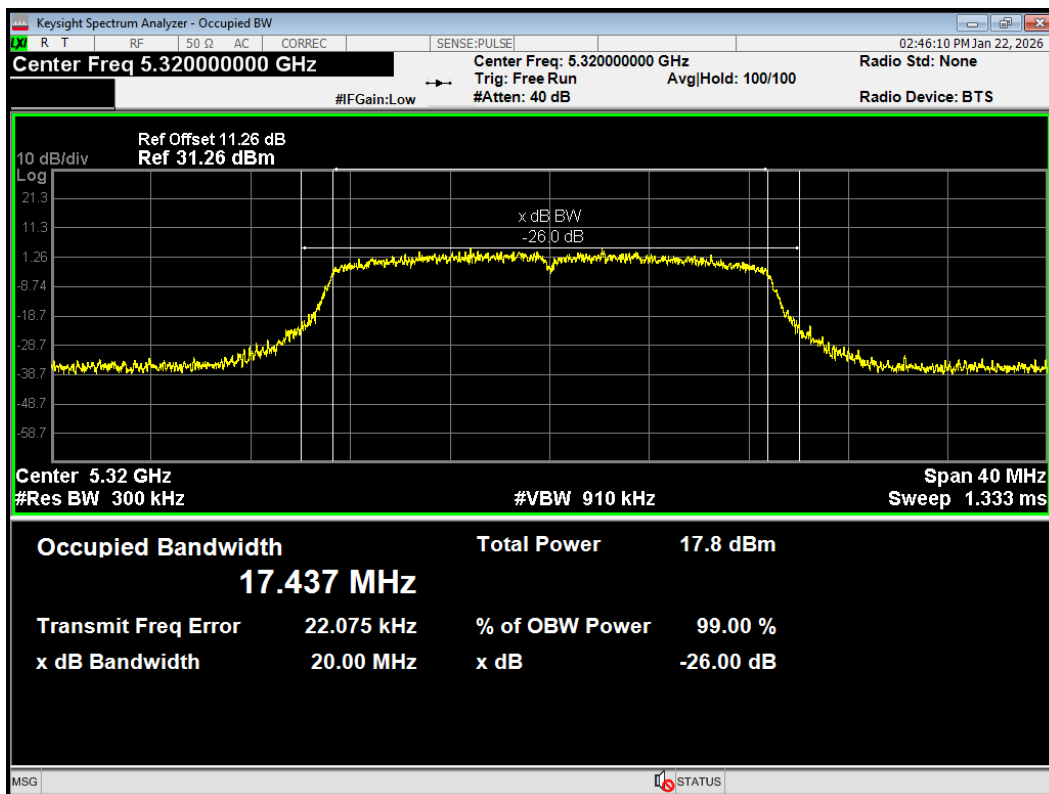
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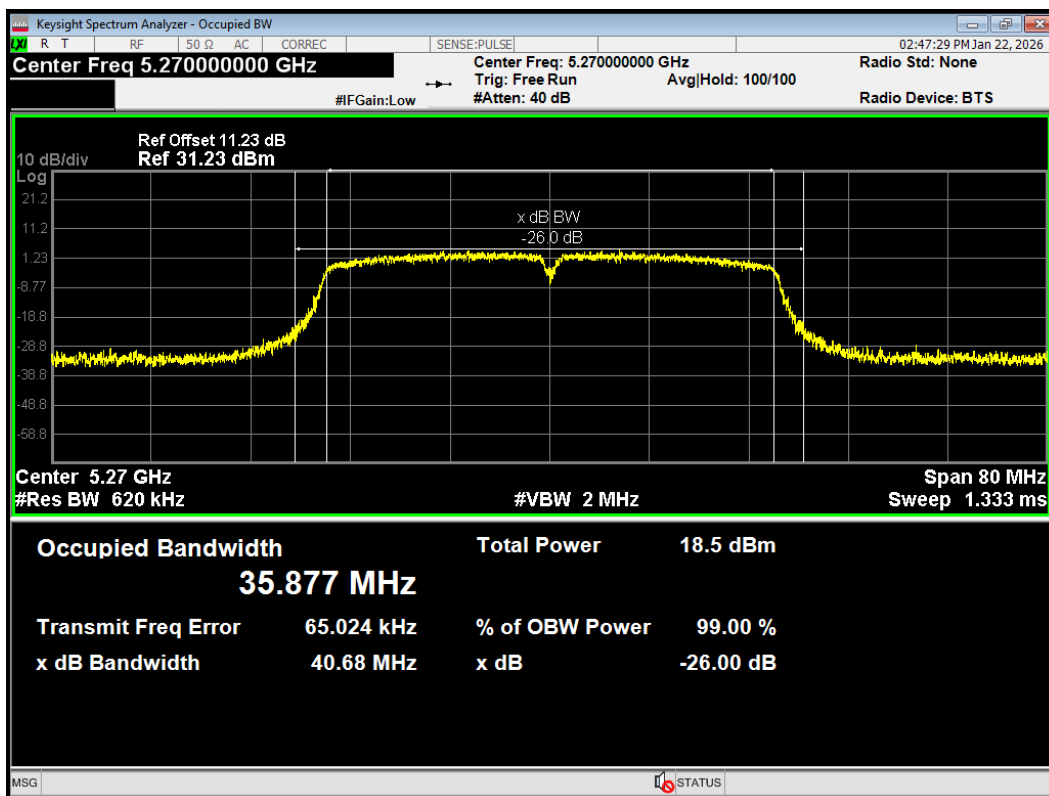
OBW 802.11ac(VHT20) 5300MHz



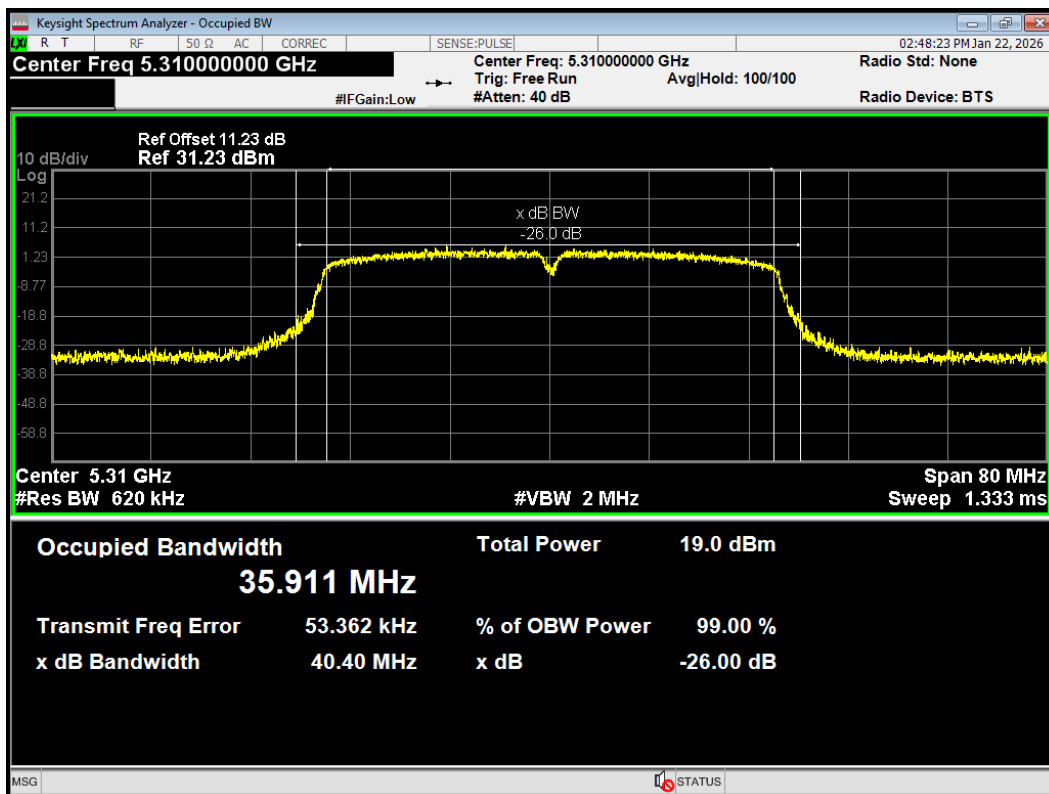
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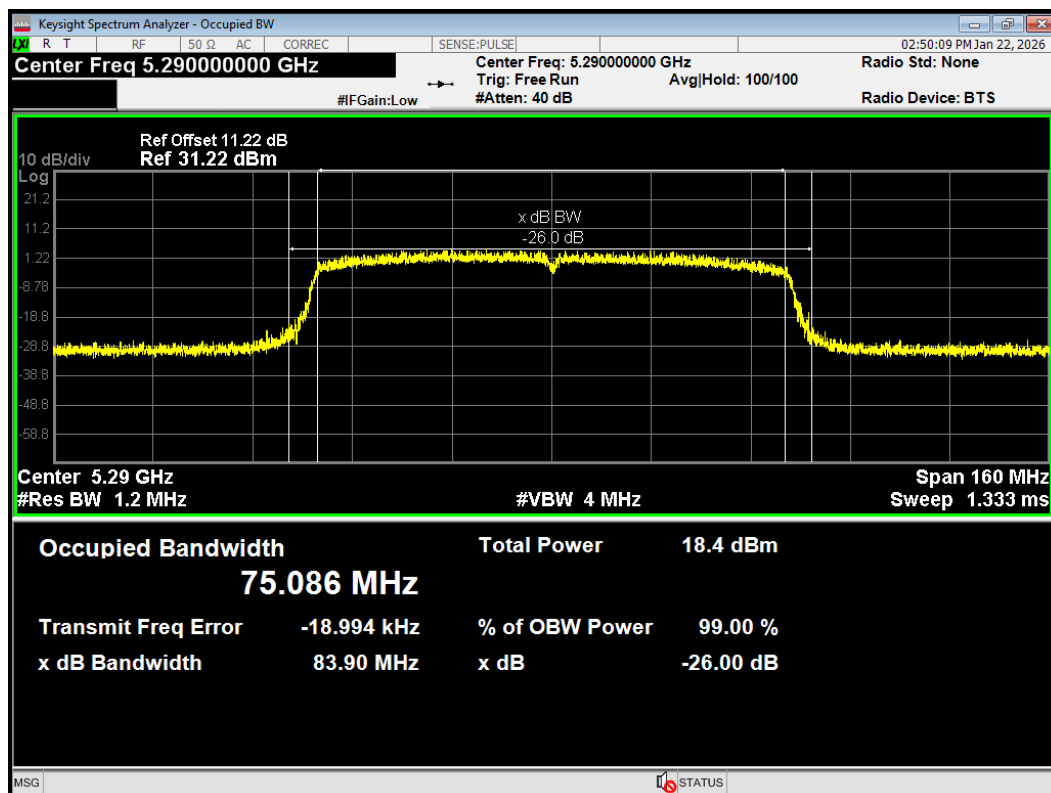
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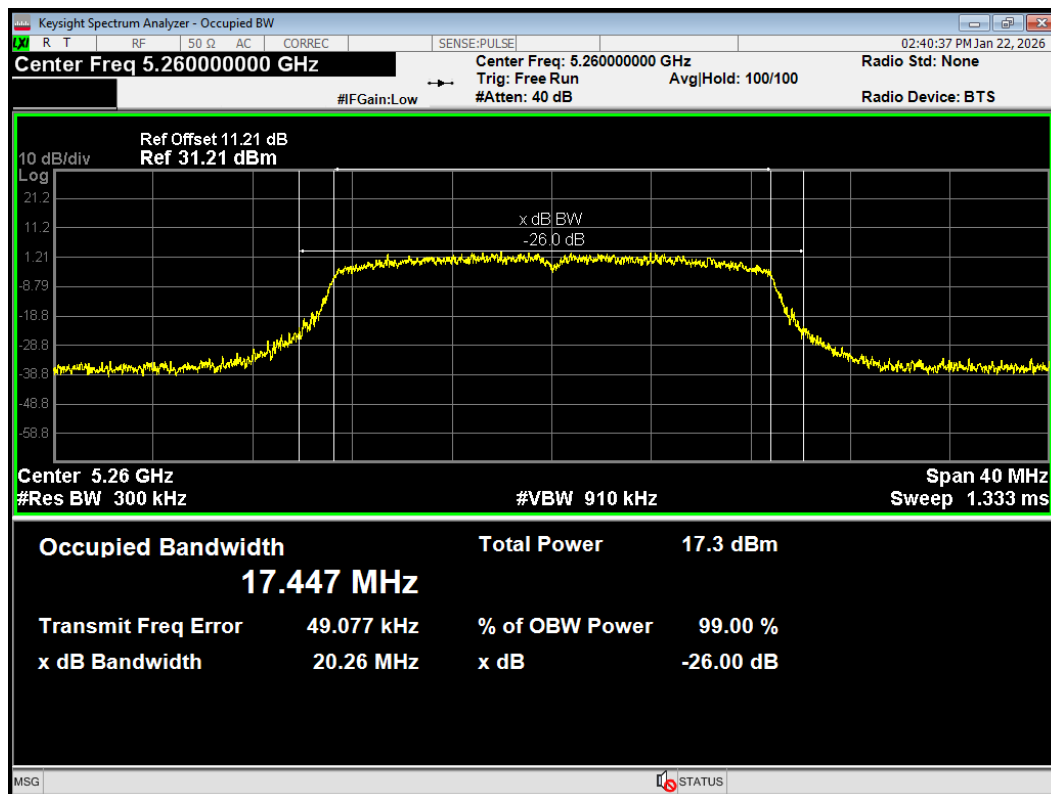
OBW 802.11ac(VHT40) 5310MHz



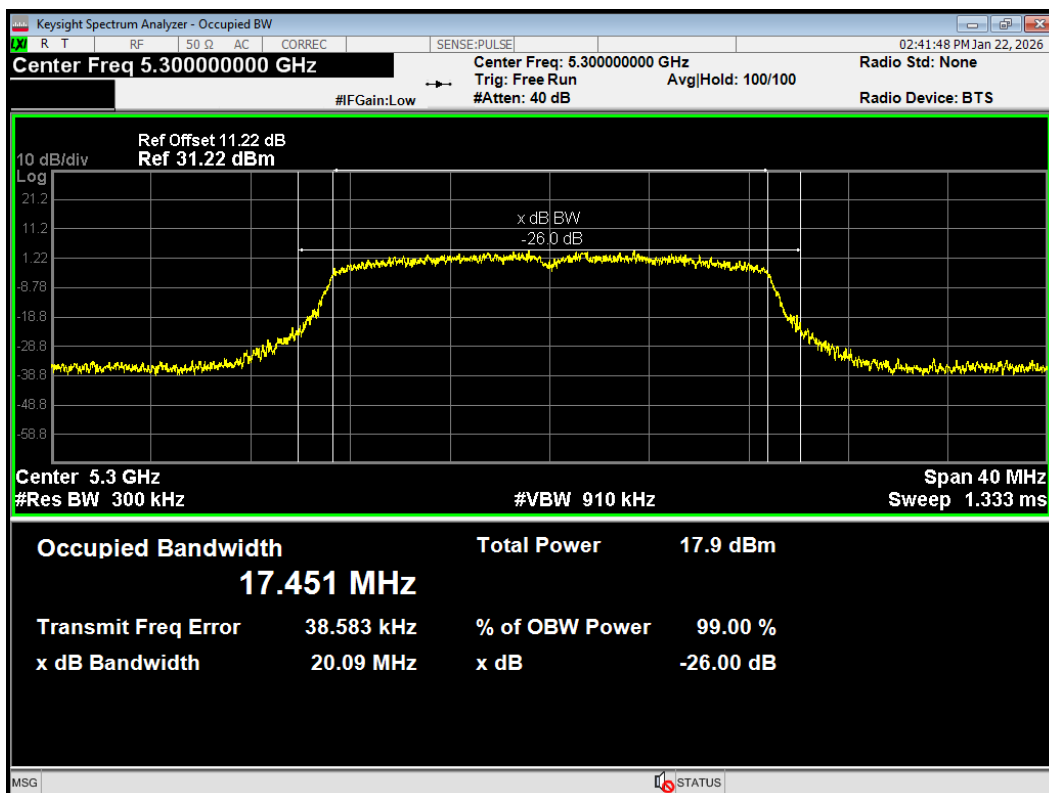
OBW 802.11ac(VHT80) 5290MHz



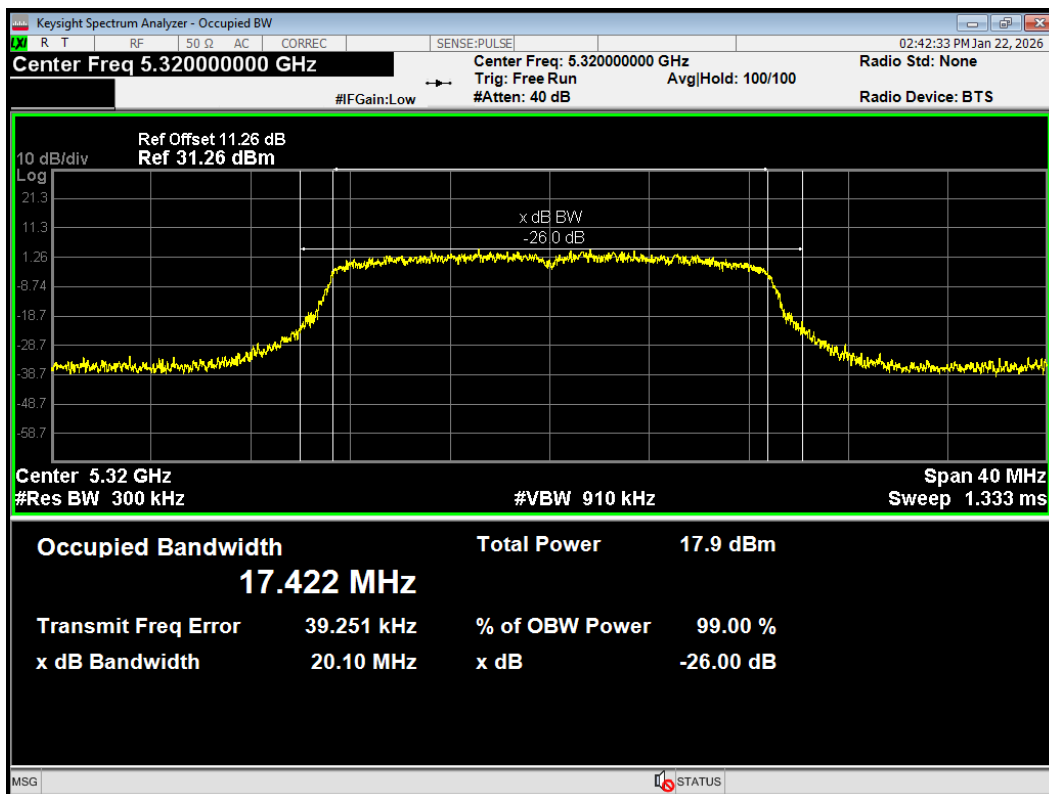
OBW 802.11n(HT20) 5260MHz



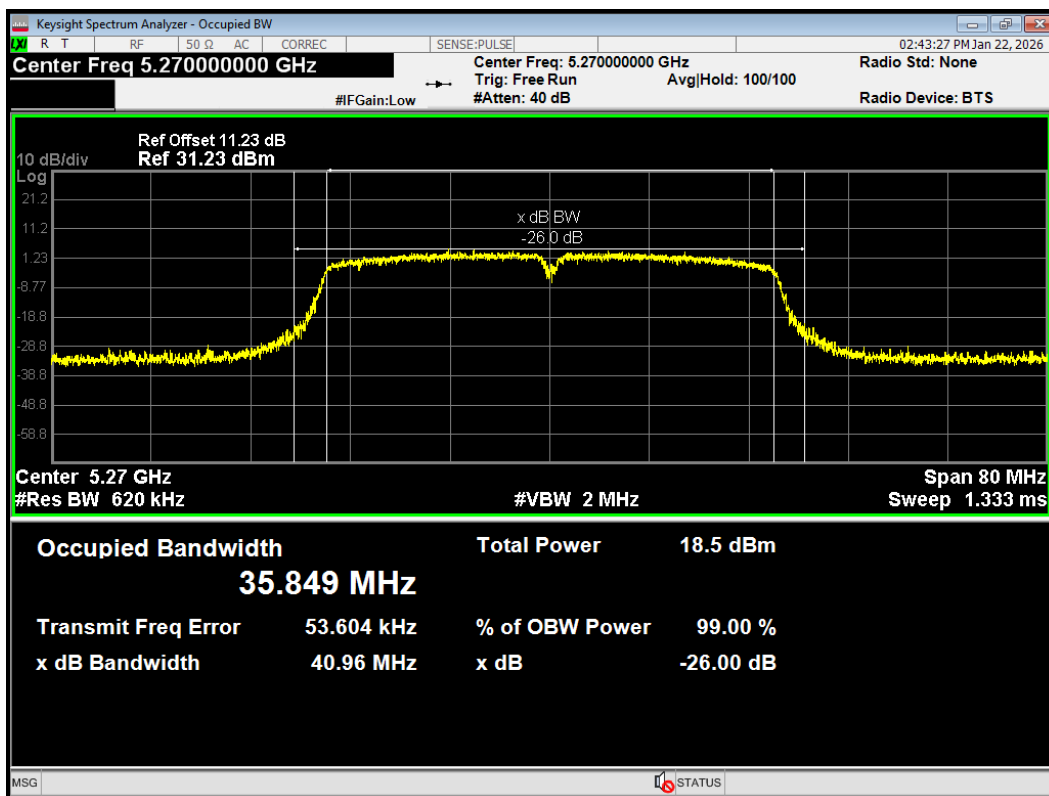
OBW 802.11n(HT20) 5300MHz



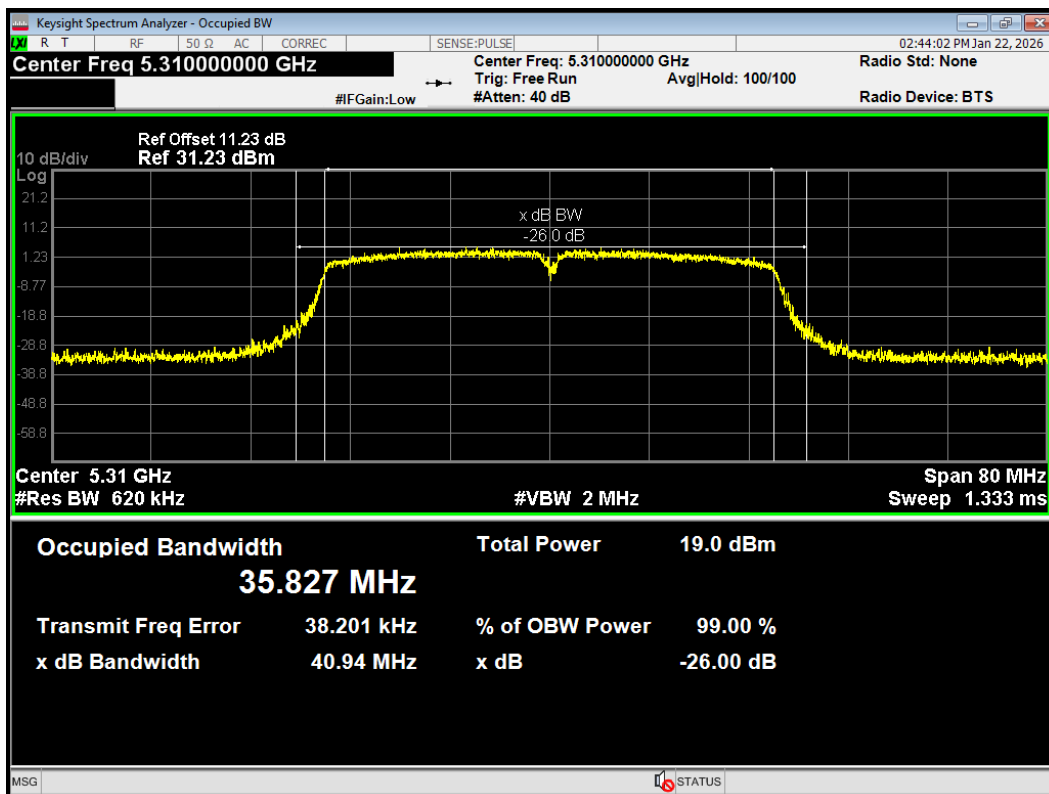
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OBW 802.11n(HT40) 5270MHz

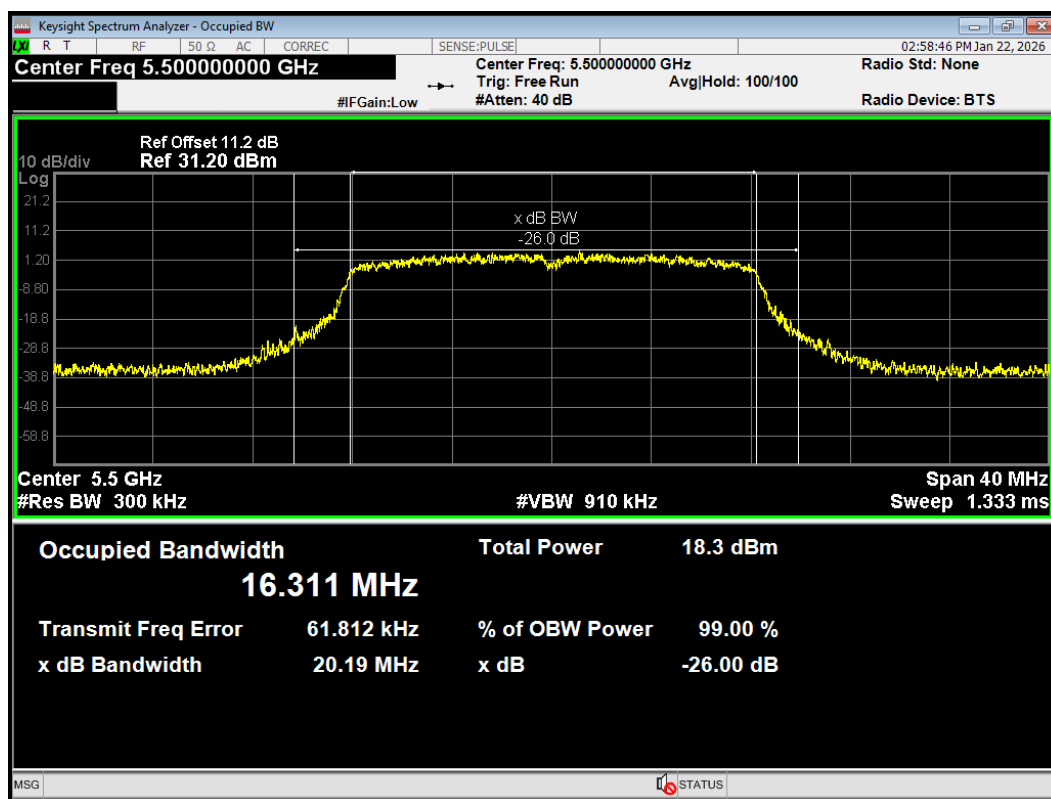


OBW 802.11n(HT40) 5310MHz

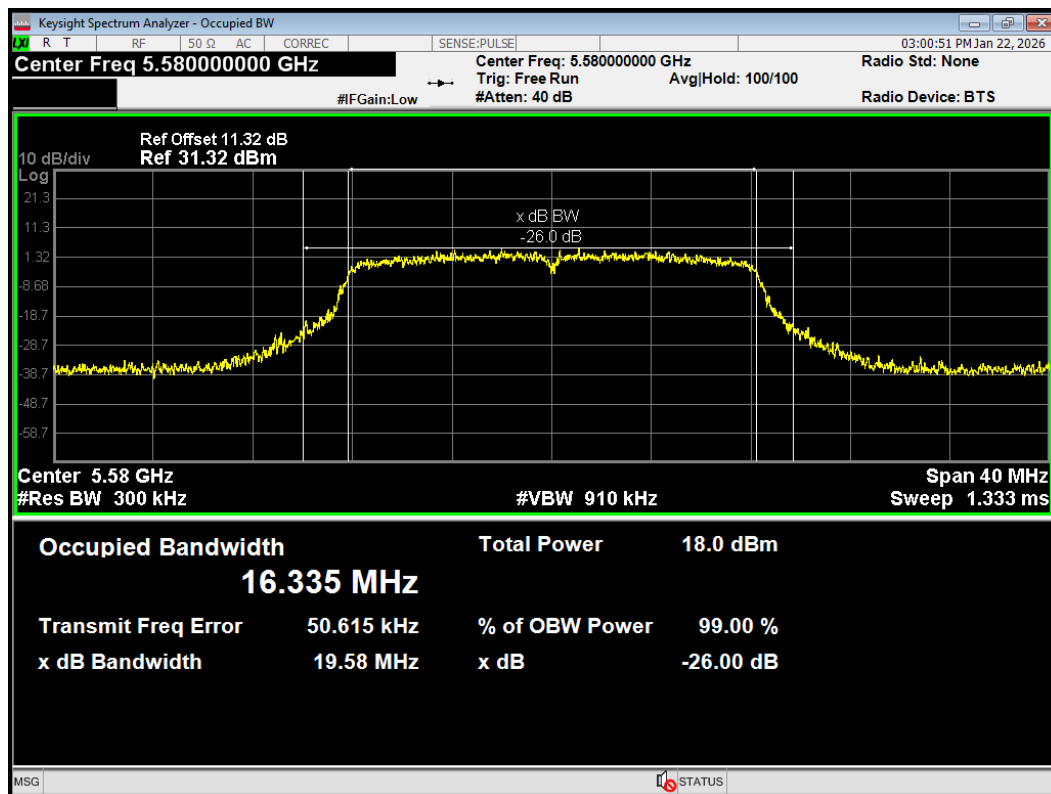


U-NII-2C

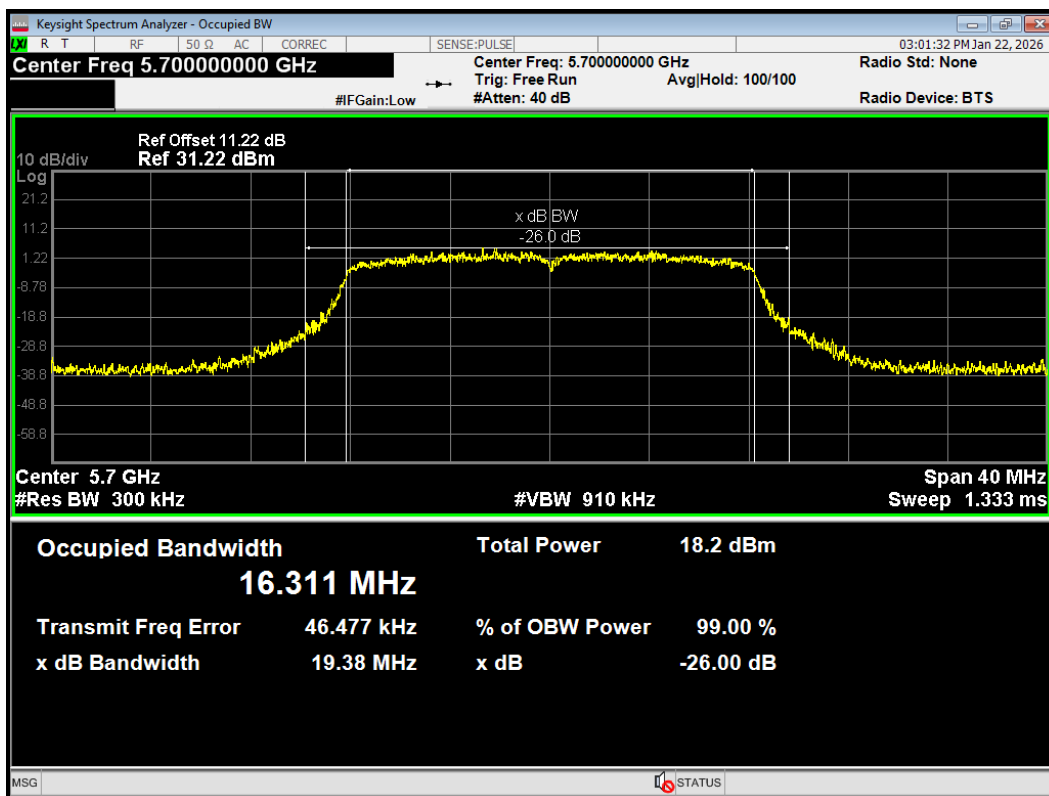
OBW 802.11a 5500MHz



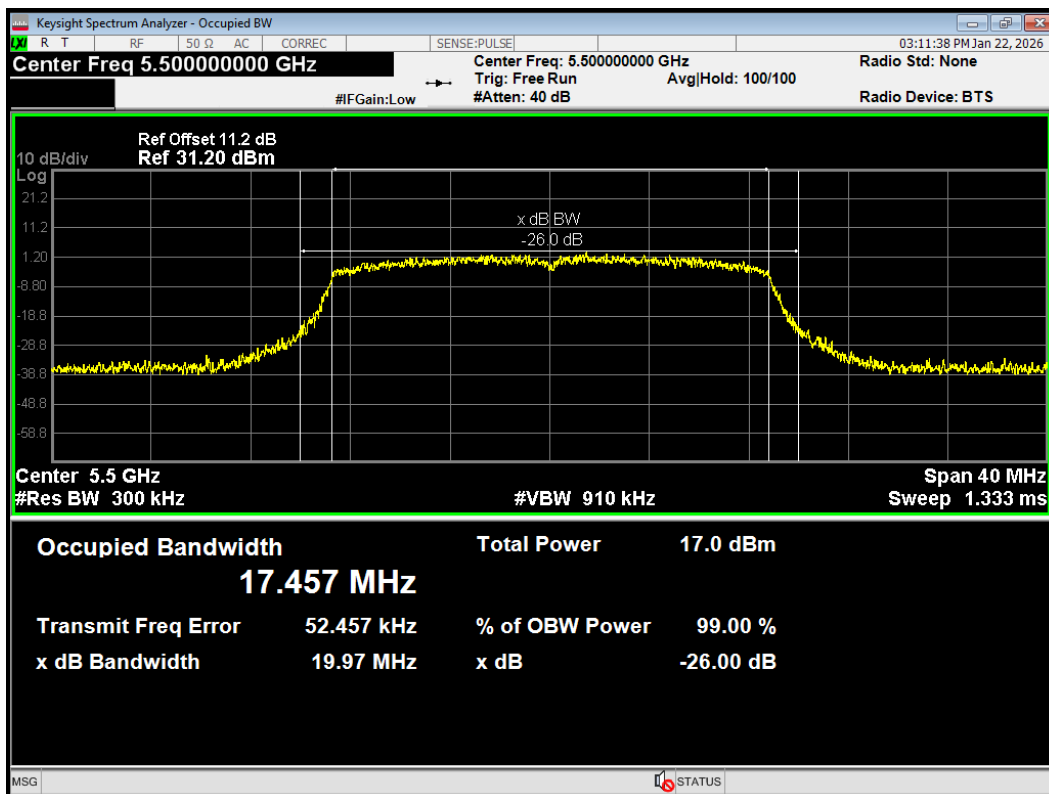
OBW 802.11a 5580MHz



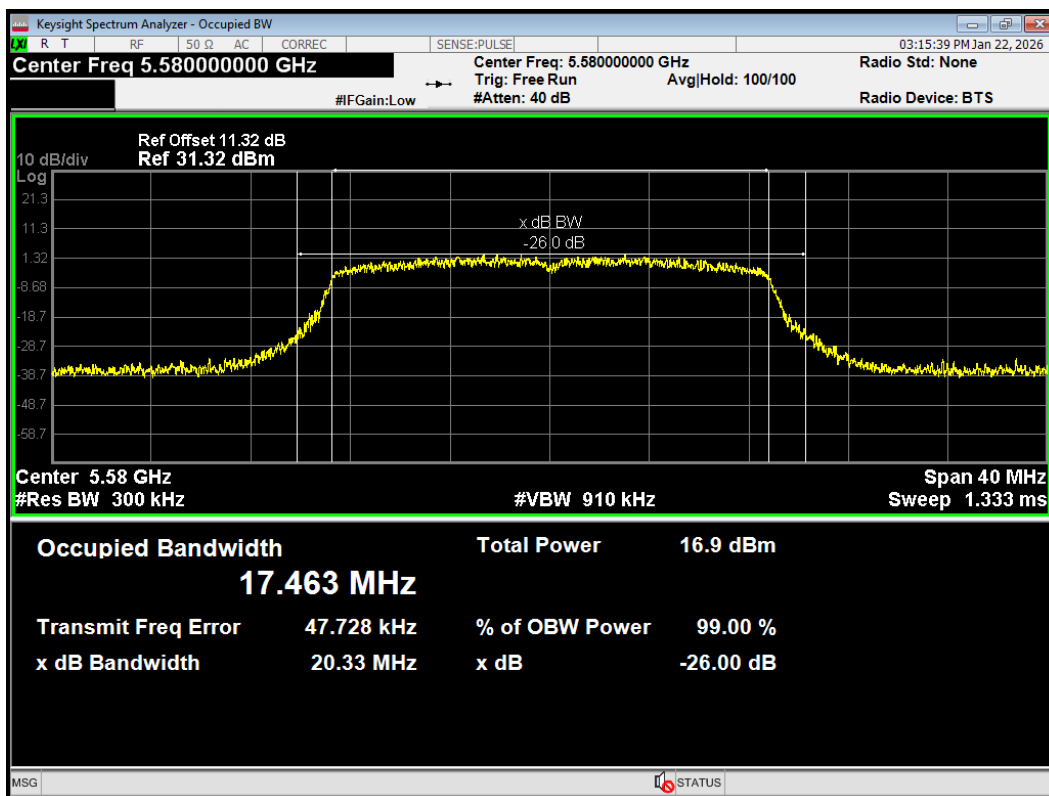
OBW 802.11a 5700MHz



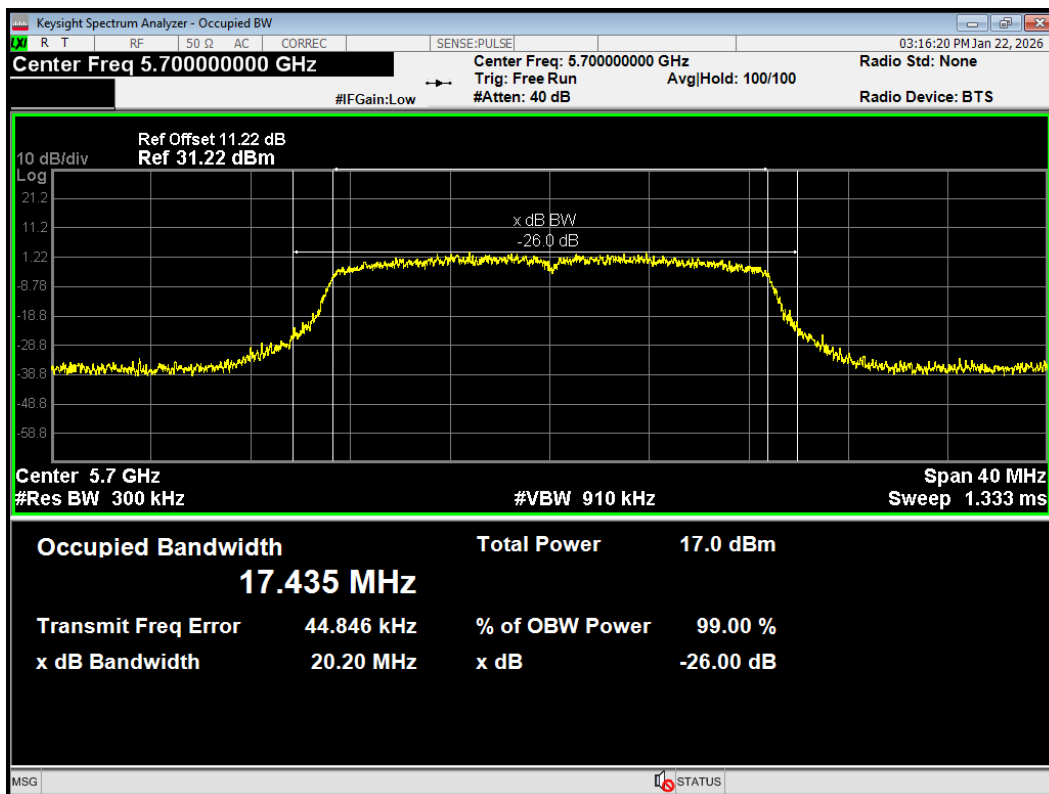
OBW 802.11ac(VHT20) 5500MHz



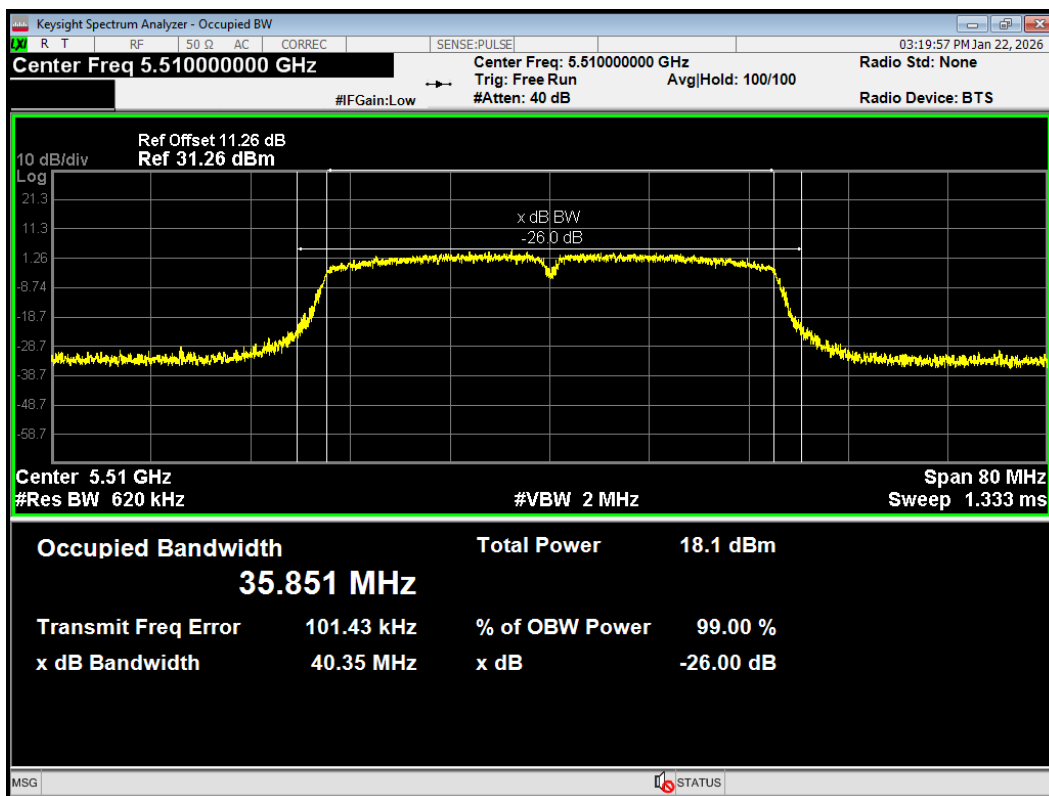
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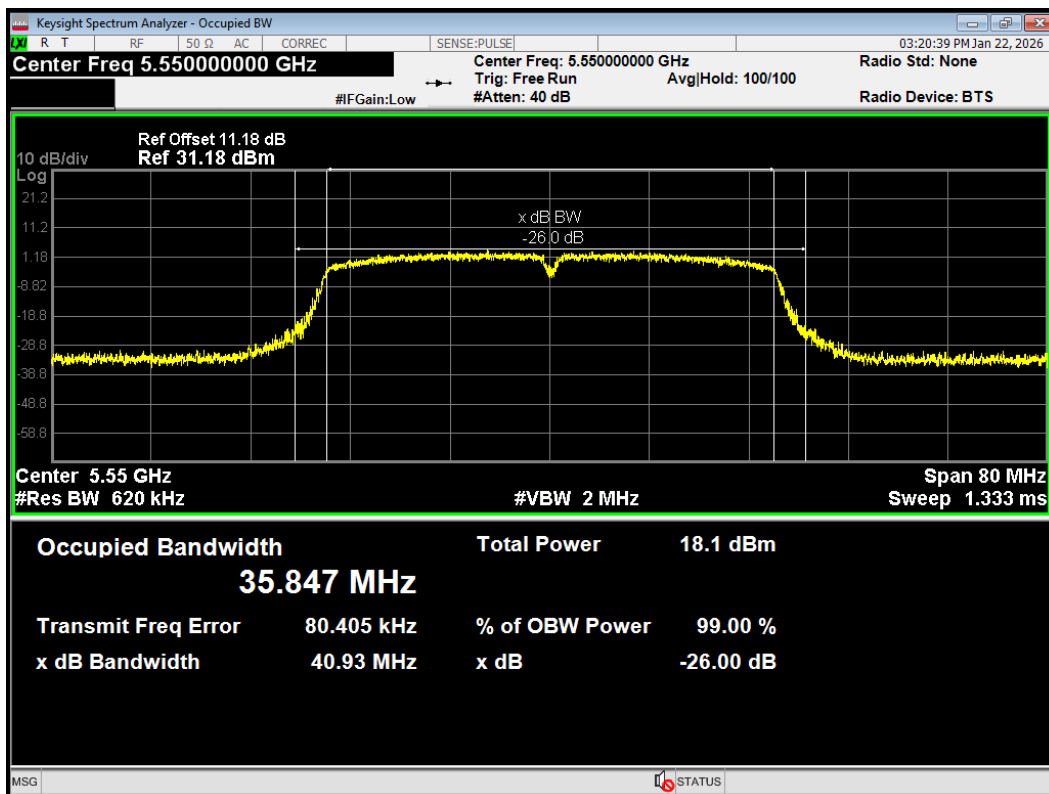
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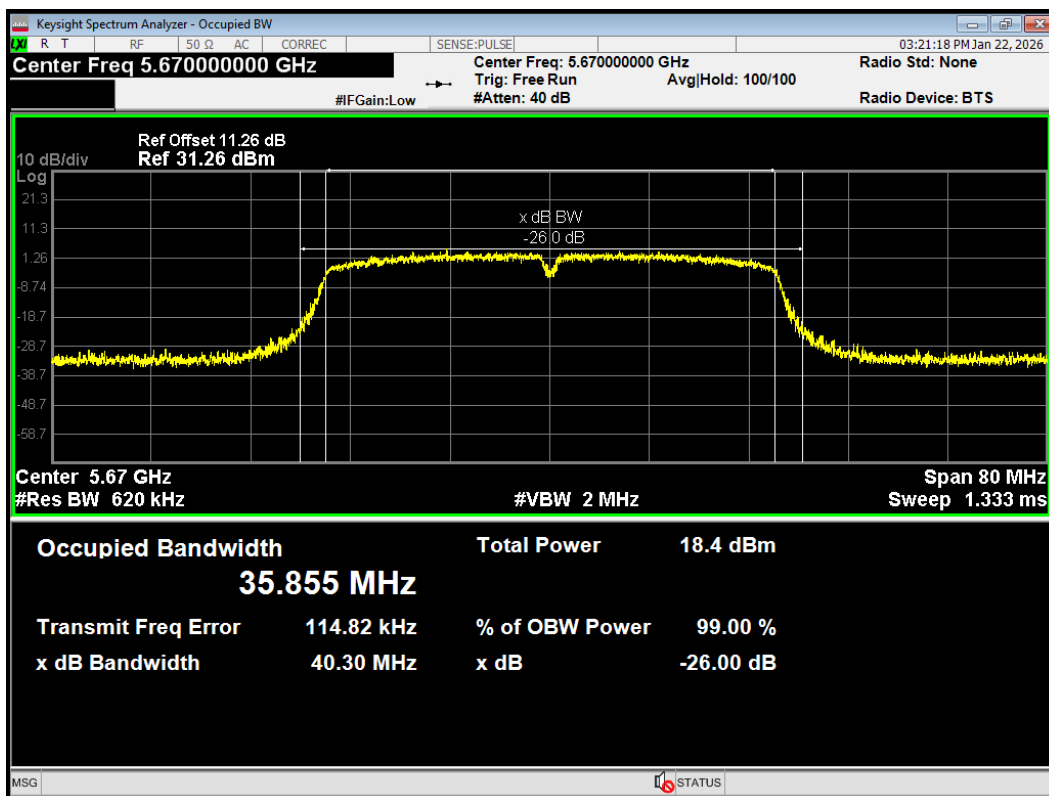
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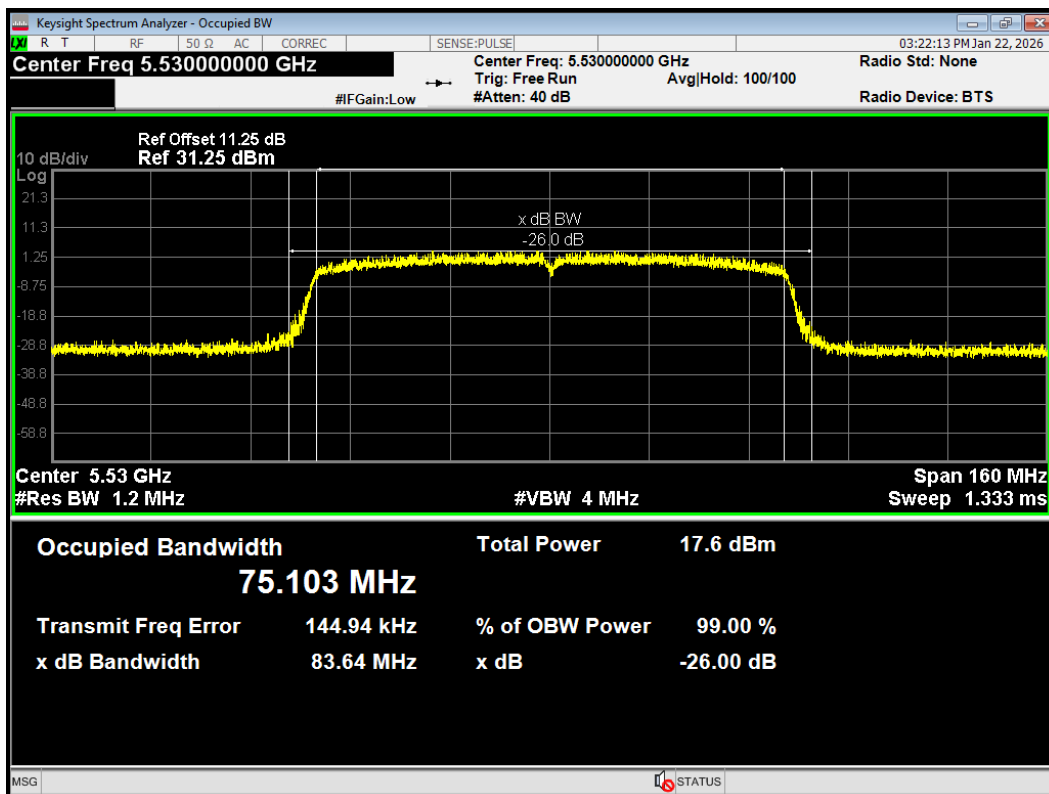
OBW 802.11ac(VHT40) 5550MHz



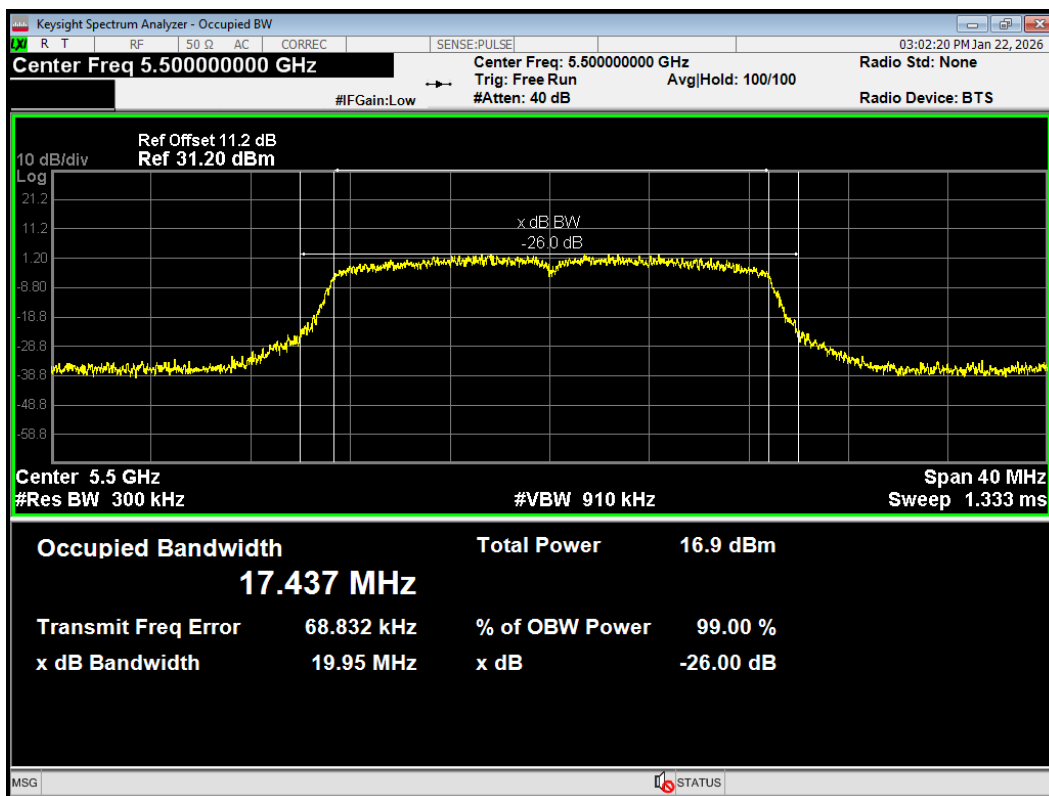
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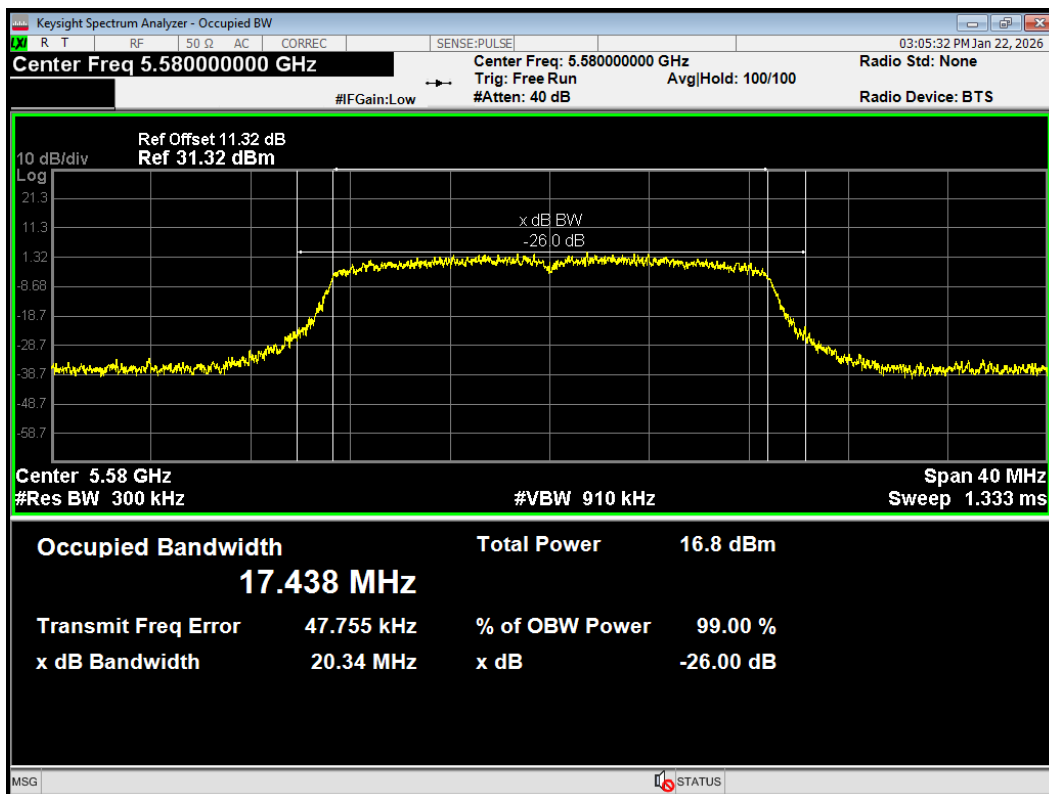
OBW 802.11ac(VHT80) 5530MHz



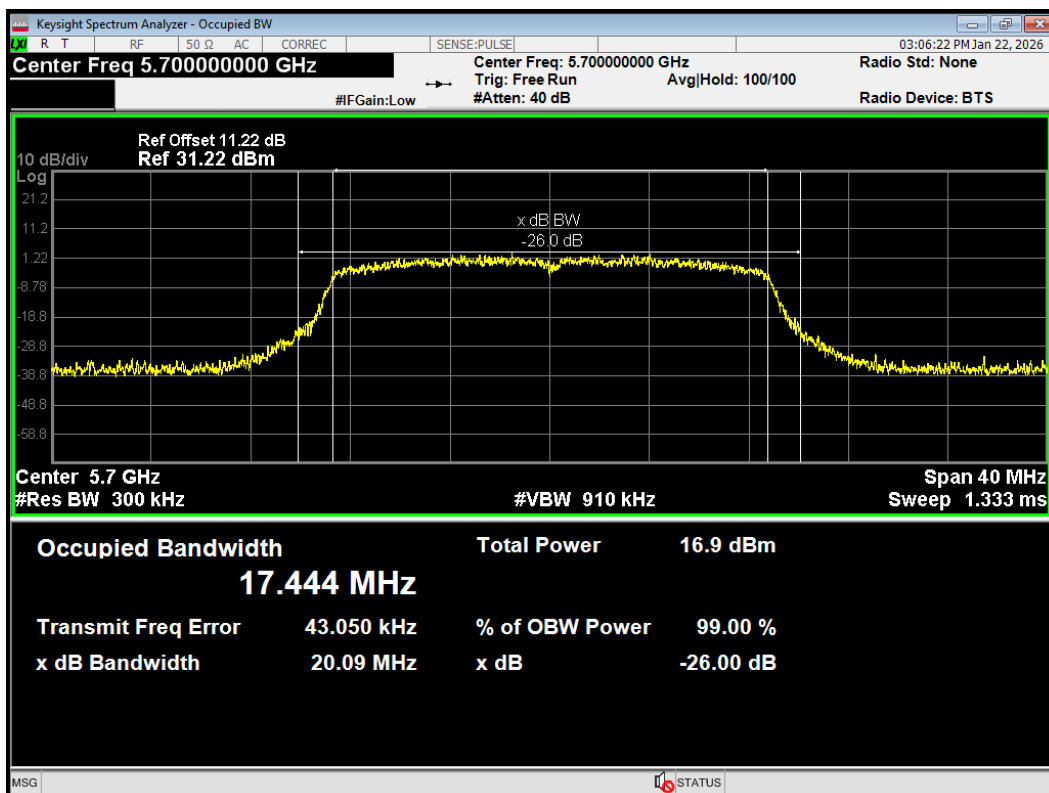
OBW 802.11n(HT20) 5500MHz



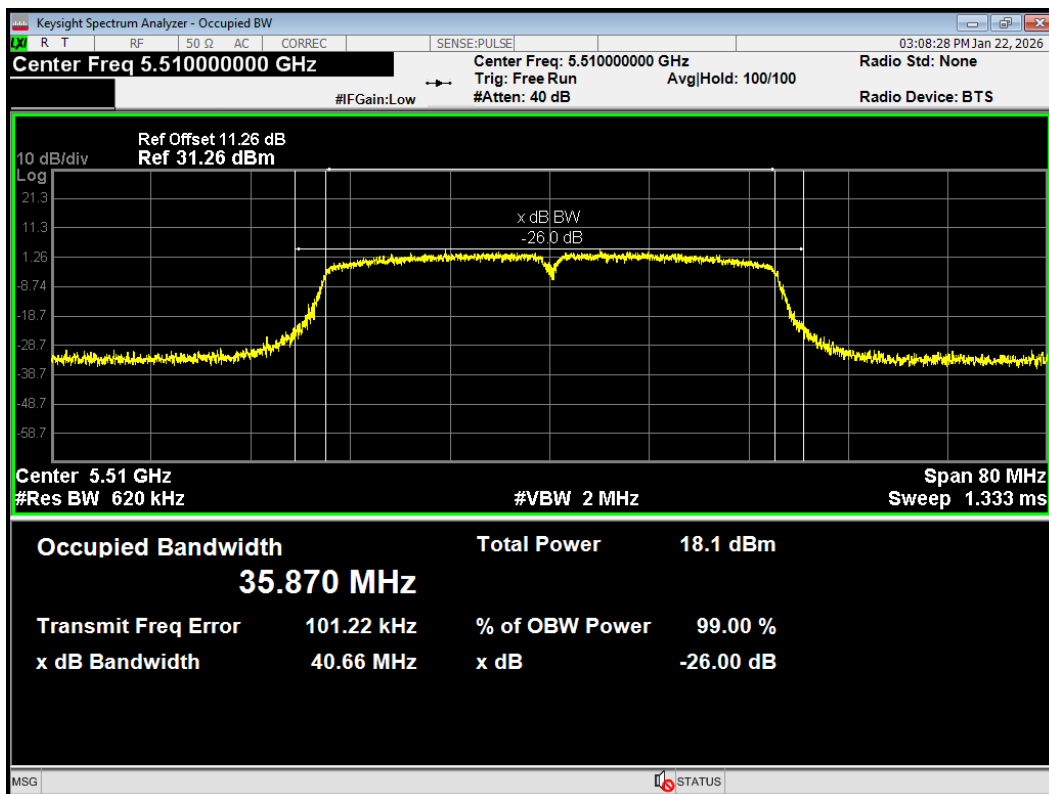
OBW 802.11n(HT20) 5580MHz



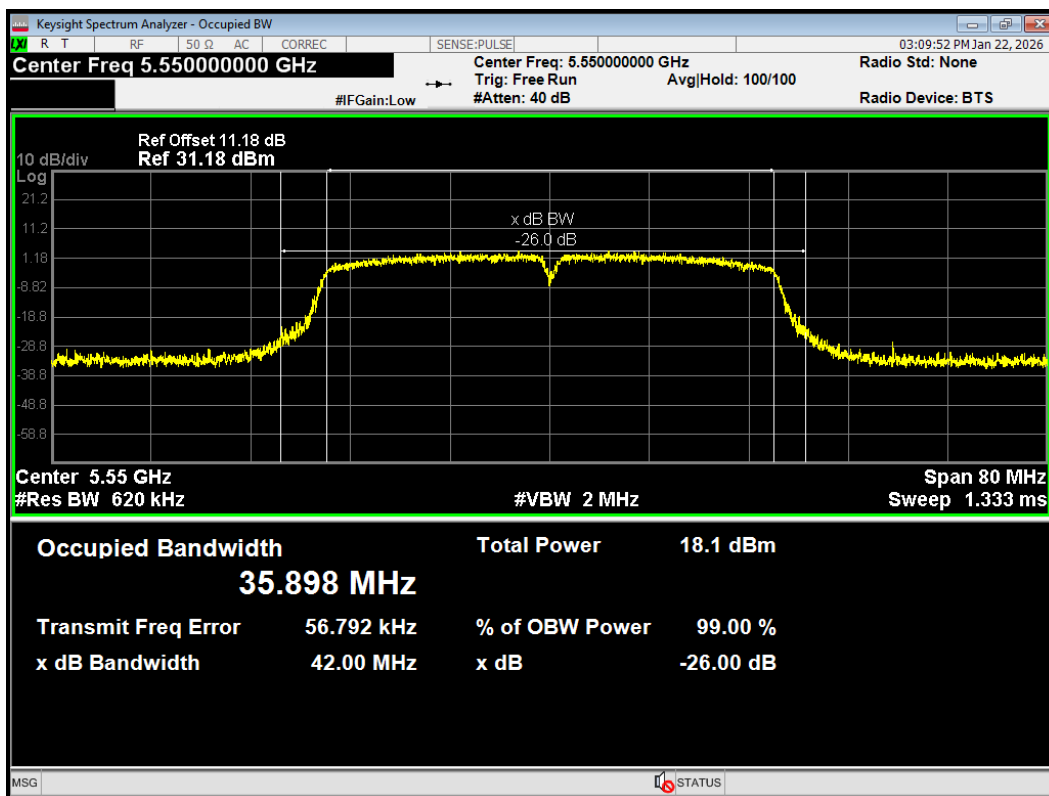
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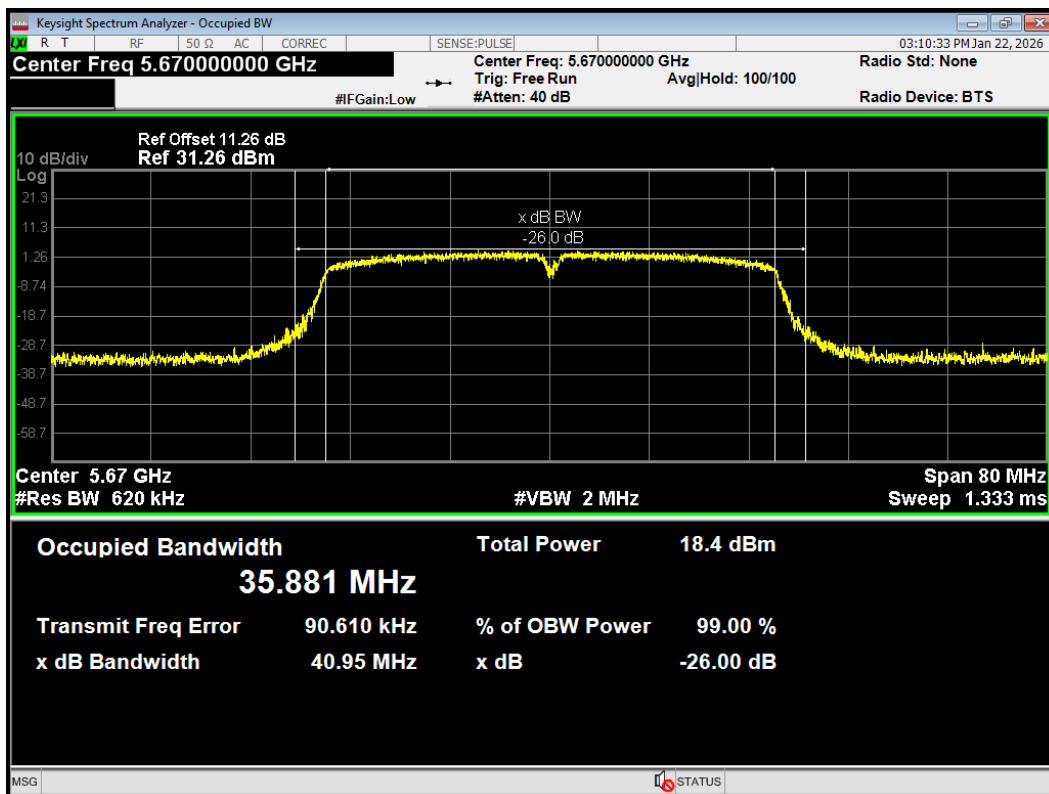
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OBW 802.11n(HT40) 5550MHz

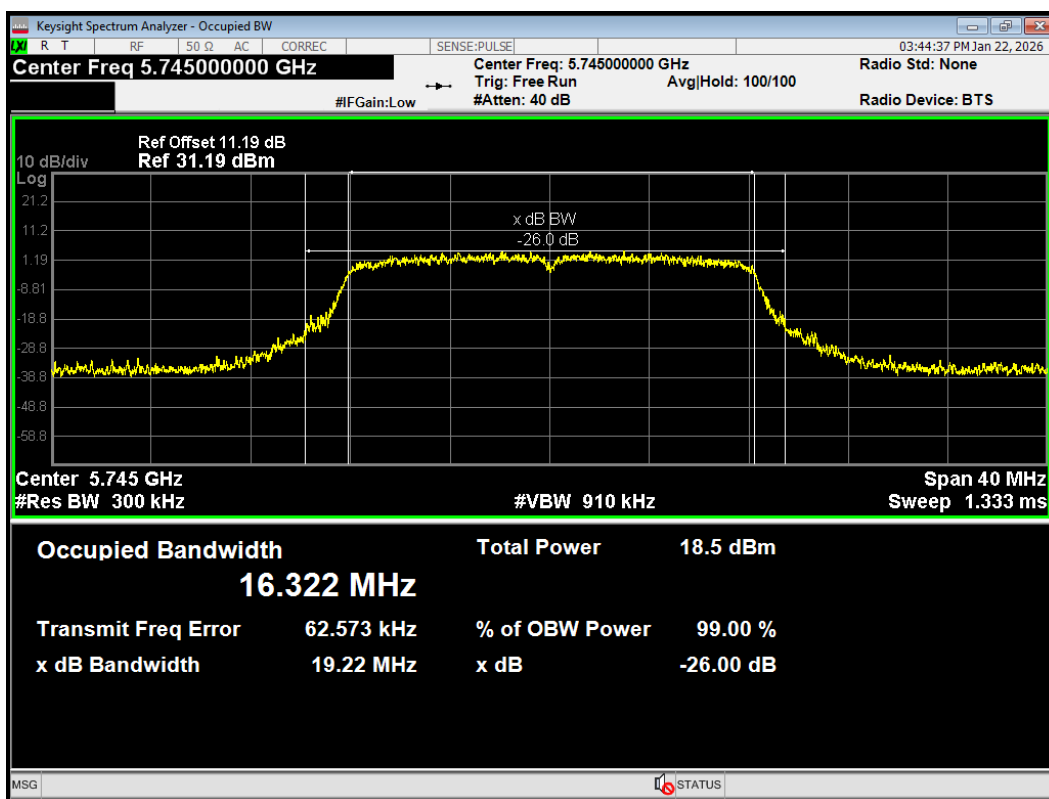


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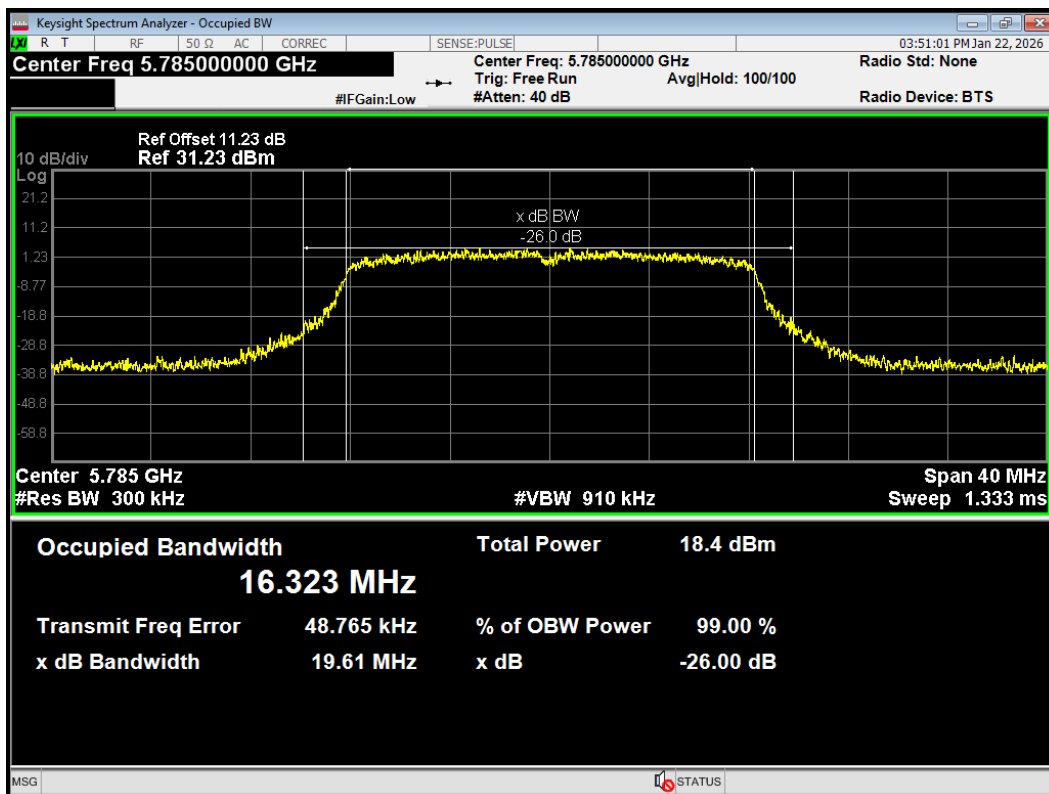


U-NII-3

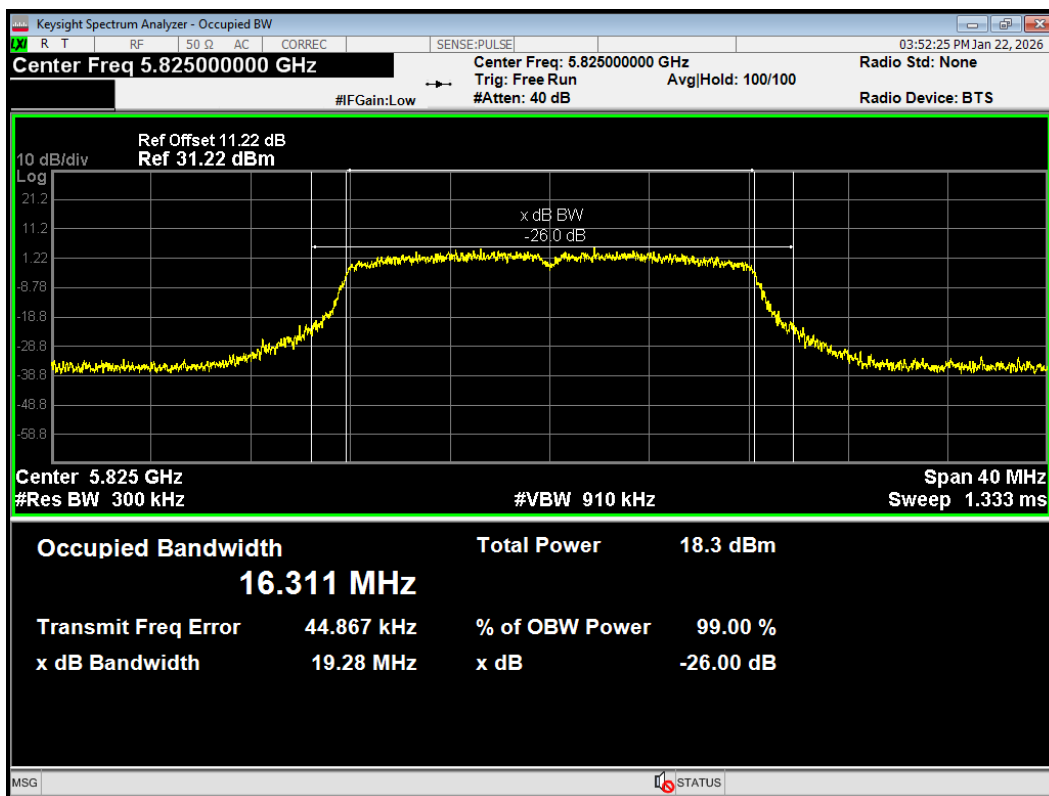
OBW 802.11a 5745MHz



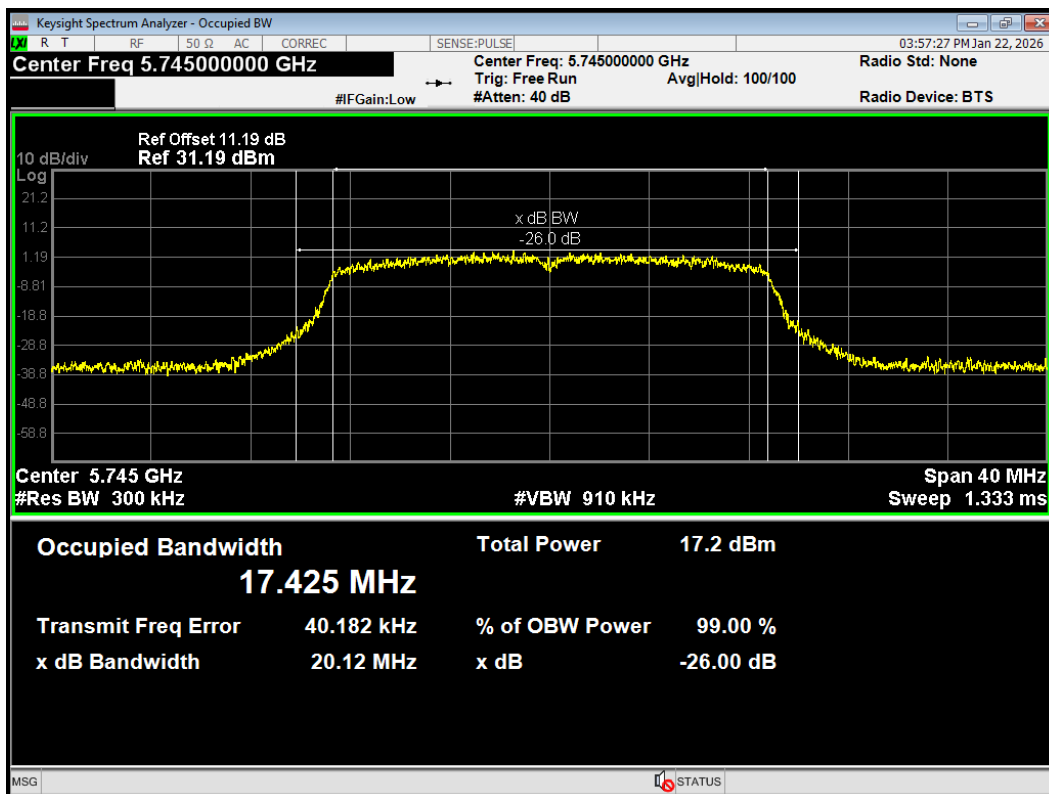
OBW 802.11a 5785MHz



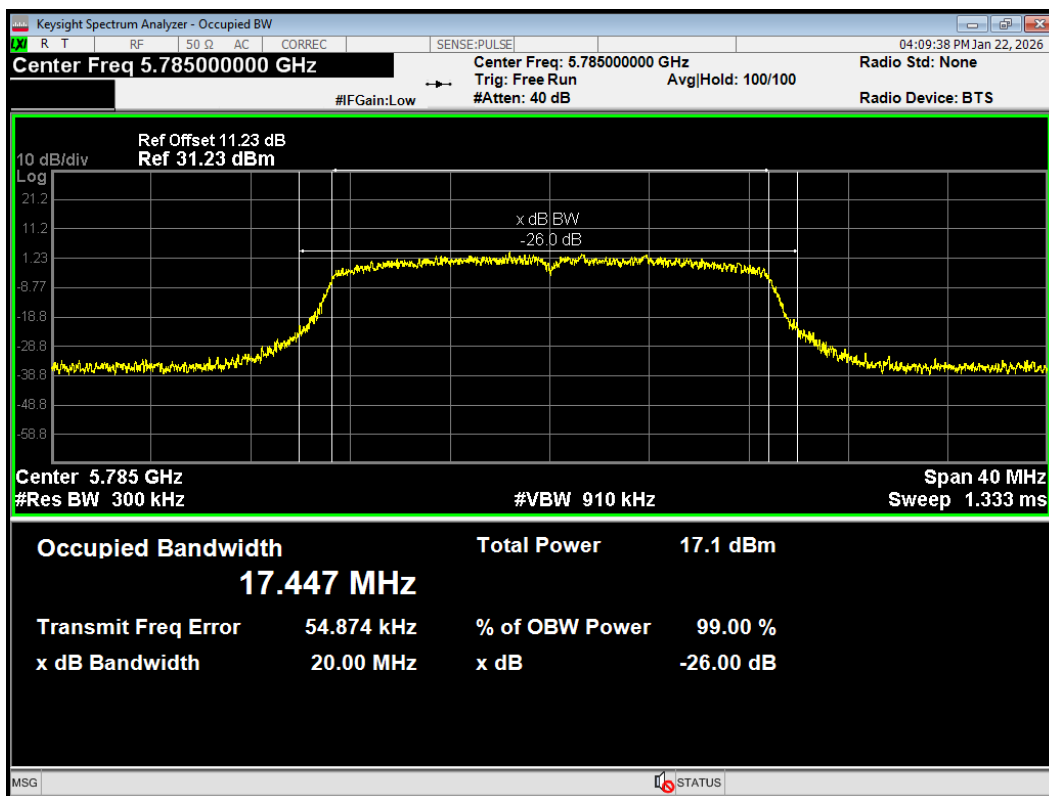
OBW 802.11a 5825MHz



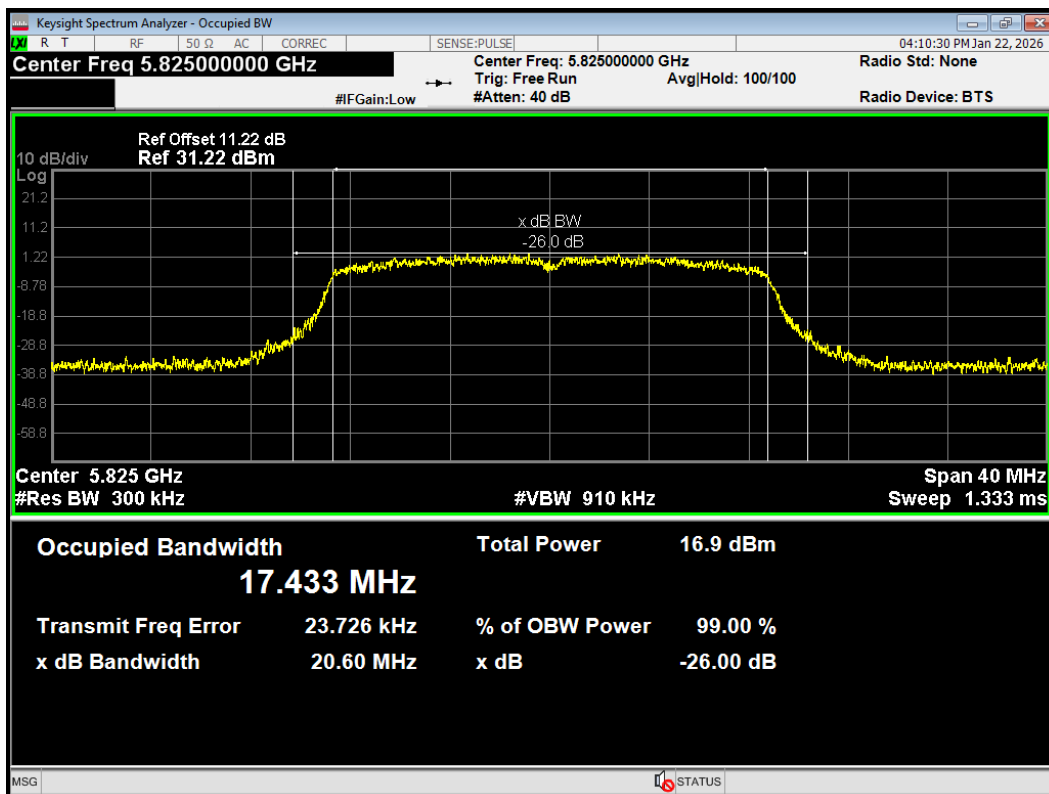
OBW 802.11ac(VHT20) 5745MHz



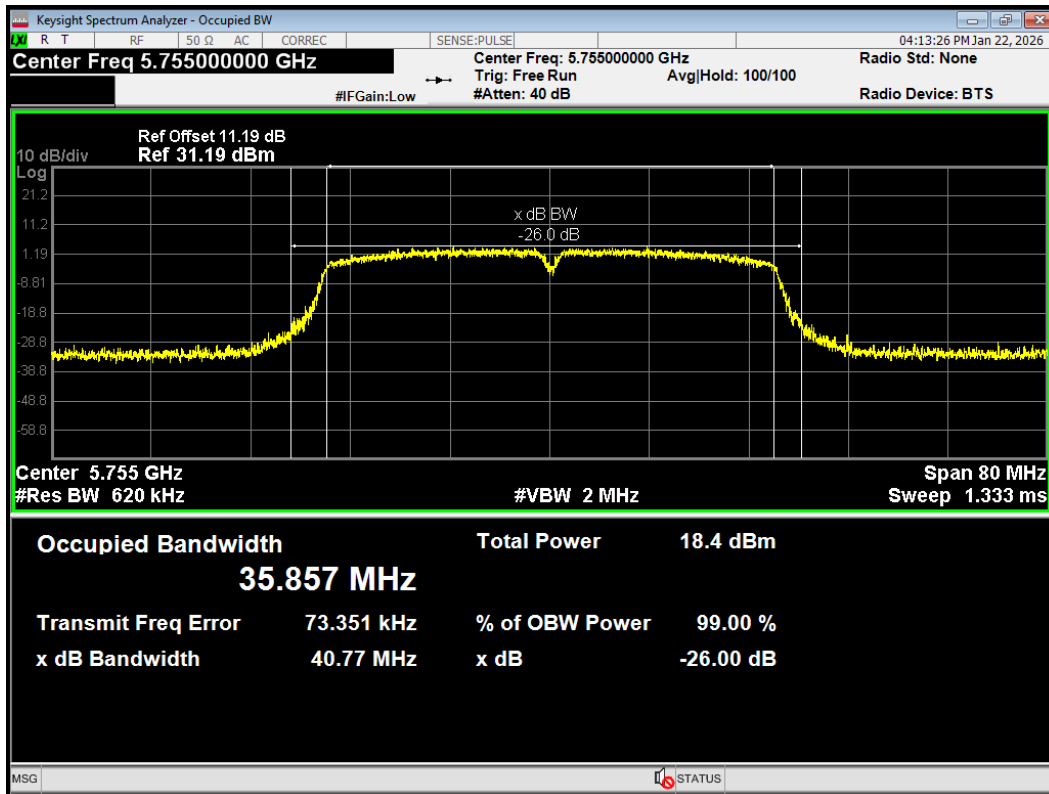
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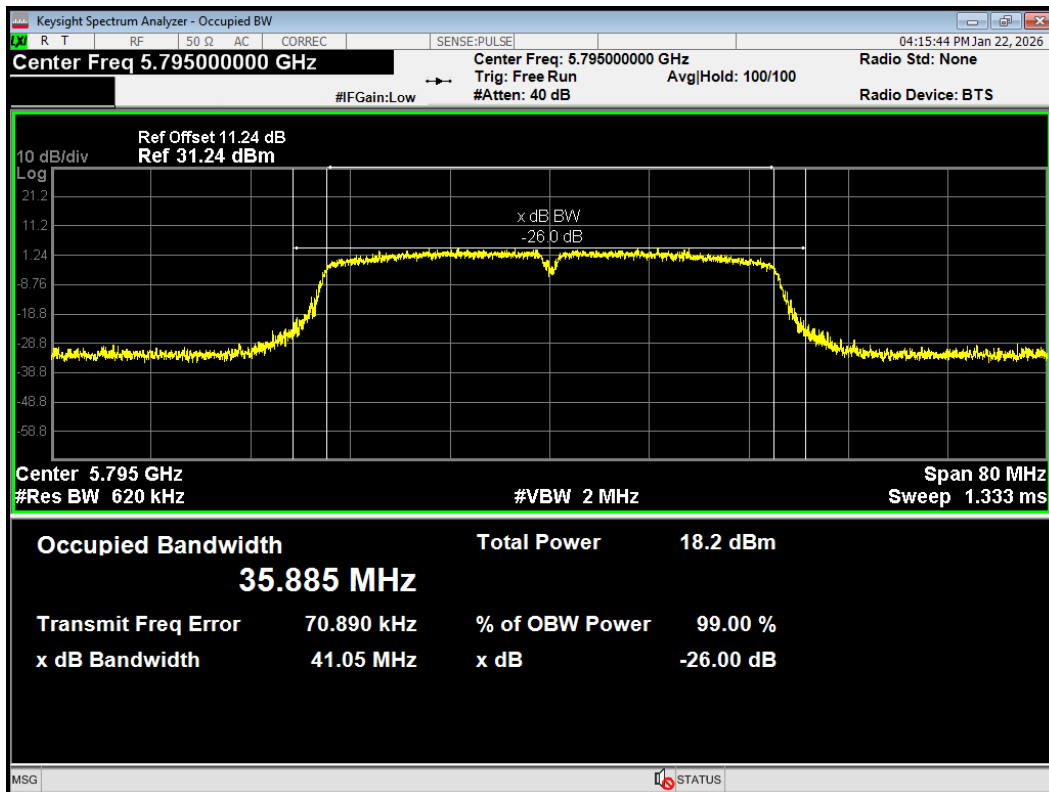
OBW 802.11ac(VHT20) 5825MHz



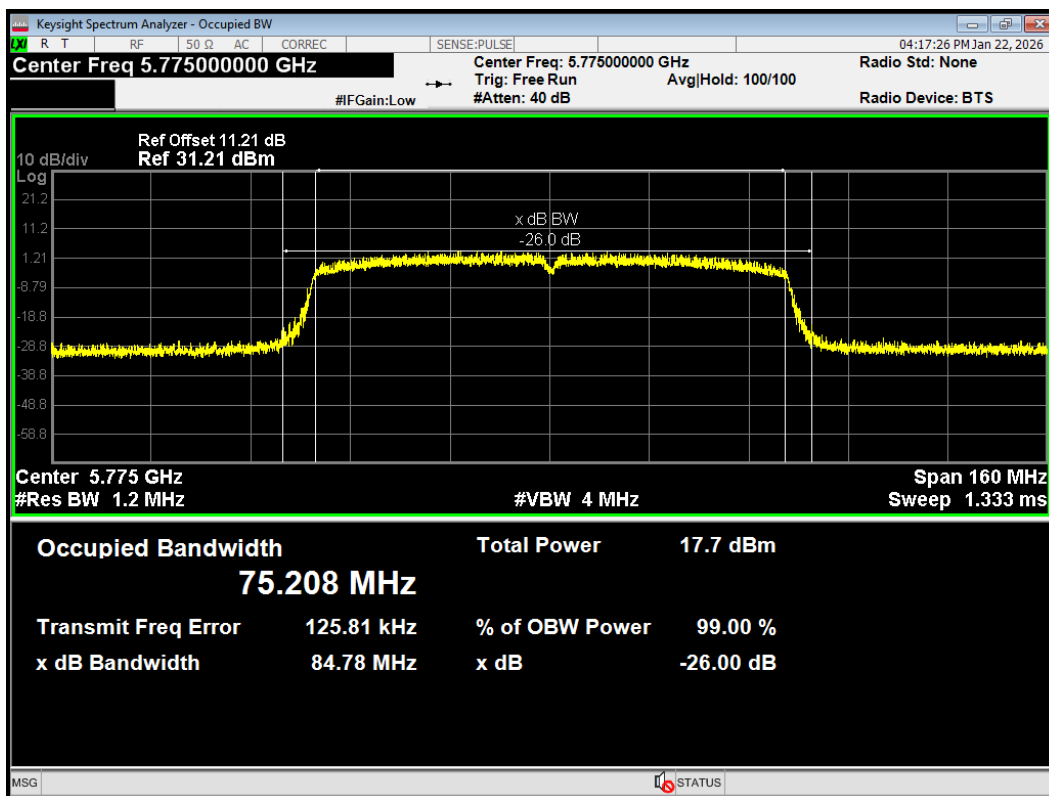
OBW 802.11ac(VHT40) 5755MHz



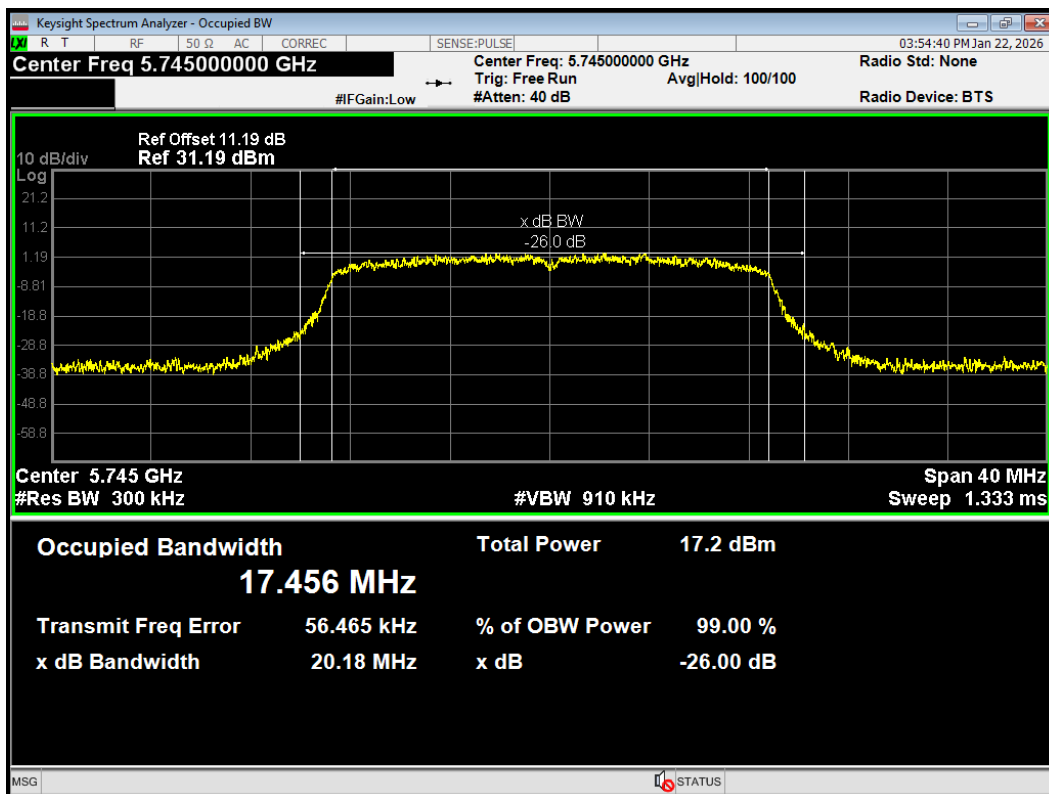
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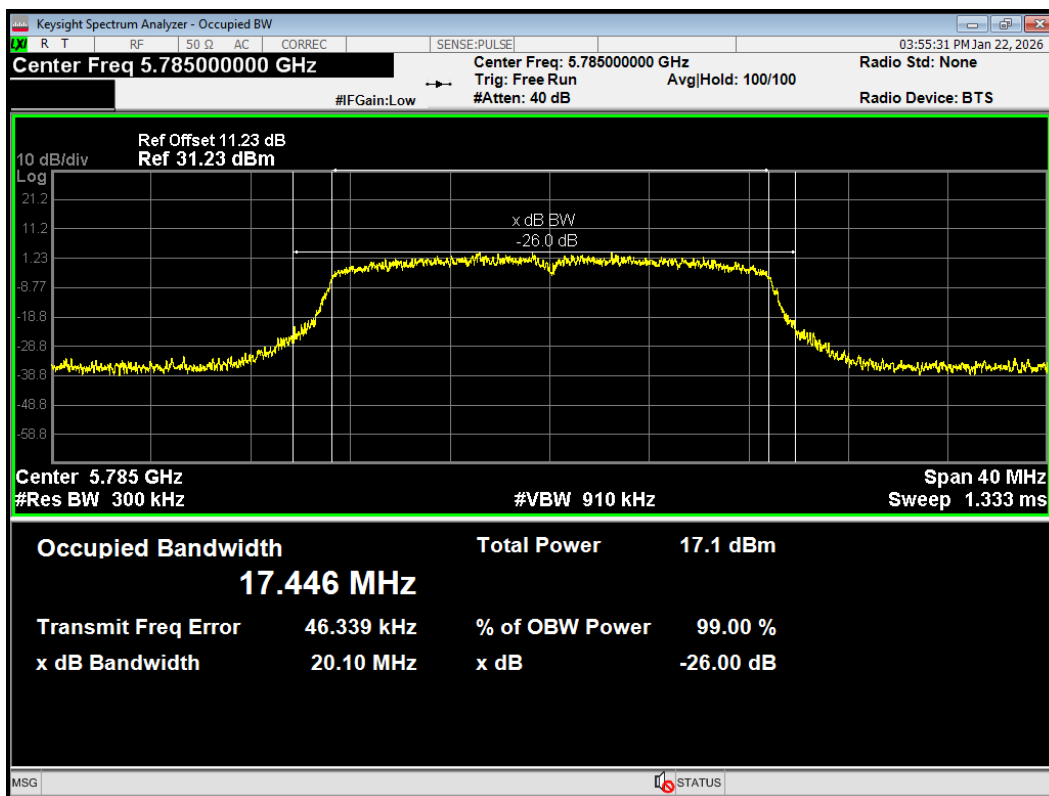
OBW 802.11ac(VHT80) 5775MHz



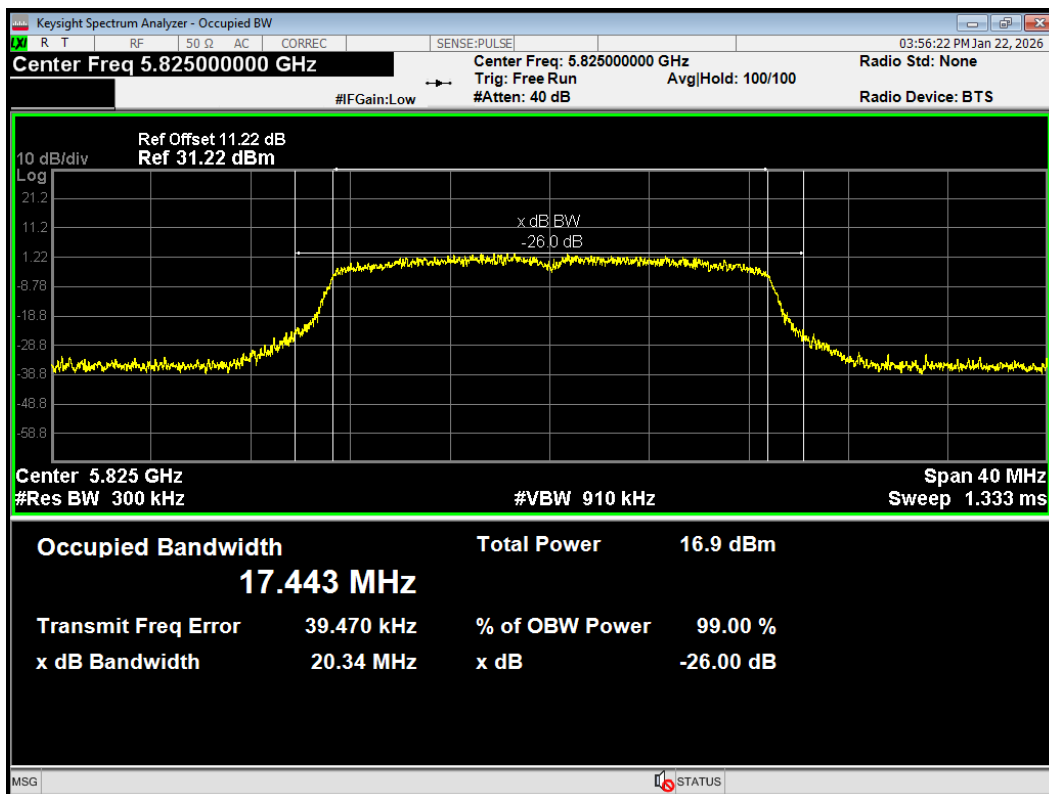
OBW 802.11n(HT20) 5745MHz



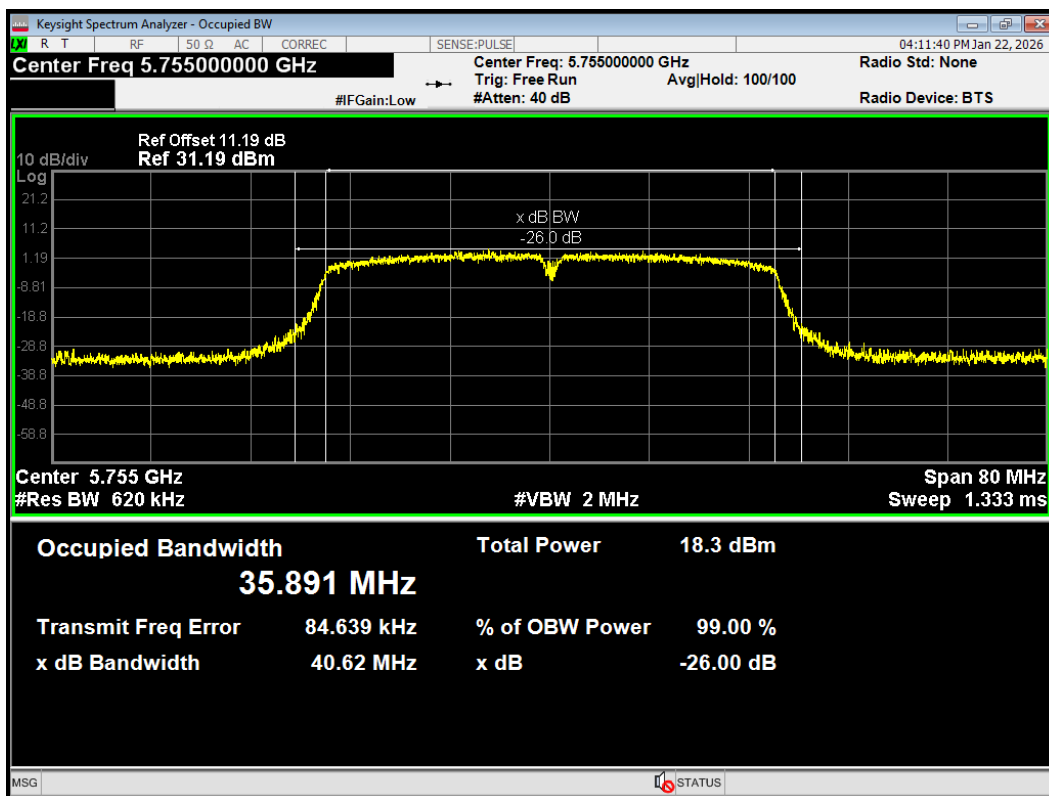
OBW 802.11n(HT20) 5785MHz



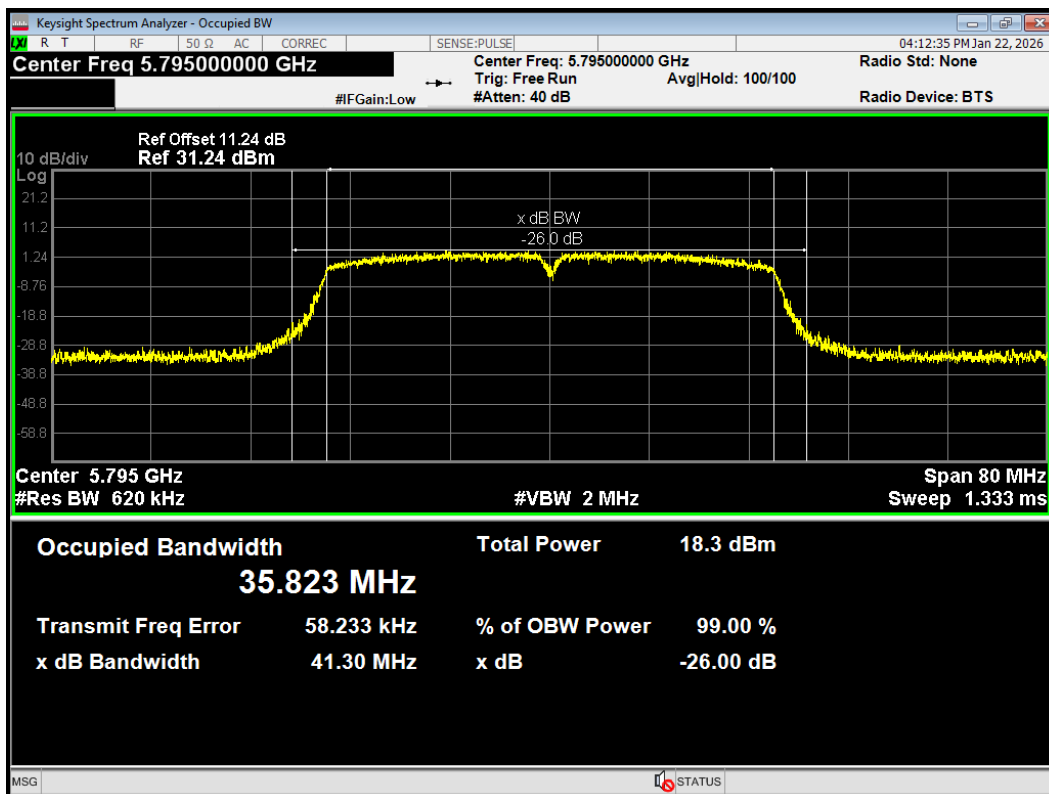
OBW 802.11n(HT20) 5825MHz



OBW 802.11n(HT40) 5755MHz



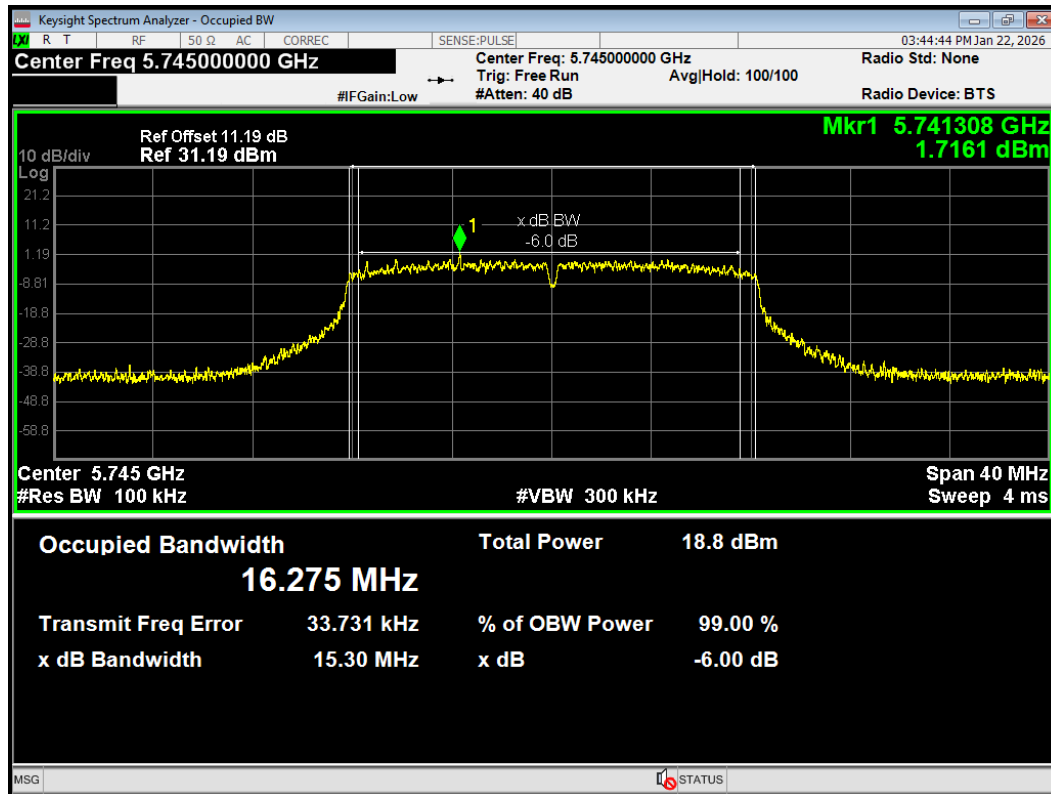
OBW 802.11n(HT40) 5795MHz



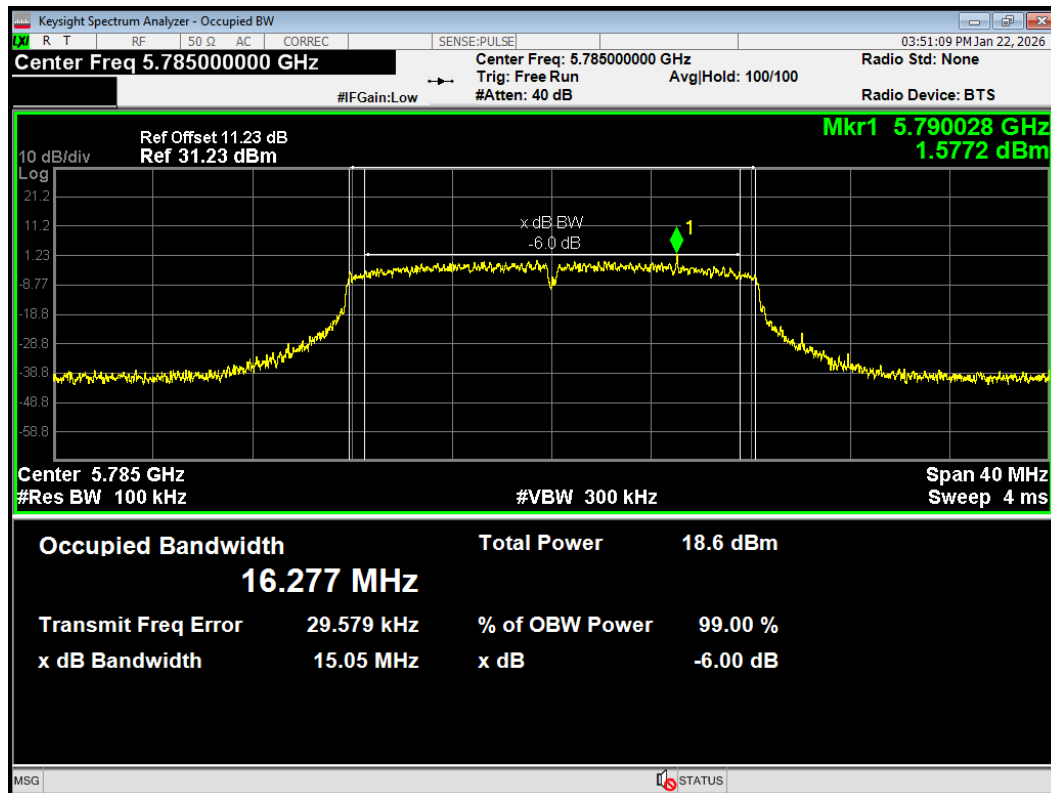
Minimum 6 dB bandwidth

U-NII-3

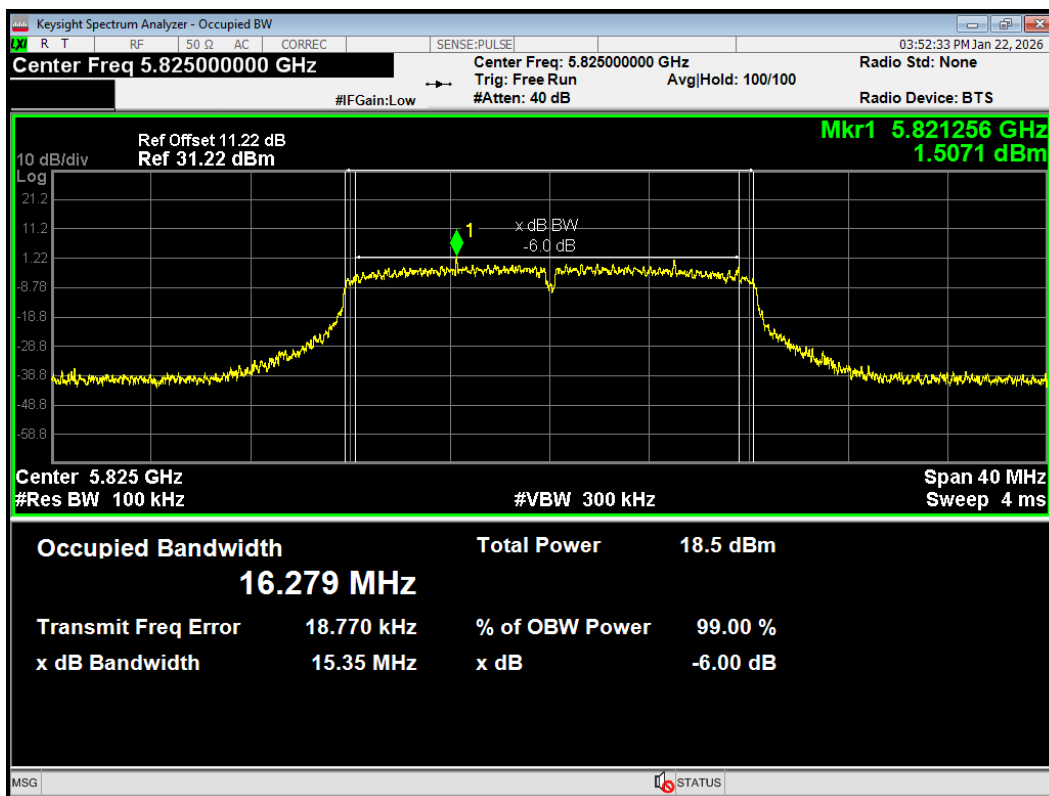
-6dB Bandwidth 802.11a 5745MHz



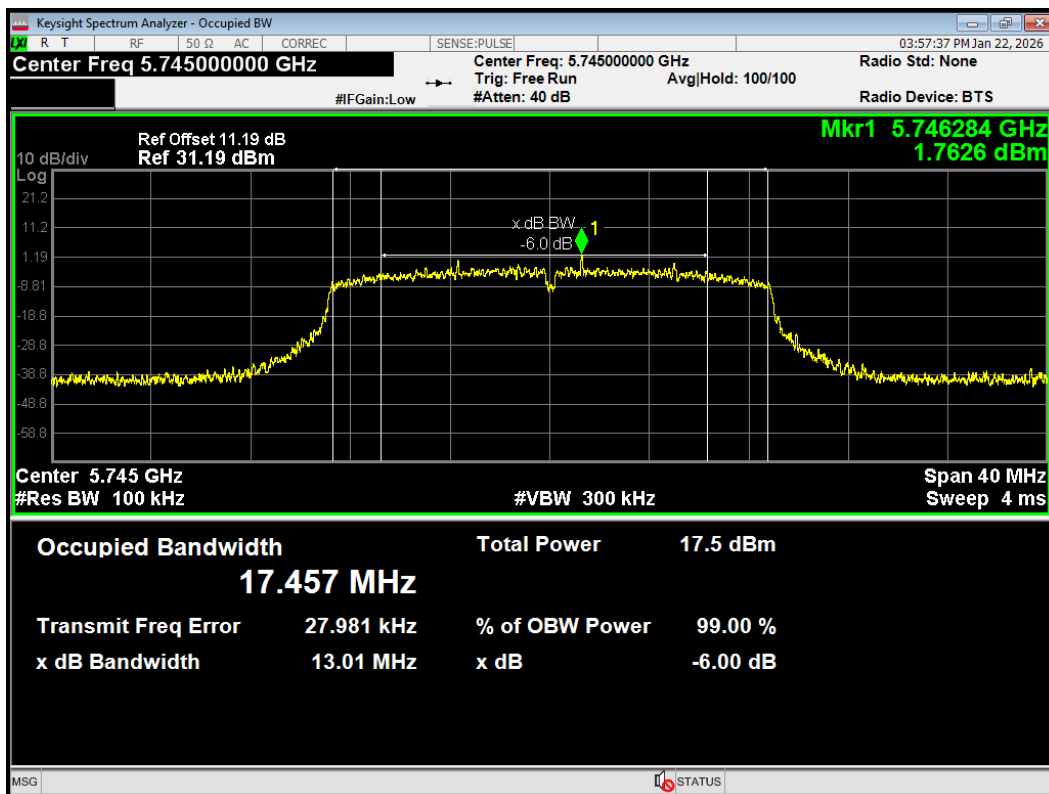
-6dB Bandwidth 802.11a 5785MHz



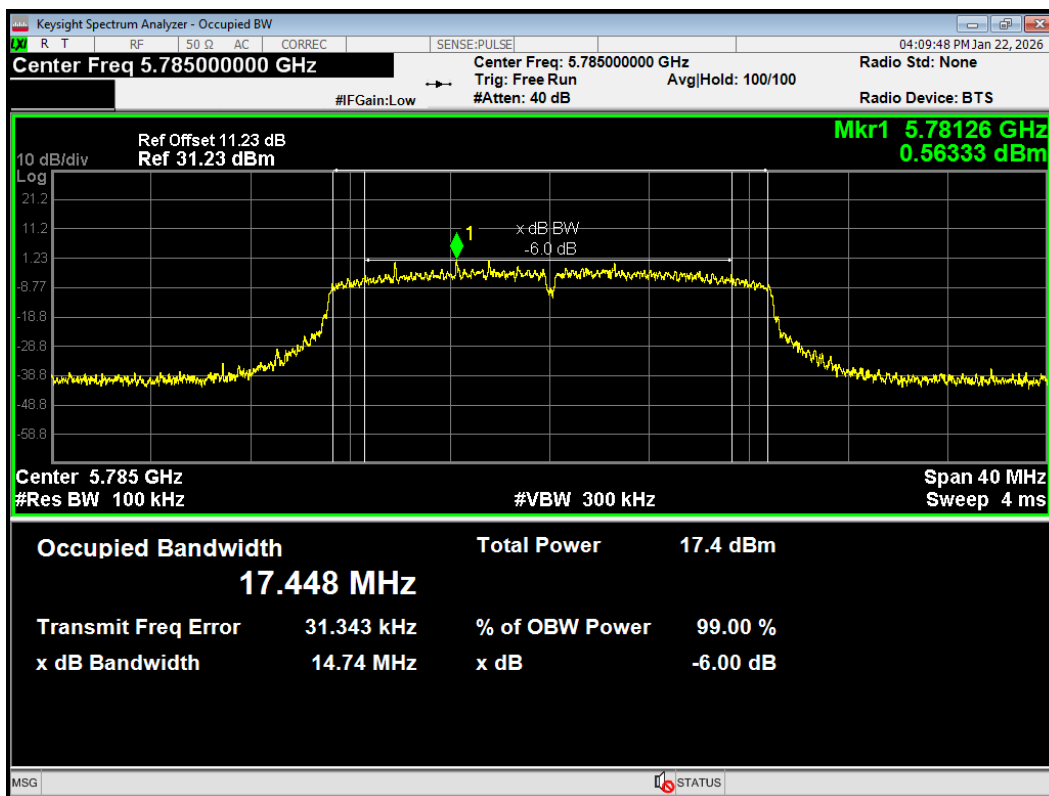
-6dB Bandwidth 802.11a 5825MHz



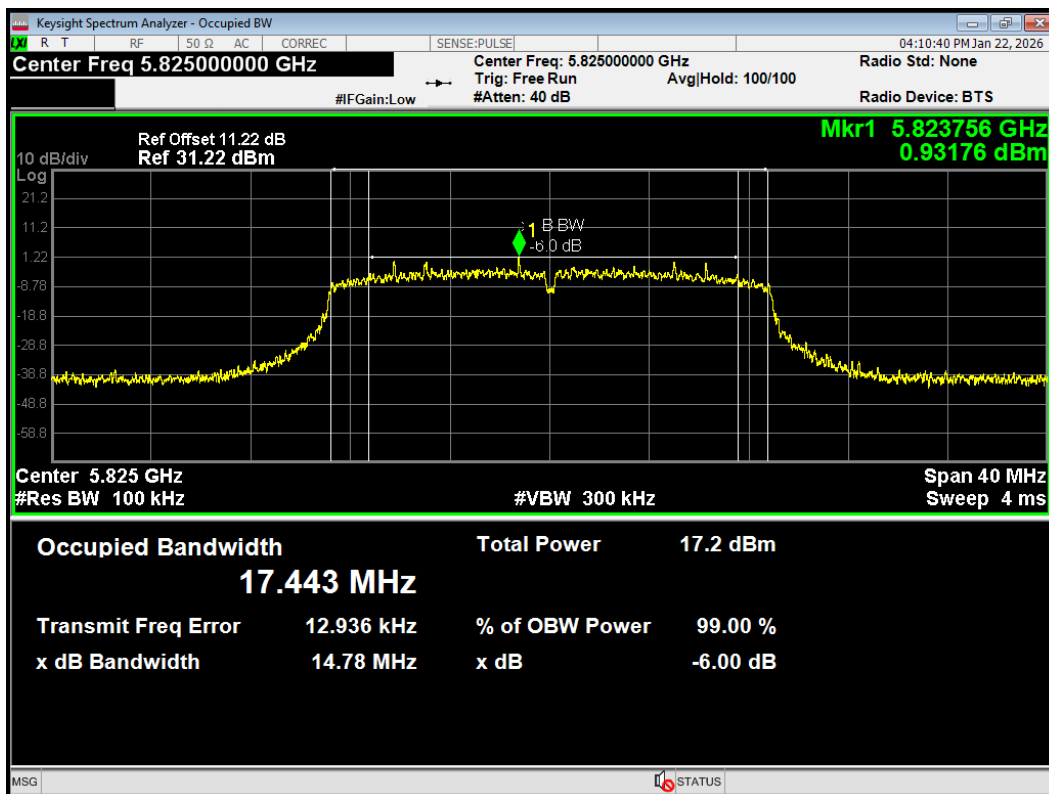
-6dB Bandwidth 802.11ac(VHT20) 5745MHz



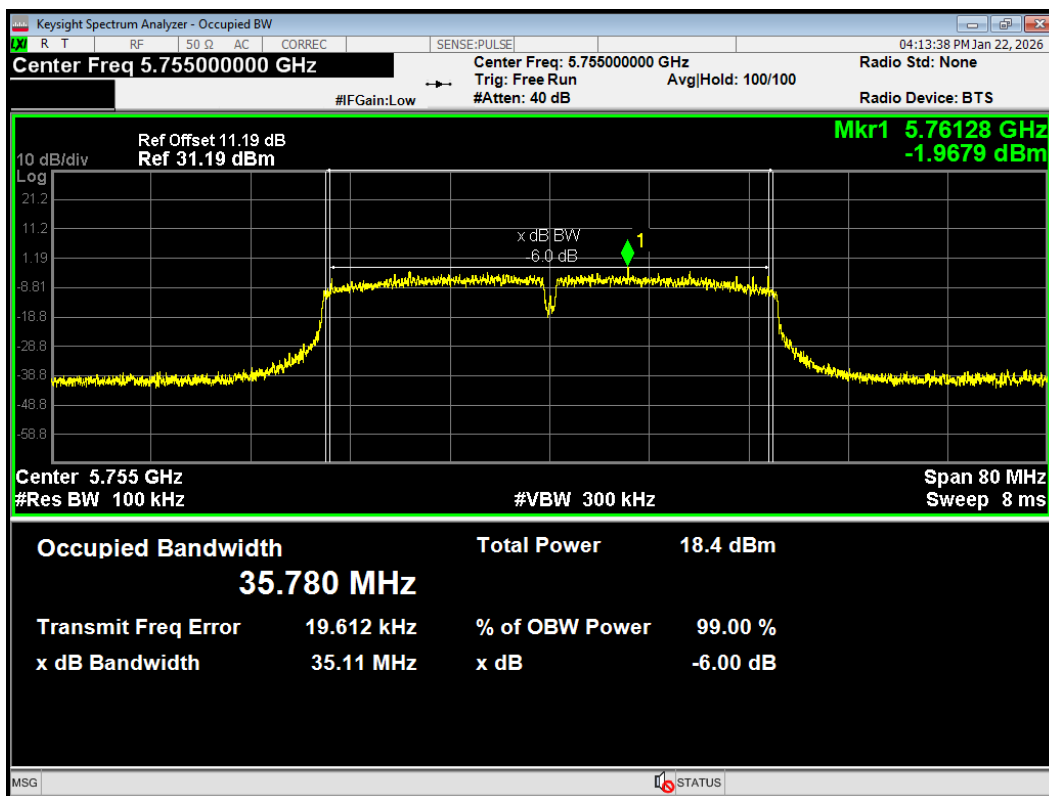
-6dB Bandwidth 802.11ac(VHT20) 5785MHz



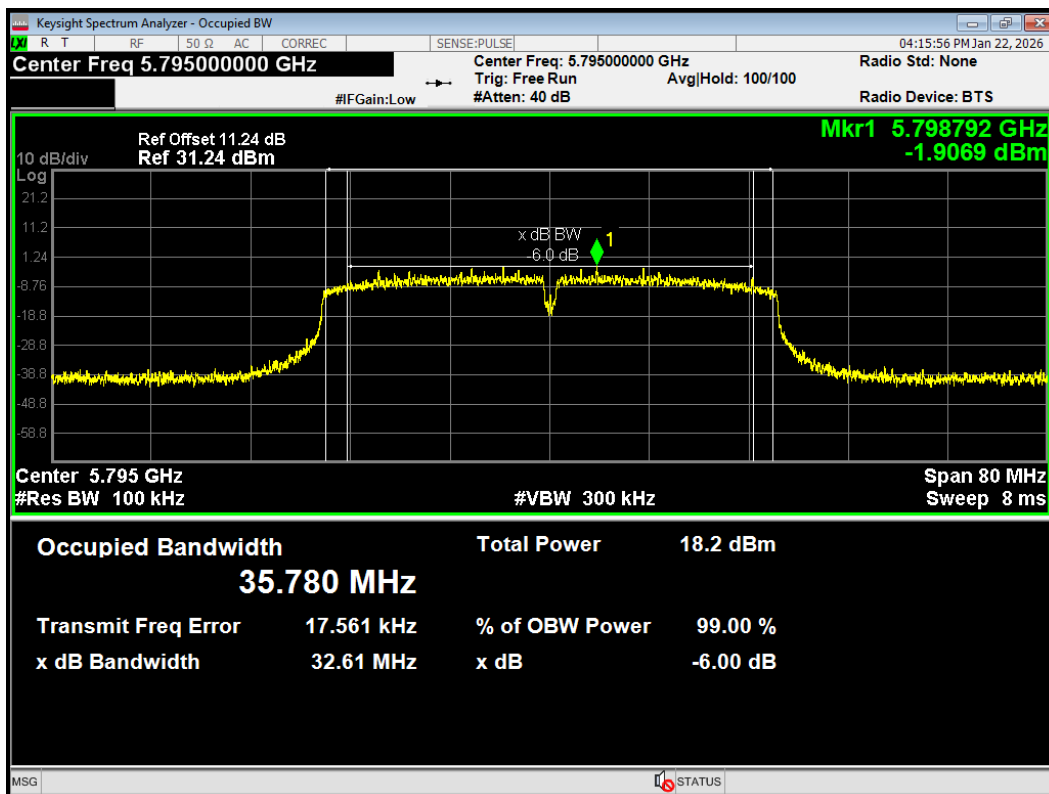
-6dB Bandwidth 802.11ac(VHT20) 5825MHz



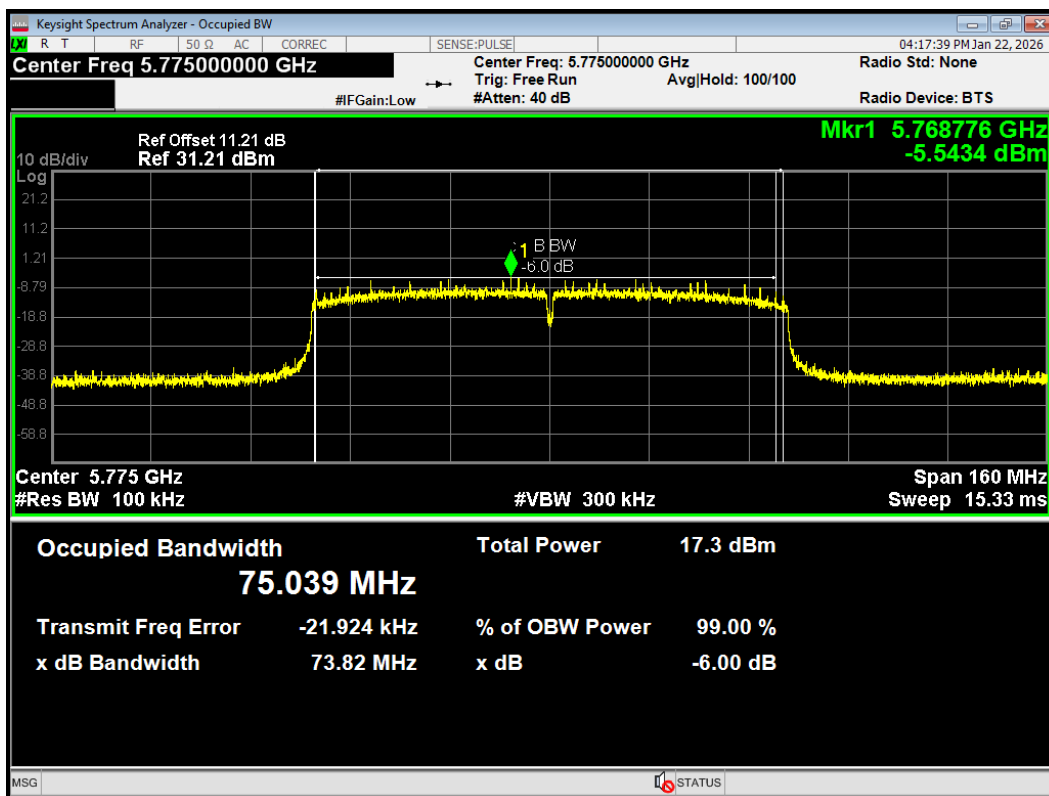
-6dB Bandwidth 802.11ac(VHT40) 5755MHz



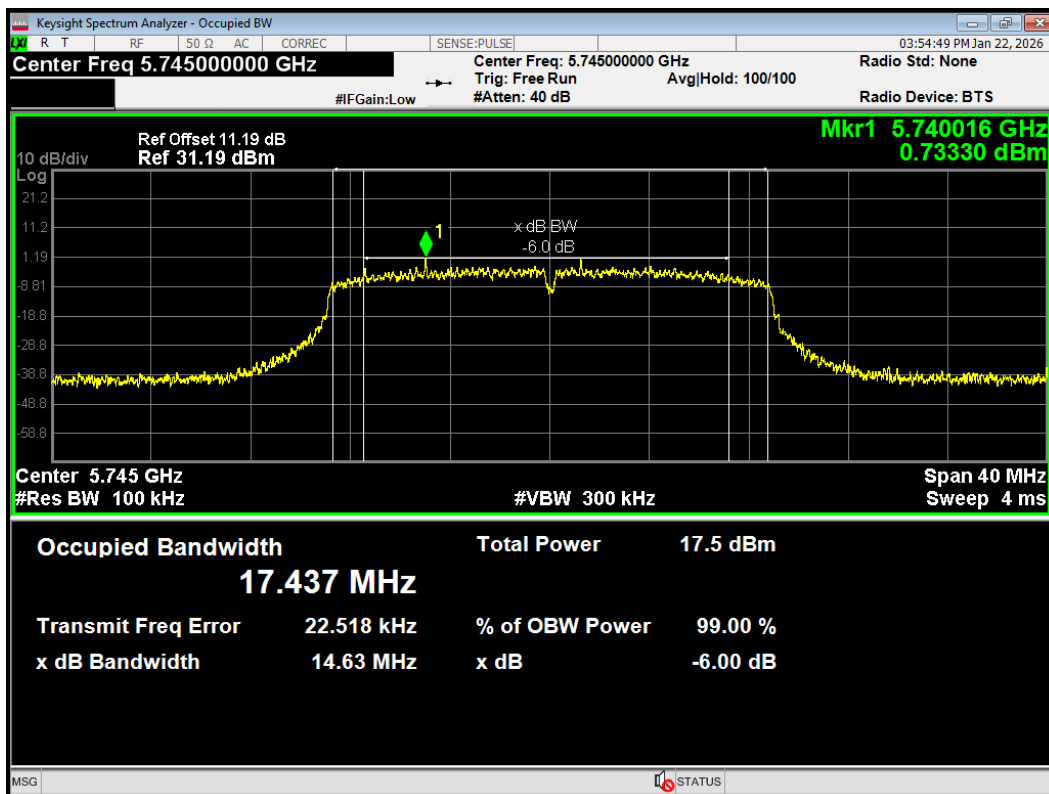
-6dB Bandwidth 802.11ac(VHT40) 5795MHz



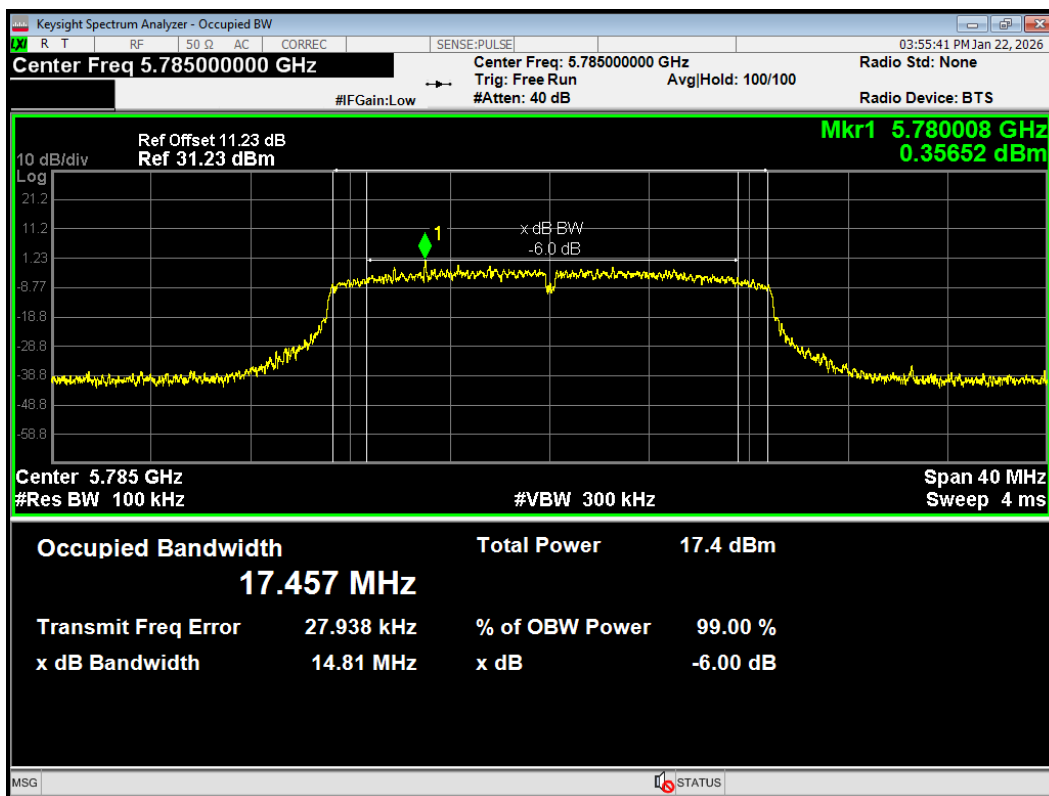
-6dB Bandwidth 802.11ac(VHT80) 5775MHz



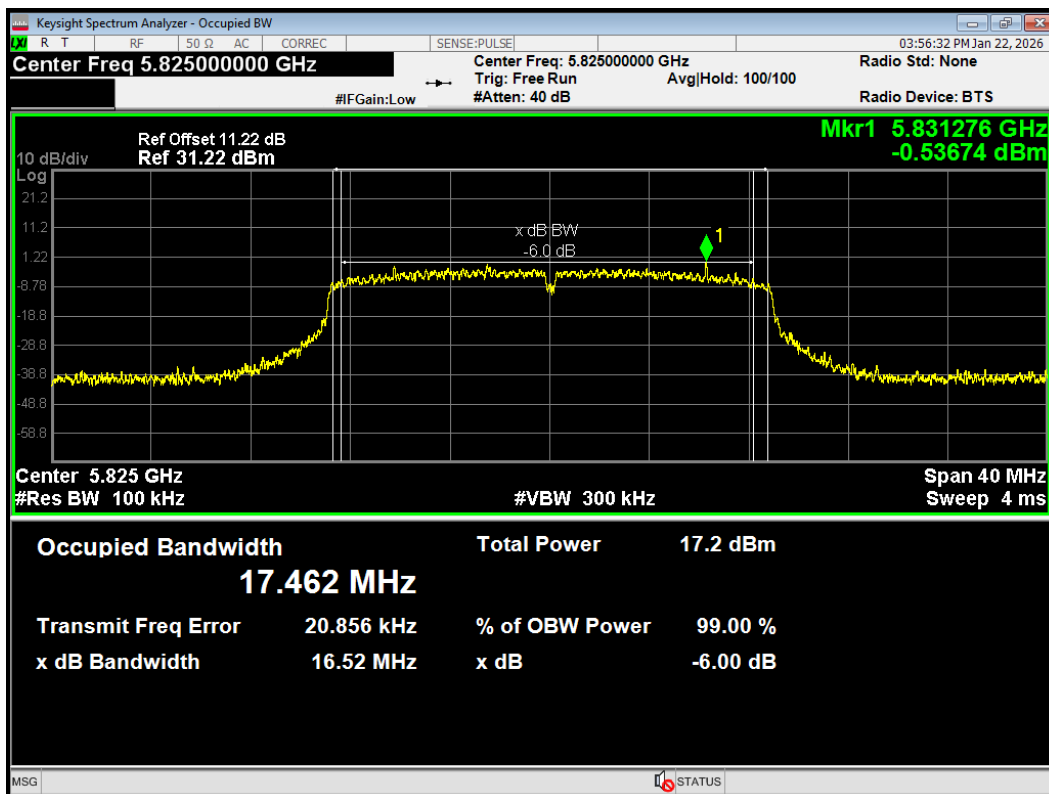
-6dB Bandwidth 802.11n(HT20) 5745MHz



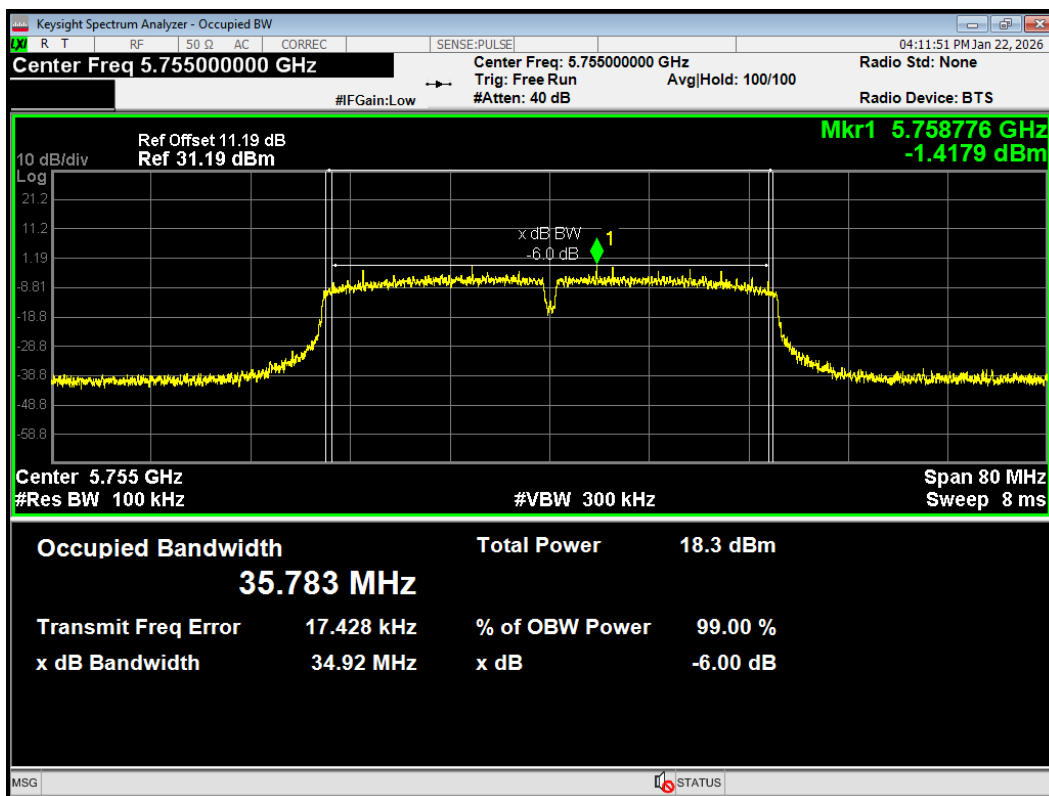
-6dB Bandwidth 802.11n(HT20) 5785MHz



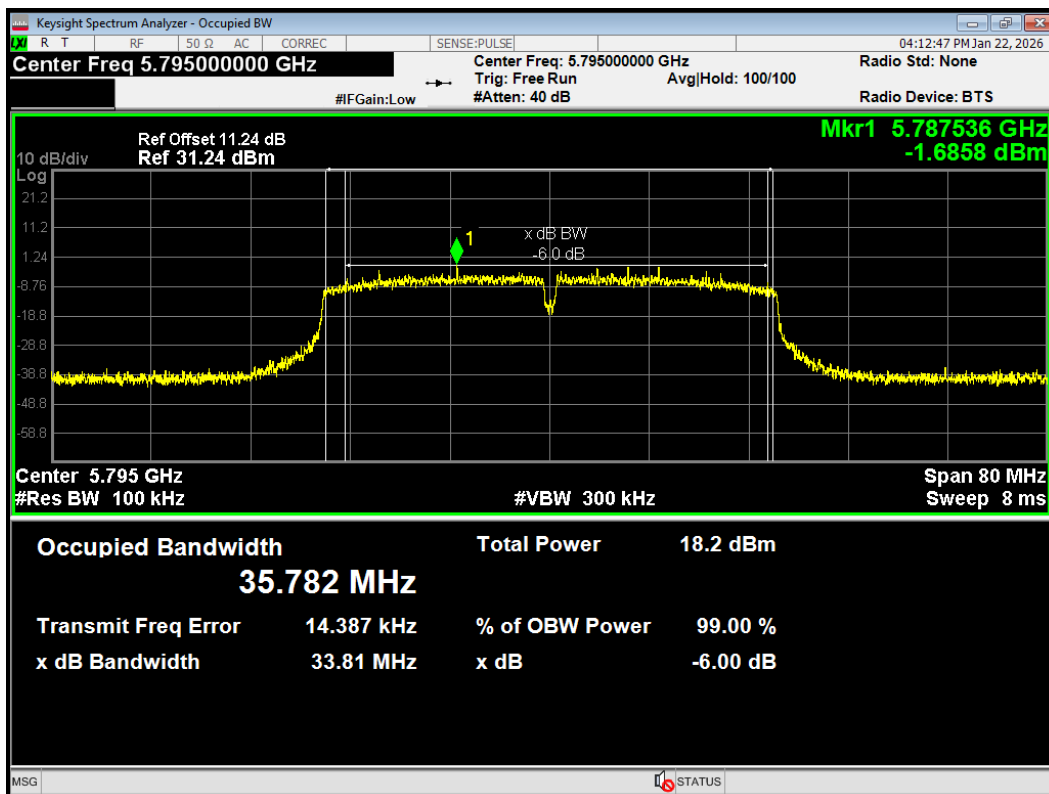
-6dB Bandwidth 802.11n(HT20) 5825MHz



-6dB Bandwidth 802.11n(HT40) 5755MHz



-6dB Bandwidth 802.11n(HT40) 5795MHz



6.2. Average Power Output

Mode	Duty cycle	Duty cycle correction Factor (dB)
802.11a	0.975	0.11
802.11n HT20	0.975	0.11
802.11n HT40	0.958	0.19
802.11ac VHT20	0.974	0.12
802.11ac VHT40	0.929	0.32
802.11ac VHT80	0.903	0.45
Note: when Duty cycle ≥ 0.98 , Duty cycle correction Factor not required.		

Test Mode	Carrier frequency (MHz)	Power Index
802.11a	36/5180	13
	40/5200	13
	48/5240	13
802.11n HT20	36/5180	12
	40/5200	12
	48/5240	12
802.11n HT40	38/5190	12
	46/5230	12
802.11ac VHT20	36/5180	12
	40/5200	12
	48/5240	12
802.11ac VHT40	38/5190	12
	46/5230	12
802.11ac VHT80	42/5210	11

Test Mode	Carrier frequency (MHz)	Power Index
802.11a	52/5260	13
	60/5300	13
	64/5320	13
802.11n T20	52/5260	12
	60/5300	12
	64/5320	12
802.11n HT40	54/5270	12
	62/5310	12
802.11ac VHT20	52/5260	12
	60/5300	12

	64/5320	12
802.11ac VHT40	54/5270	12
	62/5310	12
802.11ac VHT80	58/5290	11

Test Mode	Carrier frequency (MHz)	Power Index
802.11a	100/5500	13
	116/5580	13
	140/5700	13
802.11n HT20	100/5500	12
	116/5580	12
	140/5700	12
802.11n HT40	102/5510	12
	110/5550	12
	134/5670	12
802.11ac VHT20	100/5500	12
	116/5580	12
	140/5700	12
802.11ac VHT40	102/5510	12
	110/5550	12
	134/5670	12
802.11ac VHT80	106/5530	11

Test Mode	Carrier frequency (MHz)	Power Index
802.11a	149/5745	13
	157/5785	13
	165/5825	13
802.11n HT20	149/5745	12
	157/5785	12
	165/5825	12
802.11n HT40	151/5755	12
	159/5795	12
802.11ac VHT20	149/5745	12
	157/5785	12
	165/5825	12
802.11ac VHT40	151/5755	12
	159/5795	12
802.11ac VHT80	155/5775	11

Test Mode		Channel/ Frequency (MHz)	B=26 dB bandwidth (MHz)	Limit 11 dBm + 10 log B (dBm)	Final Limit (dBm)
U-NII-2A	802.11a	52/5260	19.43	23.88	23.88
		60/5300	19.47	23.89	23.89
		64/5320	19.81	23.97	23.97
	802.11n HT20	52/5260	20.26	24.07	24.00
		60/5300	20.09	24.03	24.00
		64/5320	20.10	24.03	24.00
	802.11n HT40	54/5270	40.96	27.12	24.00
		62/5310	40.94	27.12	24.00
	802.11ac VHT20	52/5260	20.54	24.13	24.00
		60/5300	20.55	24.13	24.00
		64/5320	20.00	24.01	24.00
	802.11ac VHT40	54/5270	40.68	27.09	24.00
		62/5310	40.40	27.06	24.00
	802.11ac VHT80	58/5290	83.90	30.24	24.00
U-NII-2C	802.11a	100/5500	20.19	24.05	24.00
		116/5580	19.58	23.92	23.92
		140/5700	19.38	23.87	23.87
	802.11n HT20	100/5500	19.95	24.00	24.00
		116/5580	20.35	24.08	24.00
		140/5700	20.09	24.03	24.00
	802.11n HT40	102/5510	40.66	27.09	24.00
		110/5550	42.00	27.23	24.00
		134/5670	40.96	27.12	24.00
	802.11ac VHT20	100/5500	19.97	24.00	24.00
		116/5580	20.33	24.08	24.00
		140/5700	20.20	24.05	24.00
	802.11ac VHT40	102/5510	40.35	27.06	24.00
		110/5550	40.93	27.12	24.00
		134/5670	40.30	27.05	24.00
	802.11ac VHT80	106/5530	83.64	30.22	24.00

Note: 250mW=24dBm

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	12.93	13.04	30	PASS
	40/5200	12.89	13.00	30	PASS
	48/5240	12.65	12.76	30	PASS
802.11n HT20	36/5180	11.73	11.84	30	PASS
	40/5200	11.68	11.79	30	PASS
	48/5240	11.48	11.59	30	PASS
802.11n HT40	38/5190	12.35	12.54	30	PASS
	46/5230	12.12	12.31	30	PASS
802.11ac VHT20	36/5180	11.73	11.85	30	PASS
	40/5200	11.67	11.79	30	PASS
	48/5240	11.39	11.51	30	PASS
802.11ac VHT40	38/5190	12.37	12.69	30	PASS
	46/5230	12.21	12.53	30	PASS
802.11ac VHT80	42/5210	10.92	11.37	30	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

U-NII-2A

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	52/5260	12.78	12.89	23.88	PASS
	60/5300	13.35	13.46	23.89	PASS
	64/5320	13.32	13.43	23.97	PASS
802.11n HT20	52/5260	11.55	11.66	24.00	PASS
	60/5300	12.00	12.11	24.00	PASS
	64/5320	11.97	12.08	24.00	PASS
802.11n HT40	54/5270	12.35	12.54	24.00	PASS
	62/5310	12.74	12.93	24.00	PASS
802.11ac VHT20	52/5260	11.54	11.66	24.00	PASS
	60/5300	12.08	12.20	24.00	PASS
	64/5320	11.98	12.10	24.00	PASS
802.11ac VHT40	54/5270	12.33	12.65	24.00	PASS
	62/5310	12.75	13.07	24.00	PASS
802.11ac VHT80	58/5290	11.37	11.82	24.00	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

U-NII-2C

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	100/5500	12.42	12.53	24.00	PASS
	116/5580	12.25	12.36	23.92	PASS
	140/5700	12.42	12.53	23.87	PASS
802.11n HT20	100/5500	11.11	11.22	24.00	PASS
	116/5580	10.95	11.06	24.00	PASS
	140/5700	11.12	11.23	24.00	PASS
802.11n HT40	102/5510	11.88	12.07	24.00	PASS
	110/5550	11.81	12.00	24.00	PASS
	134/5670	12.13	12.32	24.00	PASS
802.11ac VHT20	100/5500	11.13	11.25	24.00	PASS
	116/5580	11.01	11.13	24.00	PASS
	140/5700	11.15	11.27	24.00	PASS
802.11ac VHT40	102/5510	11.95	12.27	24.00	PASS
	110/5550	11.92	12.24	24.00	PASS
	134/5670	12.18	12.50	24.00	PASS
802.11ac VHT80	106/5530	10.49	10.94	24.00	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	12.76	12.87	30	PASS
	157/5785	12.64	12.75	30	PASS
	165/5825	12.44	12.55	30	PASS
802.11n HT20	149/5745	11.40	11.51	30	PASS
	157/5785	11.31	11.42	30	PASS
	165/5825	11.11	11.22	30	PASS
802.11n HT40	151/5755	12.14	12.33	30	PASS
	159/5795	11.94	12.13	30	PASS
802.11ac VHT20	149/5745	11.34	11.46	30	PASS
	157/5785	11.38	11.50	30	PASS
	165/5825	11.12	11.24	30	PASS
802.11ac VHT40	151/5755	12.09	12.41	30	PASS
	159/5795	11.94	12.26	30	PASS
802.11ac VHT80	155/5775	10.50	10.95	30	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

6.3. Frequency Stability

Voltage (V)	Temperature (°C)	U-NII-1 Test Results			
		5200MHz			
		1min	2min	5min	10min
12	-30	5199.991142	5199.984690	5199.982271	5199.973759
12	-20	5199.990871	5199.974884	5199.981374	5199.969009
12	-10	5199.998468	5199.968214	5199.973844	5199.966709
12	0	5199.984329	5199.964904	5199.979940	5199.964437
12	10	5199.984127	5199.961490	5199.976285	5199.960524
12	20	5199.976803	5199.954091	5199.970787	5199.958287
12	30	5199.974137	5199.945677	5199.966484	5199.952966
12	40	5199.970545	5199.939155	5199.963178	5199.948919
12	50	5199.968764	5199.936848	5199.961828	5199.946574
9	20	5199.962076	5199.932377	5199.955715	5199.940426
30	20	5199.954218	5199.925886	5199.952454	5199.939998
Max. ΔMHz		-0.045782	-0.074114	-0.047546	-0.060002
PPM		-8.804231	-14.252692	-9.143462	-11.538846

Voltage (V)	Temperature (°C)	U-NII-2A Test Results			
		5300MHz			
		1min	2min	5min	10min
12	-30	5299.998568	5299.993218	5299.983620	5299.974109
12	-20	5299.989912	5299.986949	5299.980726	5299.971779
12	-10	5299.986453	5299.979032	5299.974434	5299.967626
12	0	5299.986589	5299.984331	5299.978618	5299.961976
12	10	5299.983408	5299.977918	5299.978215	5299.959838
12	20	5299.975579	5299.968774	5299.968361	5299.953781
12	30	5299.974730	5299.963358	5299.967648	5299.944076
12	40	5299.969608	5299.954394	5299.965823	5299.939850
12	50	5299.962954	5299.946577	5299.960358	5299.938160
9	20	5299.954182	5299.941660	5299.959264	5299.935050
30	20	5299.948999	5299.933837	5299.951040	5299.931771
Max. ΔMHz		-0.051001	-0.066163	-0.048960	-0.068229
PPM		-9.622830	-12.483585	-9.237736	-12.873396

Voltage (V)	Temperature (°C)	U-NII-2C Test Results			
		5580MHz			
		1min	2min	5min	10min
12	-30	5580.002816	5580.000958	5579.992434	5579.988406
12	-20	5579.995811	5579.994219	5579.985629	5579.983581
12	-10	5579.988476	5579.993864	5579.984203	5579.975182
12	0	5579.995539	5579.988000	5579.979585	5579.973830
12	10	5579.988059	5579.983080	5579.976140	5579.971142
12	20	5579.982147	5579.975837	5579.975794	5579.969278
12	30	5579.979071	5579.967358	5579.972588	5579.966854
12	40	5579.970147	5579.966695	5579.966164	5579.961657
12	50	5579.970092	5579.961097	5579.960387	5579.953187
9	20	5579.967929	5579.955495	5579.959016	5579.950672
30	20	5579.960081	5579.951909	5579.952827	5579.949796
Max. ΔMHz		-0.039919	-0.048091	-0.047173	-0.050204
PPM		-7.153943	-8.618459	-8.453943	-8.997133

Voltage (V)	Temperature (°C)	U-NII-3 Test Results			
		5785MHz			
		1min	2min	5min	10min
12	-30	5785.005426	5784.997784	5784.995232	5784.993022
12	-20	5784.996450	5784.996636	5784.985598	5784.991590
12	-10	5784.994266	5784.994821	5784.979087	5784.985718
12	0	5784.992468	5784.992584	5784.979102	5784.983553
12	10	5784.986251	5784.983489	5784.978022	5784.973603
12	20	5784.977899	5784.974330	5784.974020	5784.967808
12	30	5784.972978	5784.965467	5784.970834	5784.958422
12	40	5784.968803	5784.959078	5784.963262	5784.950738
12	50	5784.962660	5784.957972	5784.962048	5784.948261
9	20	5784.956537	5784.950992	5784.954828	5784.943849
30	20	5784.950173	5784.948416	5784.949270	5784.936971
Max. ΔMHz		-0.049827	-0.051584	-0.050730	-0.063029
PPM		-8.613137	-8.916854	-8.769231	-10.895246

6.4. Power Spectral Density

U-NII-1

Mode	Channel/ Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	36/5180	3.17	3.28	17	PASS
	40/5200	2.97	3.08	17	PASS
	48/5240	2.74	2.85	17	PASS
802.11n HT20	36/5180	1.38	1.49	17	PASS
	40/5200	1.51	1.62	17	PASS
	48/5240	1.29	1.40	17	PASS
802.11n HT40	38/5190	-0.81	-0.62	17	PASS
	46/5230	-1.04	-0.85	17	PASS
802.11ac VHT20	36/5180	1.64	1.76	17	PASS
	40/5200	1.49	1.61	17	PASS
	48/5240	1.23	1.35	17	PASS
802.11ac VHT40	38/5190	-0.81	-0.49	17	PASS
	46/5230	-1.11	-0.79	17	PASS
802.11ac VHT80	42/5210	-5.34	-4.89	17	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor					

U-NII-2A

Mode	Channel /Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	52/5260	2.71	2.82	11	PASS
	60/5300	3.39	3.50	11	PASS
	64/5320	3.35	3.46	11	PASS
802.11n HT20	52/5260	1.30	1.41	11	PASS
	60/5300	1.80	1.91	11	PASS
	64/5320	1.85	1.96	11	PASS
802.11n HT40	54/5270	-1.12	-0.93	11	PASS
	62/5310	-0.48	-0.29	11	PASS
802.11ac VHT20	52/5260	1.40	1.52	11	PASS
	60/5300	1.70	1.82	11	PASS
	64/5320	1.90	2.02	11	PASS
802.11ac VHT40	54/5270	-1.20	-0.88	11	PASS
	62/5310	-0.52	-0.20	11	PASS
802.11ac VHT80	58/5290	-5.09	-4.64	11	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor					

U-NII-2C

Mode	Channel /Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	100/5500	2.34	2.45	11	PASS
	116/5580	2.22	2.33	11	PASS
	140/5700	2.34	2.45	11	PASS
802.11n HT20	100/5500	1.07	1.18	11	PASS
	116/5580	0.68	0.79	11	PASS
	140/5700	0.91	1.02	11	PASS
802.11n HT40	102/5510	-1.54	-1.35	11	PASS
	110/5550	-1.64	-1.45	11	PASS
	134/5670	-0.87	-0.68	11	PASS
802.11ac VHT20	100/5500	0.85	0.97	11	PASS
	116/5580	1.00	1.12	11	PASS
	140/5700	0.94	1.06	11	PASS
802.11ac VHT40	102/5510	-1.58	-1.26	11	PASS
	110/5550	-1.46	-1.14	11	PASS
	134/5670	-1.17	-0.85	11	PASS
802.11ac VHT80	106/5530	-5.85	-5.40	11	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor					

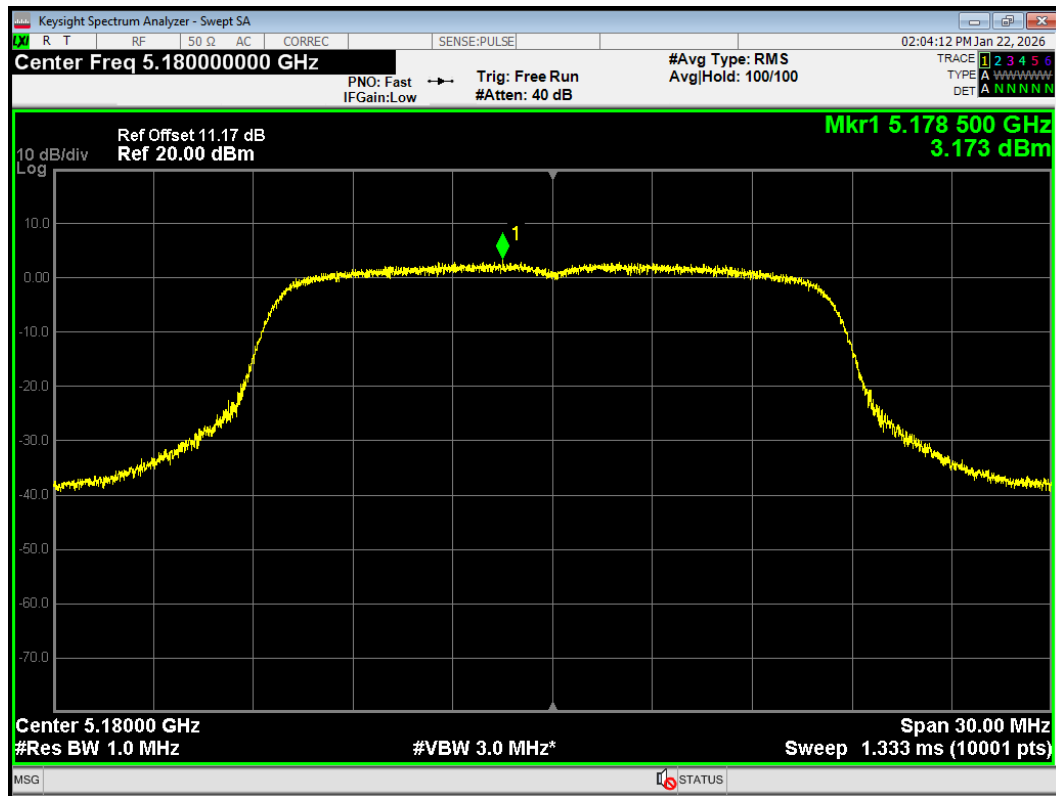
U-NII-3

Mode	Channel /Frequency (MHz)	Read Value (dBm/470kHz)	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)	Conclusion
802.11a	149/5745	-0.70	-0.32	30	PASS
	157/5785	-0.77	-0.39	30	PASS
	165/5825	-0.83	-0.45	30	PASS
802.11n HT20	149/5745	-2.26	-1.88	30	PASS
	157/5785	-2.17	-1.79	30	PASS
	165/5825	-2.08	-1.70	30	PASS
802.11n HT40	151/5755	-4.51	-4.05	30	PASS
	159/5795	-4.75	-4.29	30	PASS
802.11ac VHT20	149/5745	-2.16	-1.77	30	PASS
	157/5785	-2.23	-1.84	30	PASS
	165/5825	-2.44	-2.05	30	PASS
802.11ac VHT40	151/5755	-4.55	-3.96	30	PASS
	159/5795	-4.74	-4.15	30	PASS
802.11ac VHT80	155/5775	-9.28	-8.56	30	PASS

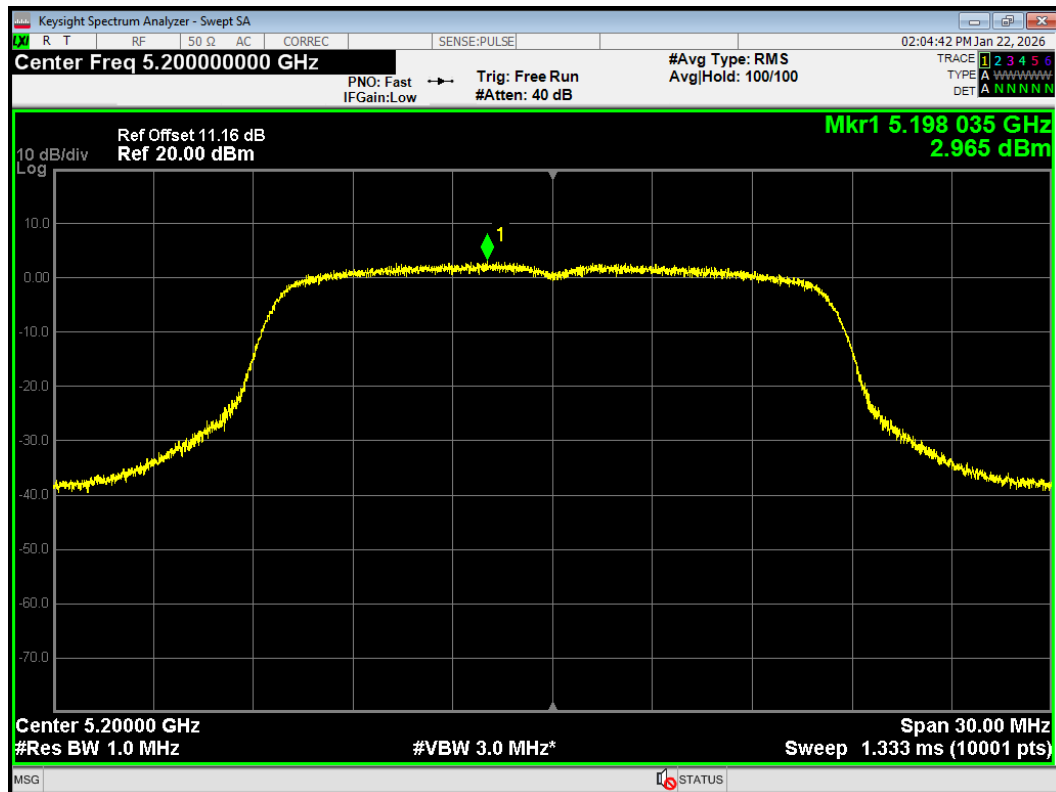
Note: PSD=Read Value+Duty cycle correction factor +10*log(500/470)

U-NII-1

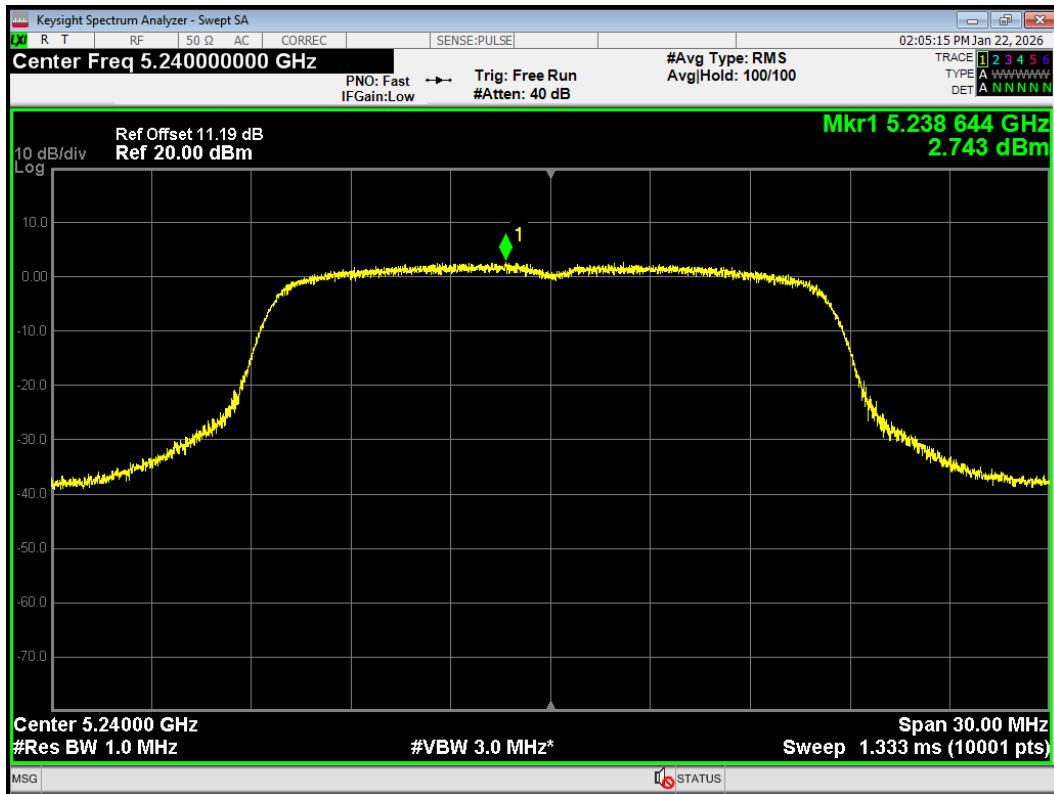
PSD 802.11a 5180MHz



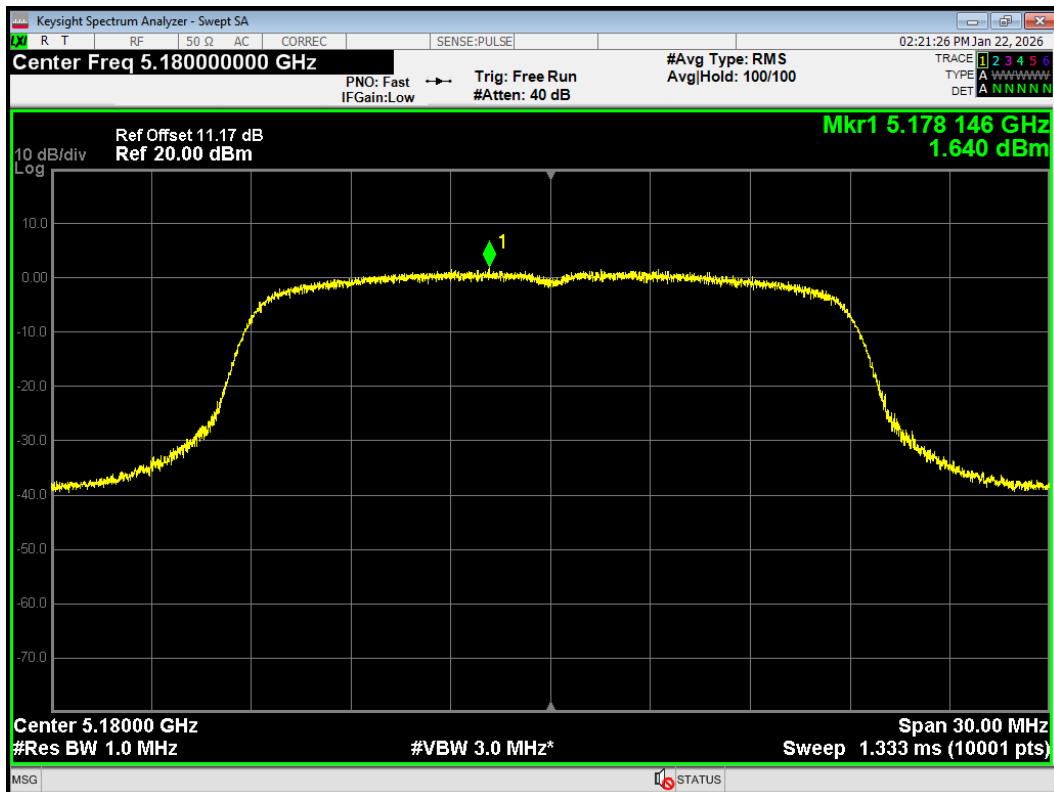
PSD 802.11a 5200MHz



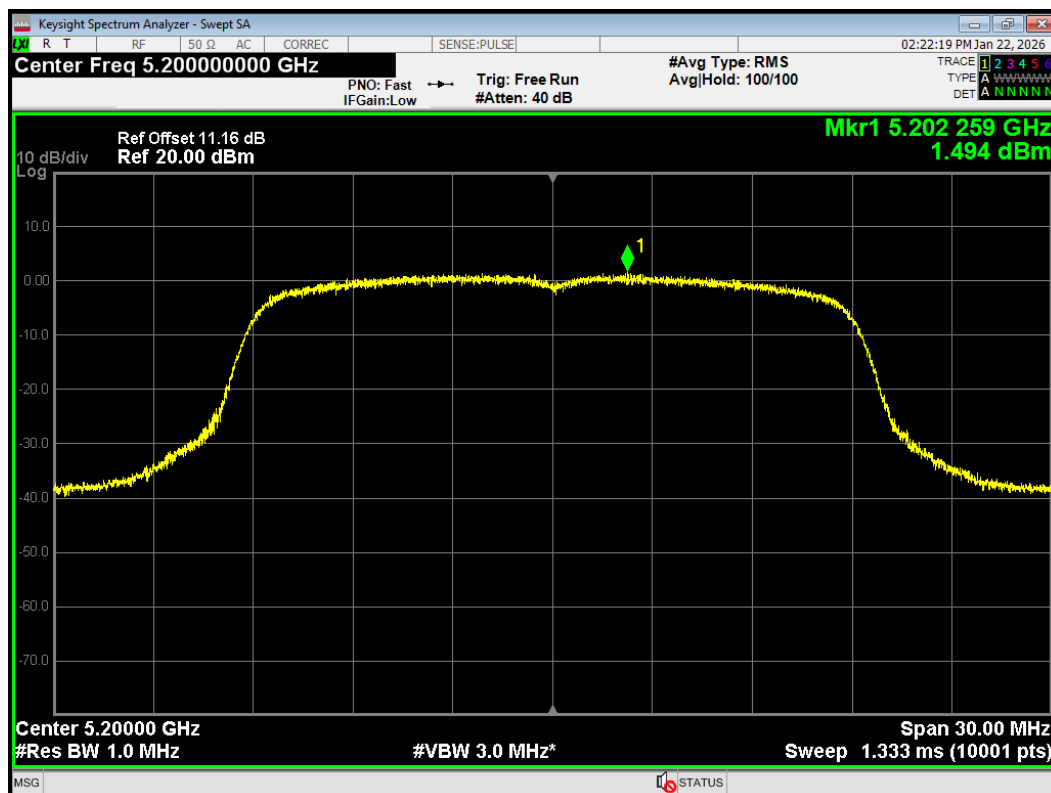
PSD 802.11a 5240MHz



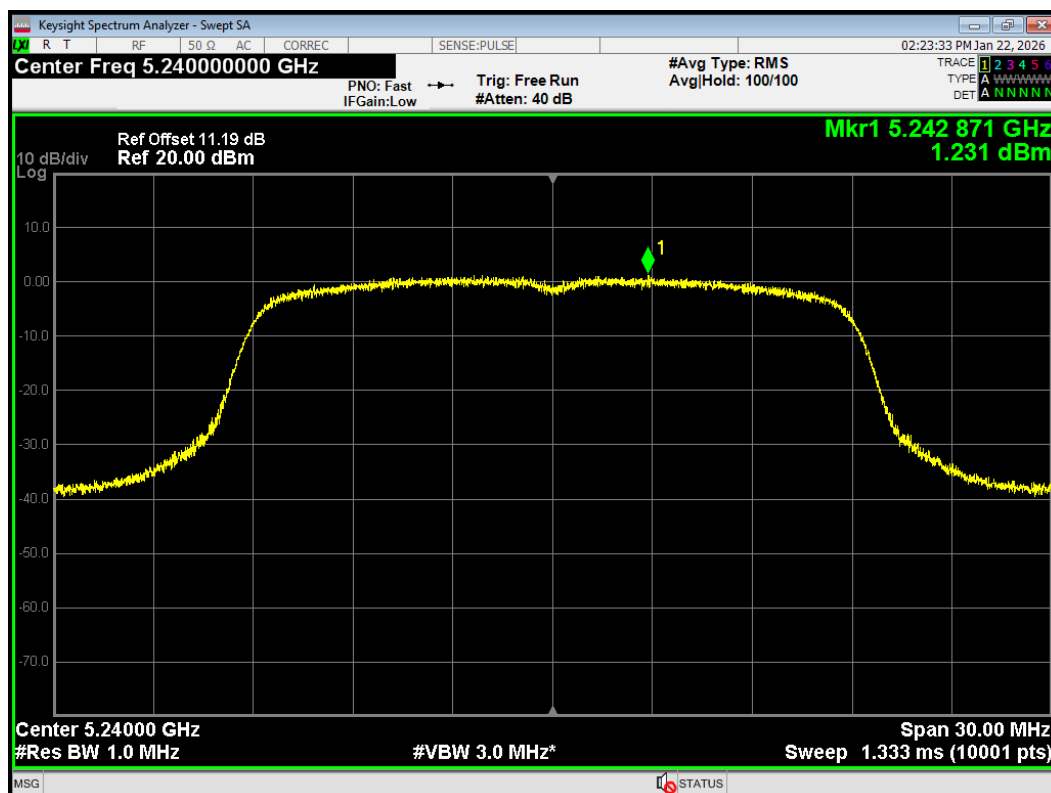
PSD 802.11ac(VHT20) 5180MHz



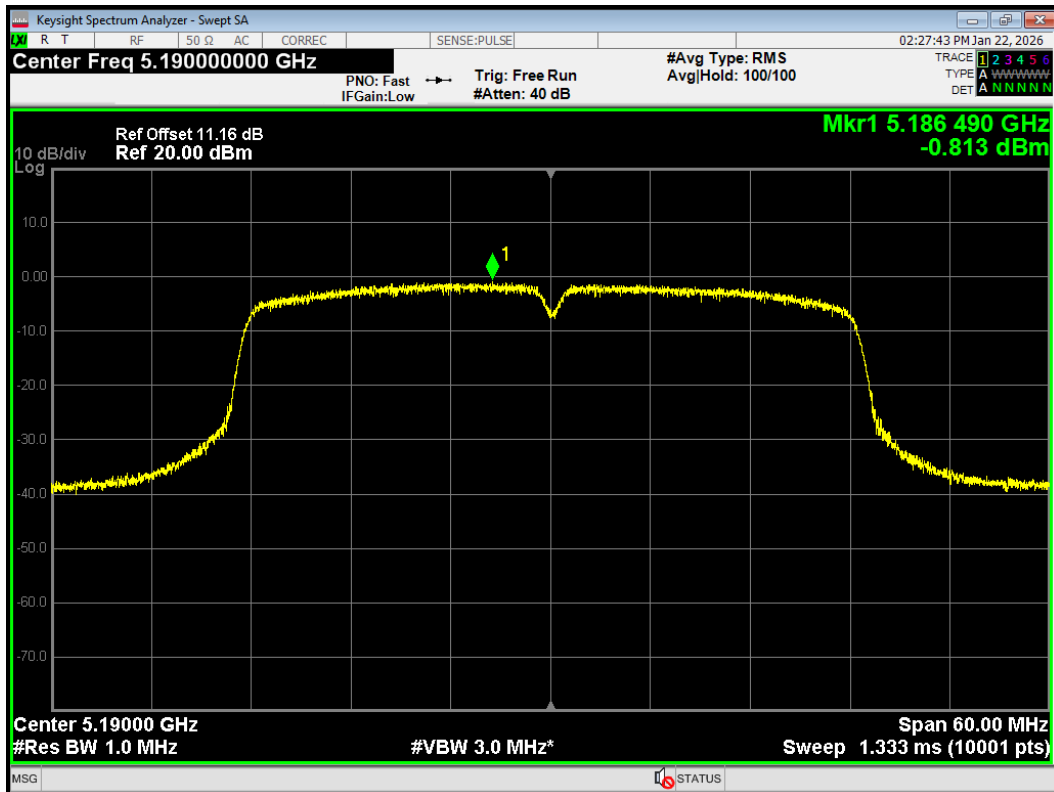
PSD 802.11ac(VHT20) 5200MHz



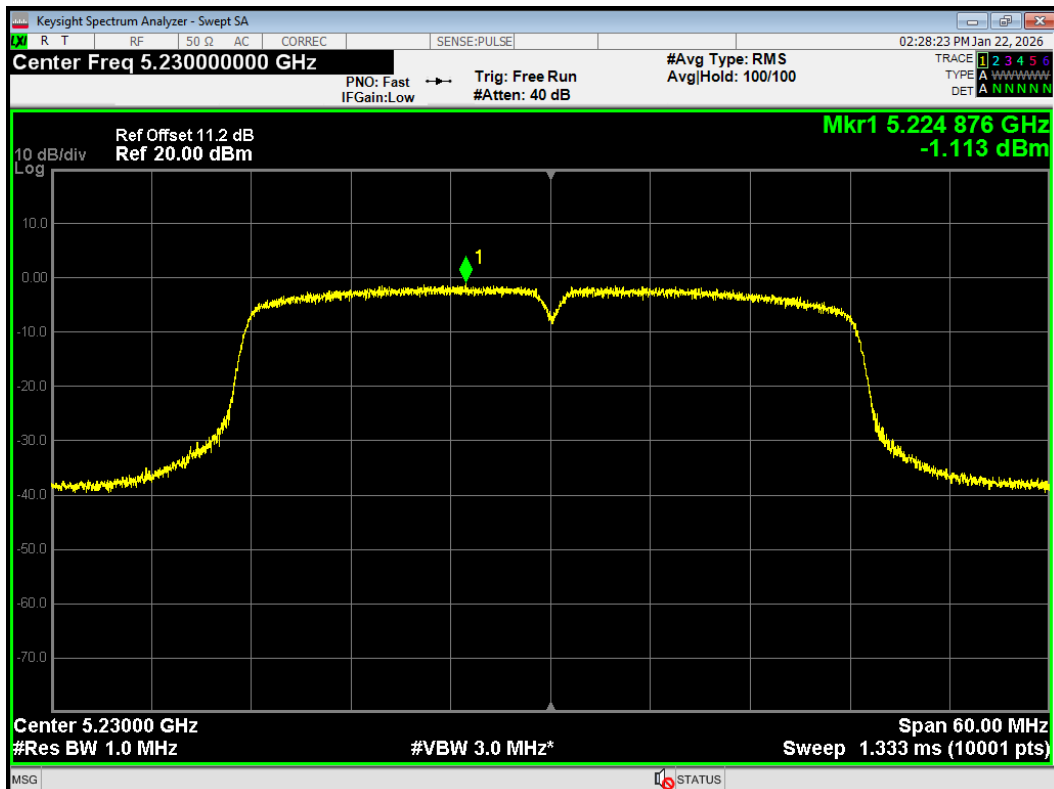
PSD 802.11ac(VHT20) 5240MHz



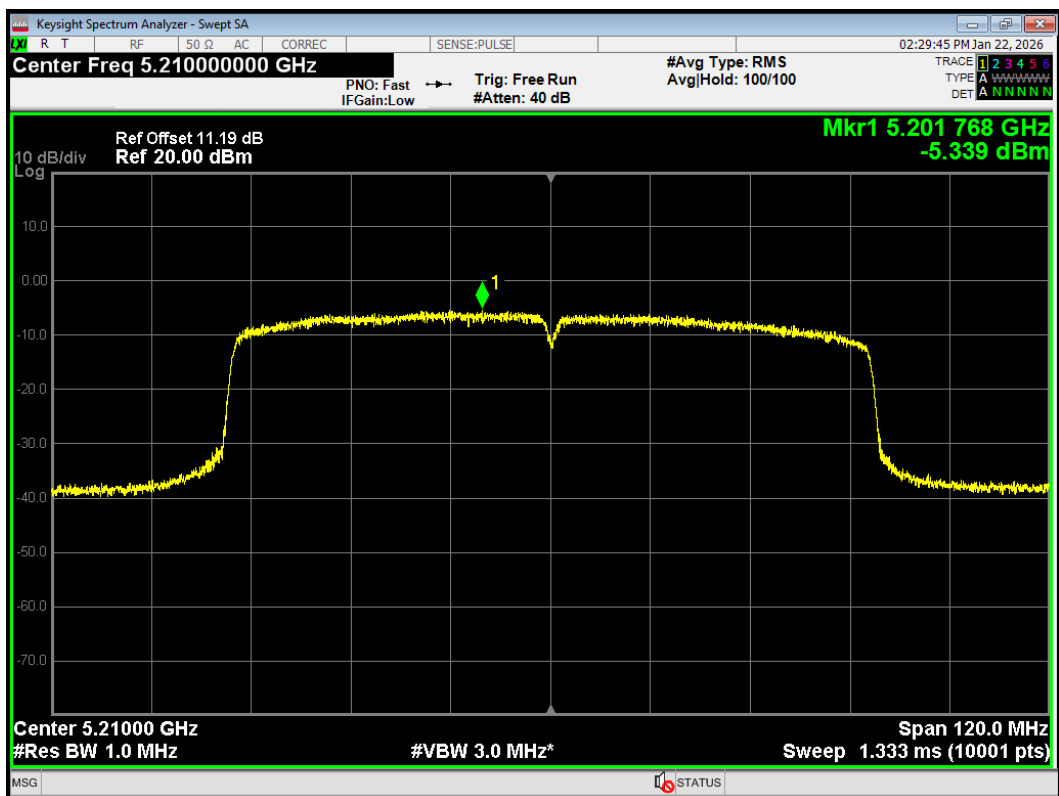
PSD 802.11ac(VHT40) 5190MHz



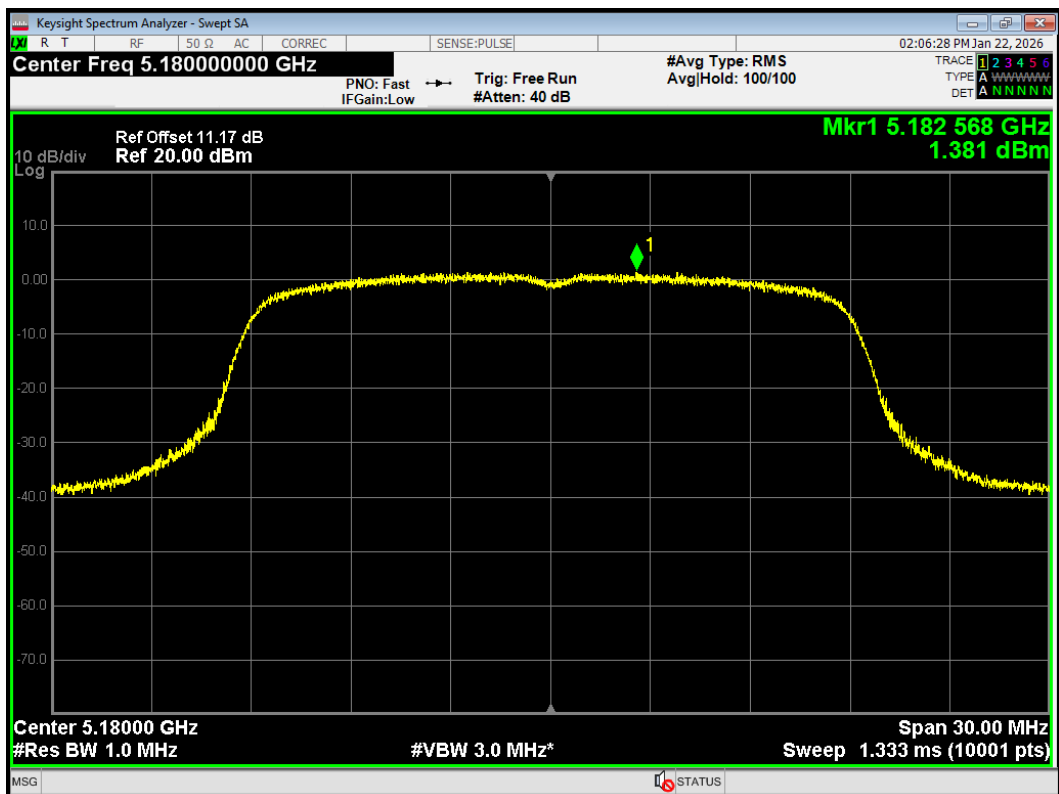
PSD 802.11ac(VHT40) 5230MHz



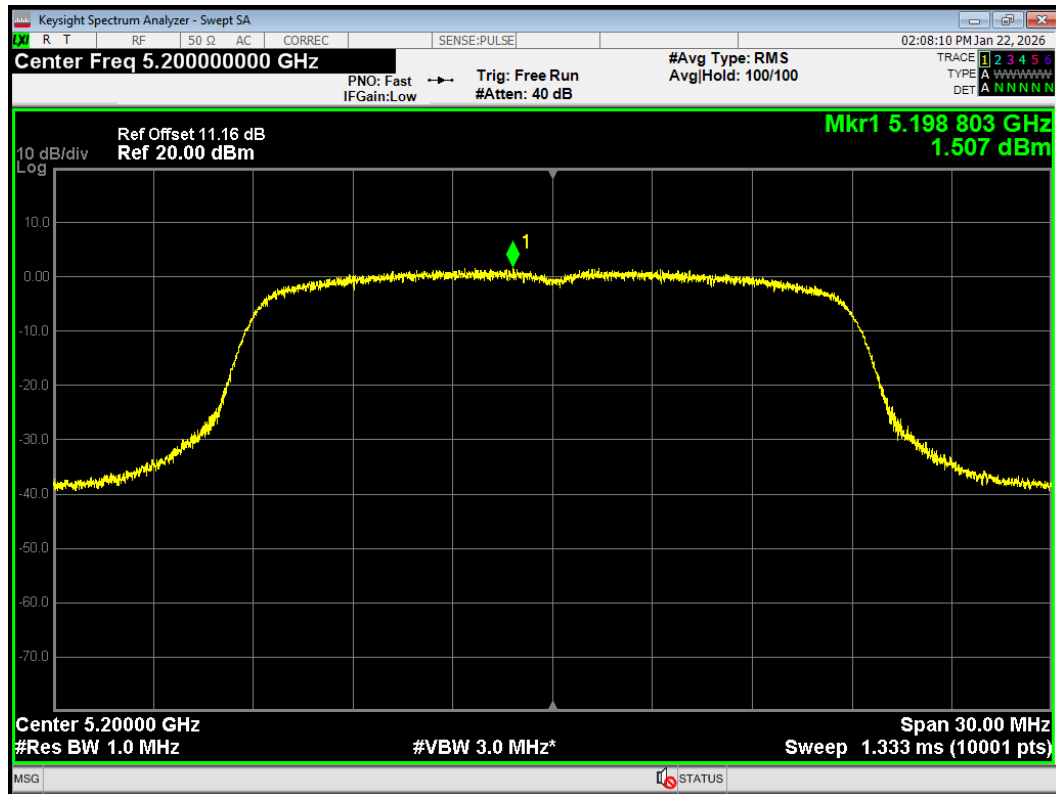
PSD 802.11ac(VHT80) 5210MHz



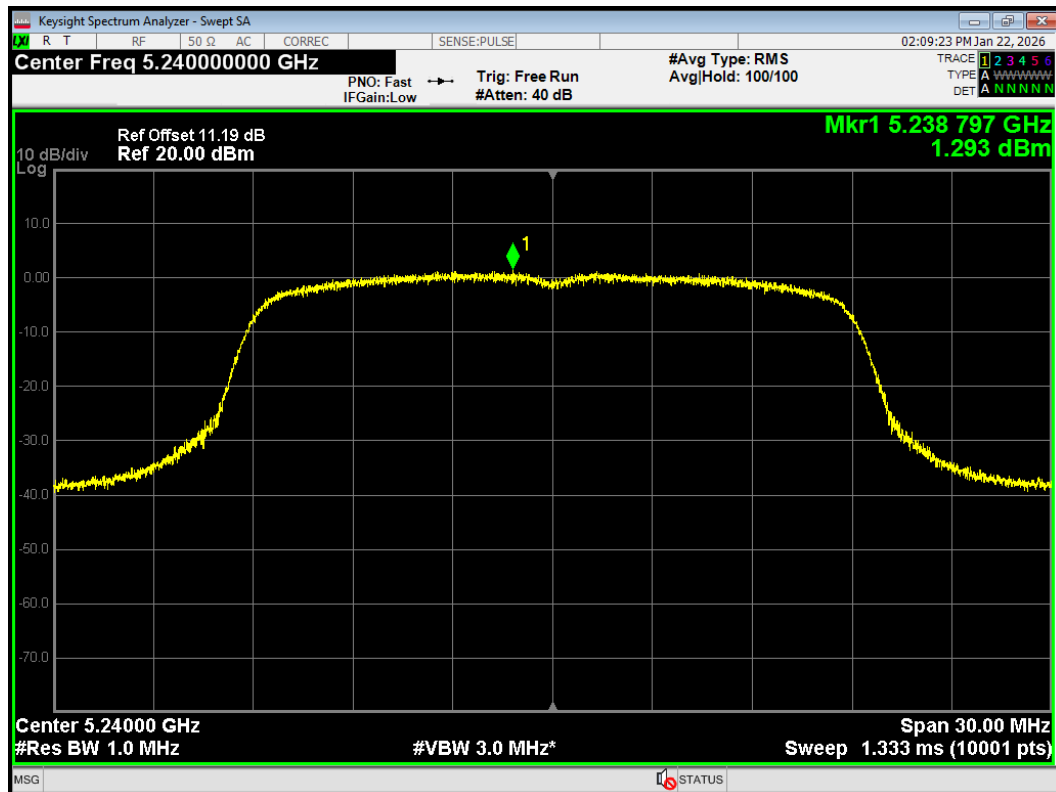
PSD 802.11n(HT20) 5180MHz



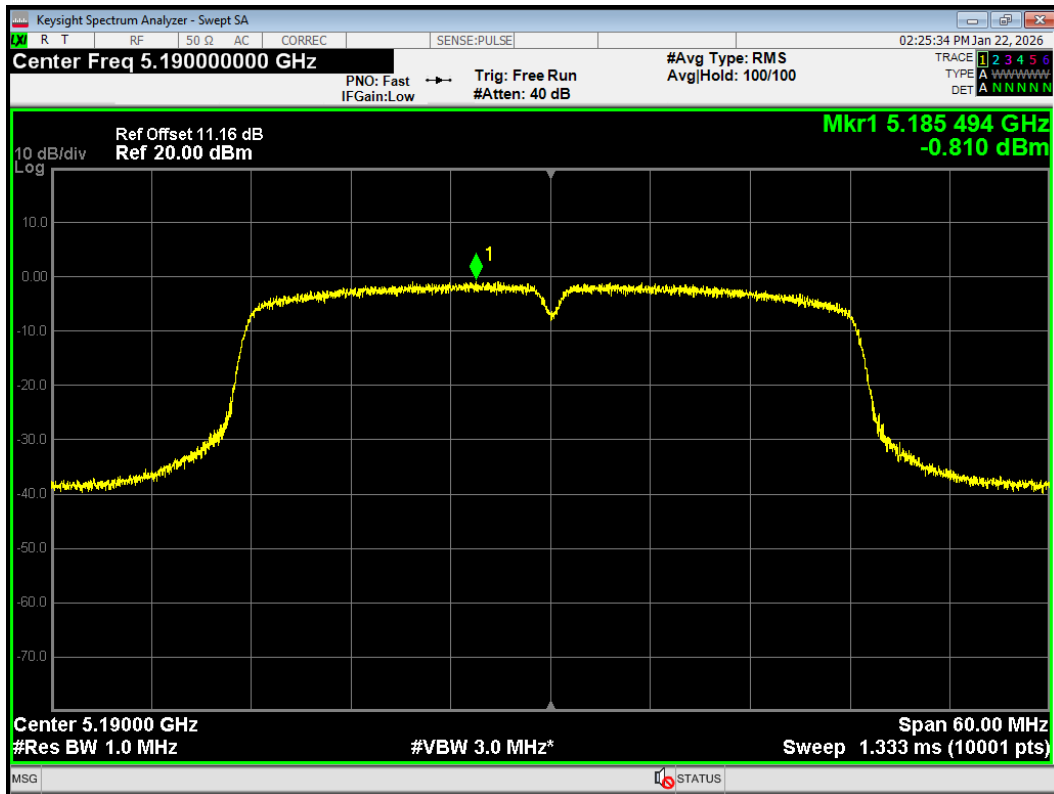
PSD 802.11n(HT20) 5200MHz



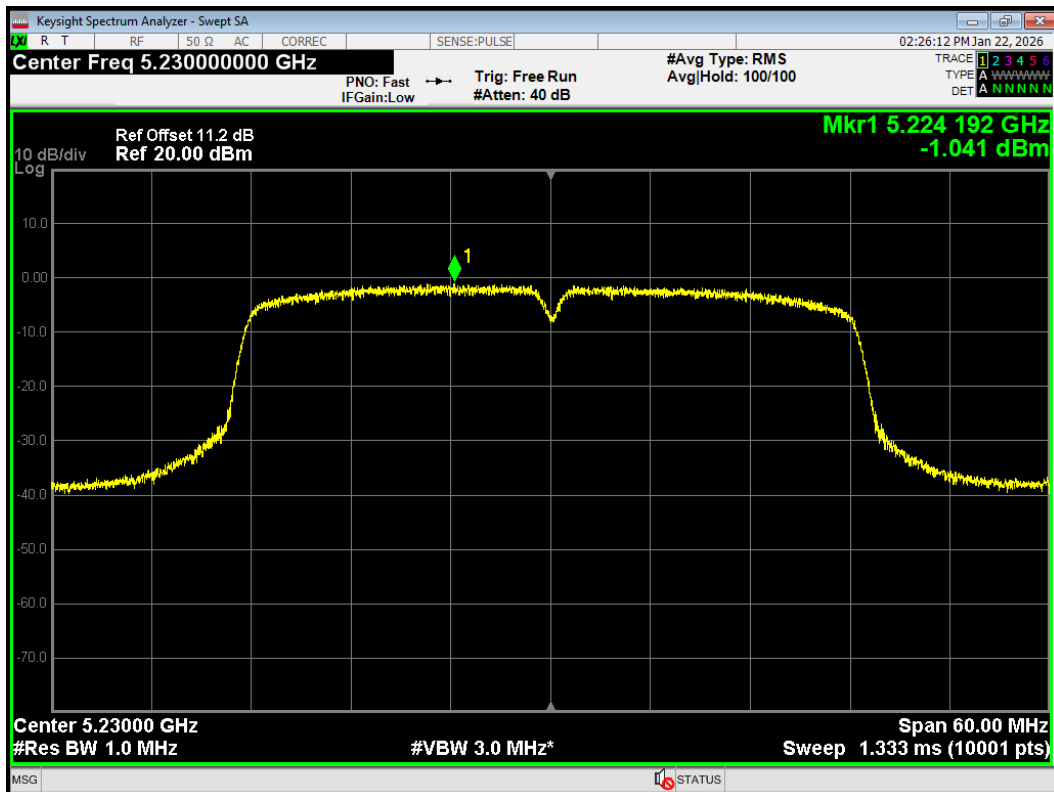
PSD 802.11n(HT20) 5240MHz



PSD 802.11n(HT40) 5190MHz

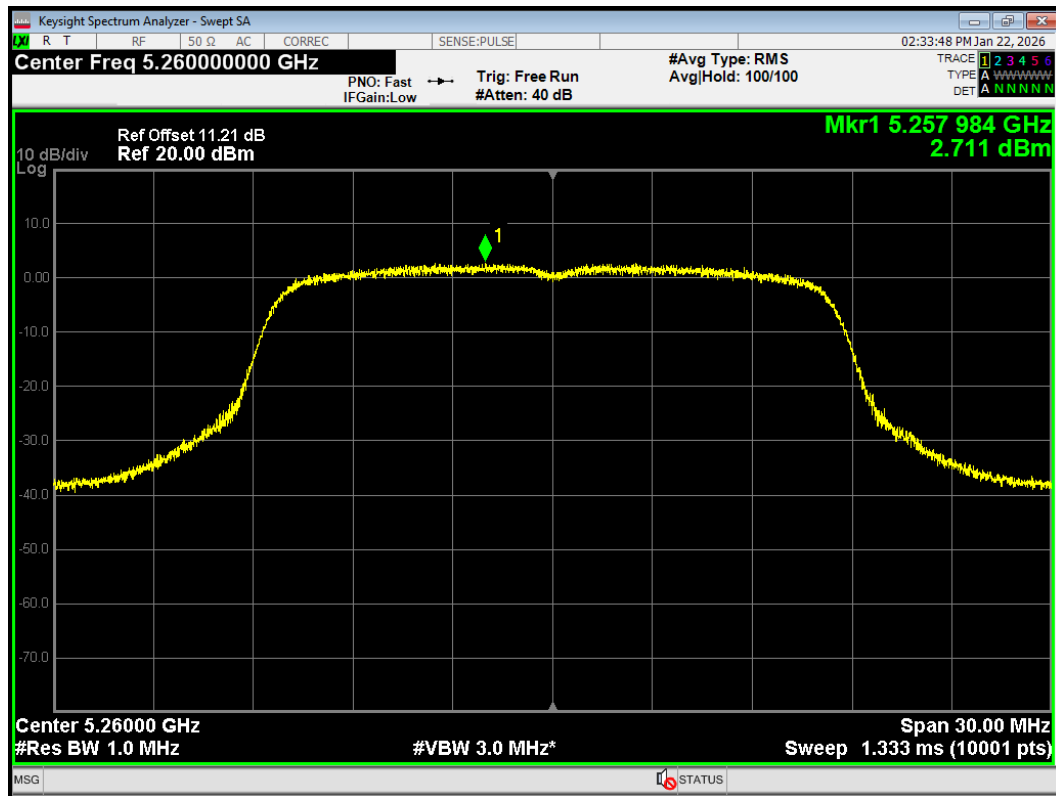


PSD 802.11n(HT40) 5230MHz

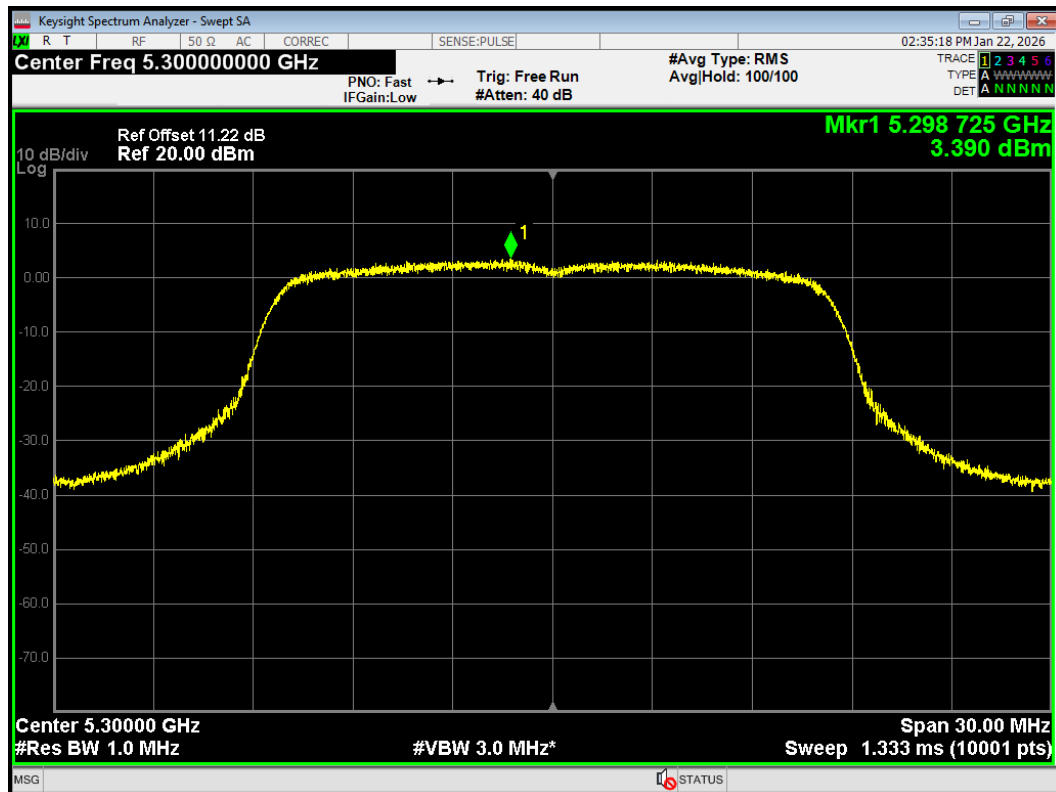


U-NII-2A

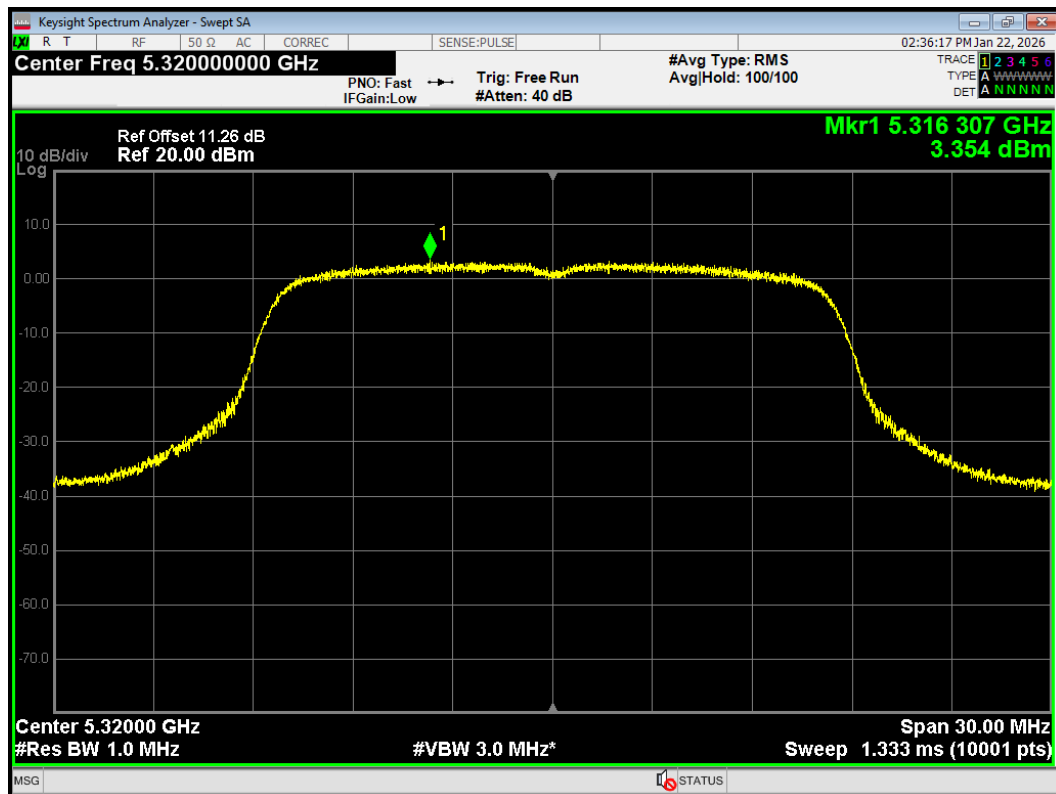
PSD 802.11a 5260MHz



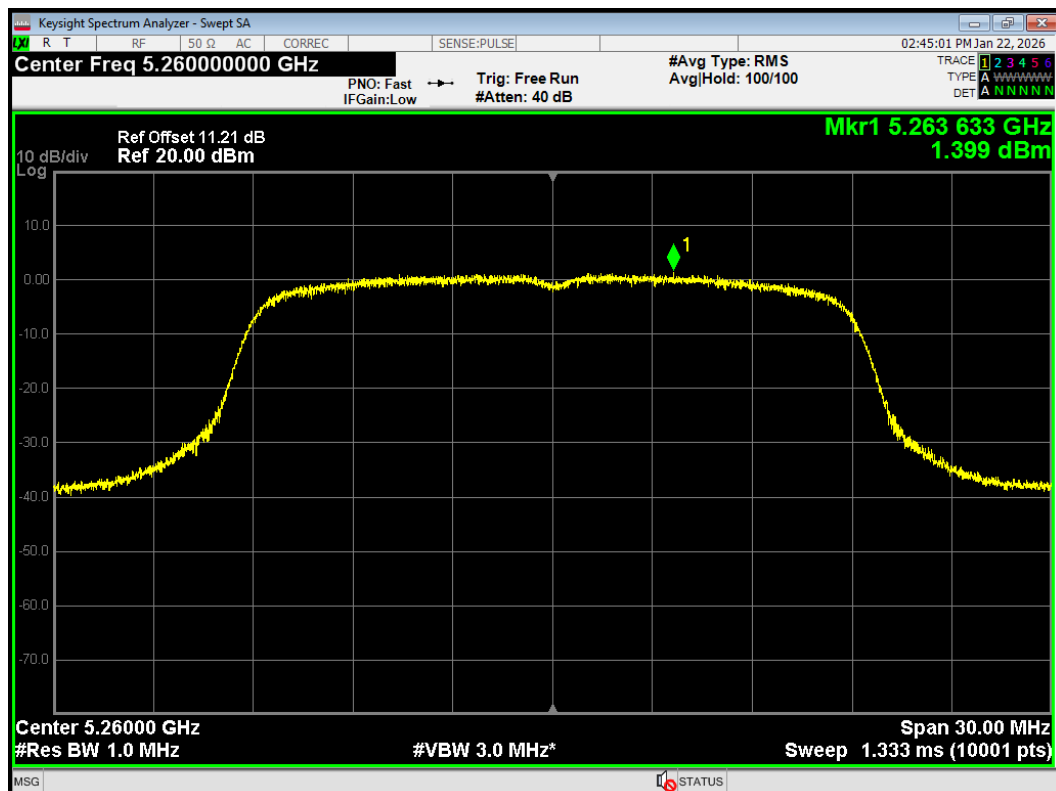
PSD 802.11a 5300MHz



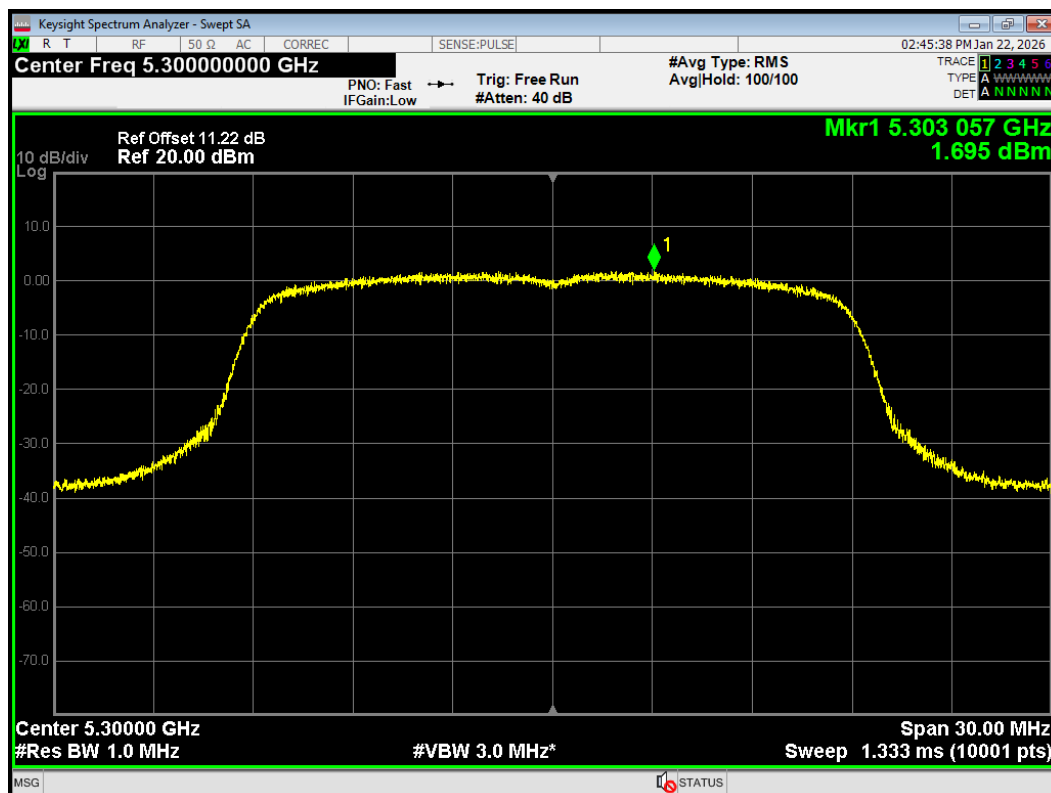
PSD 802.11a 5320MHz



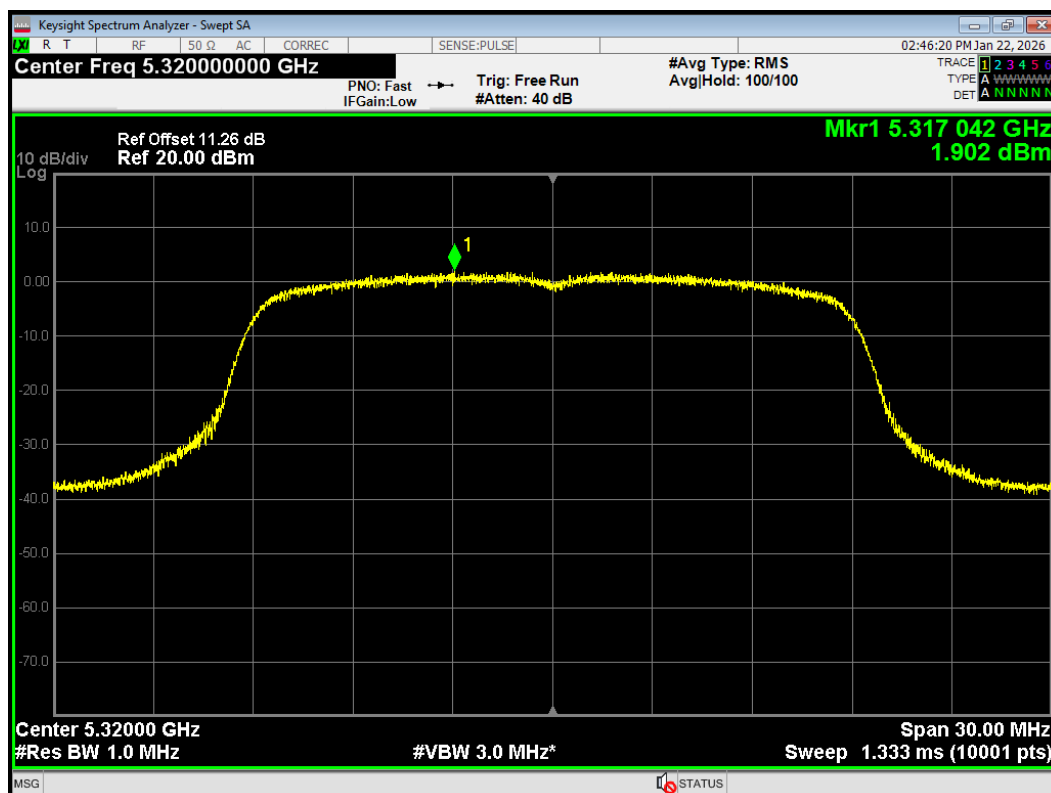
PSD 802.11ac(VHT20) 5260MHz



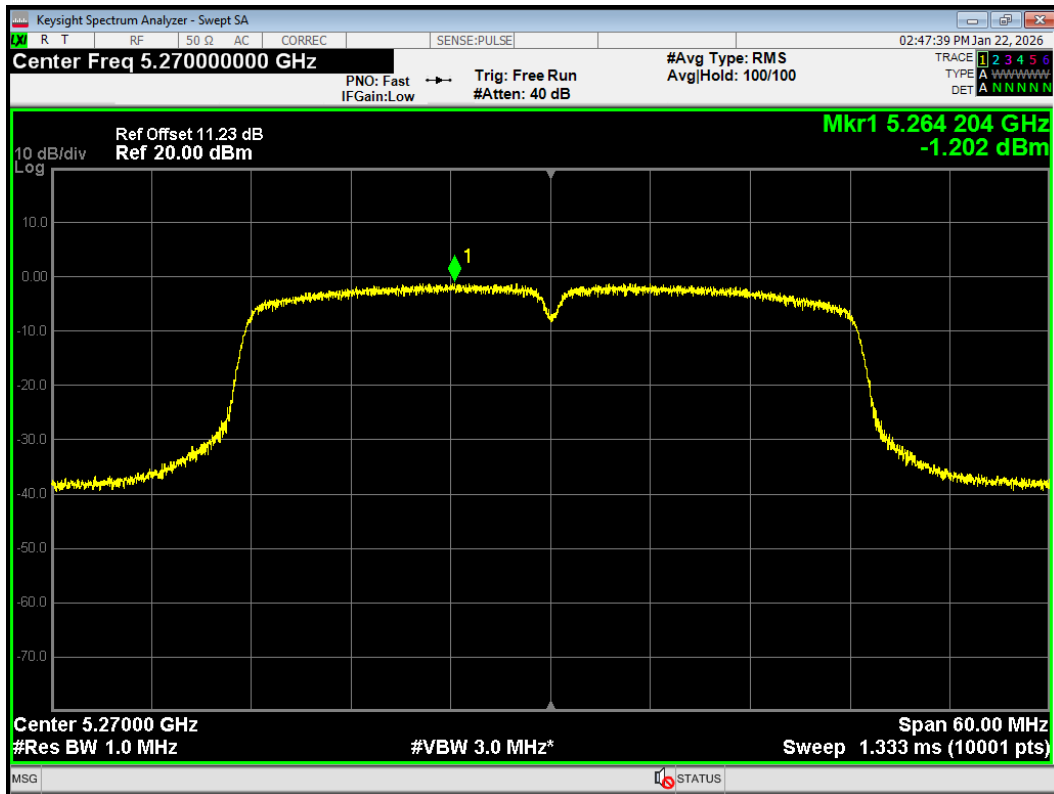
PSD 802.11ac(VHT20) 5300MHz



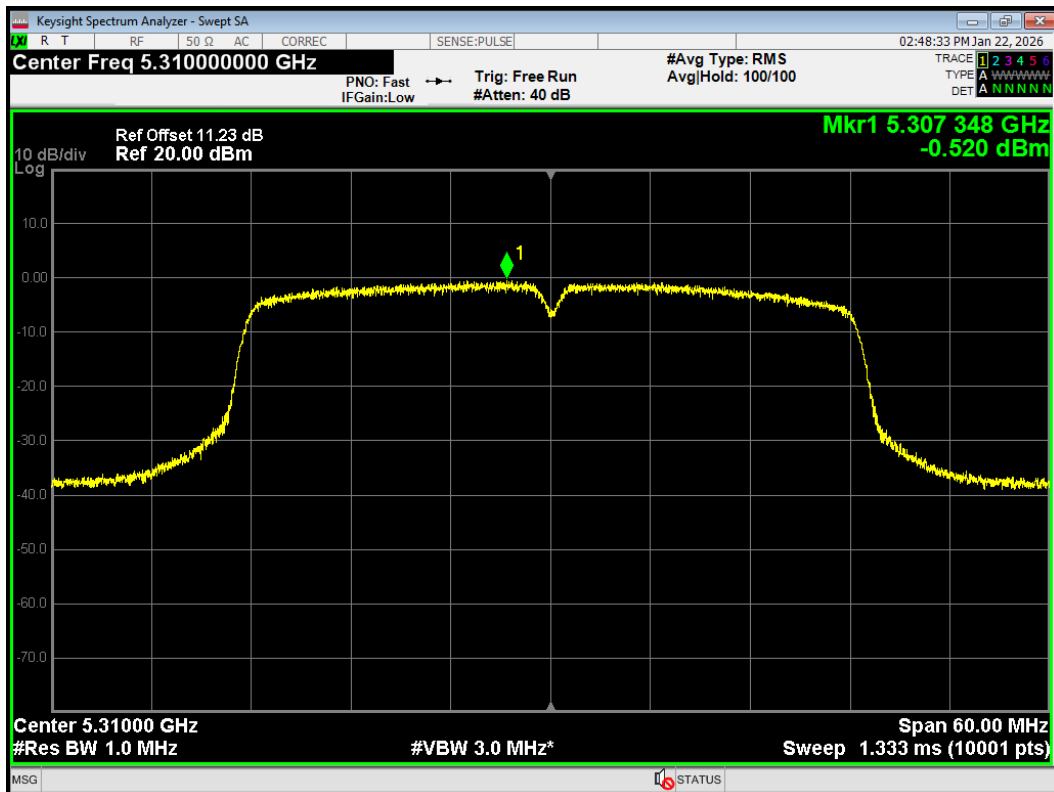
PSD 802.11ac(VHT20) 5320MHz



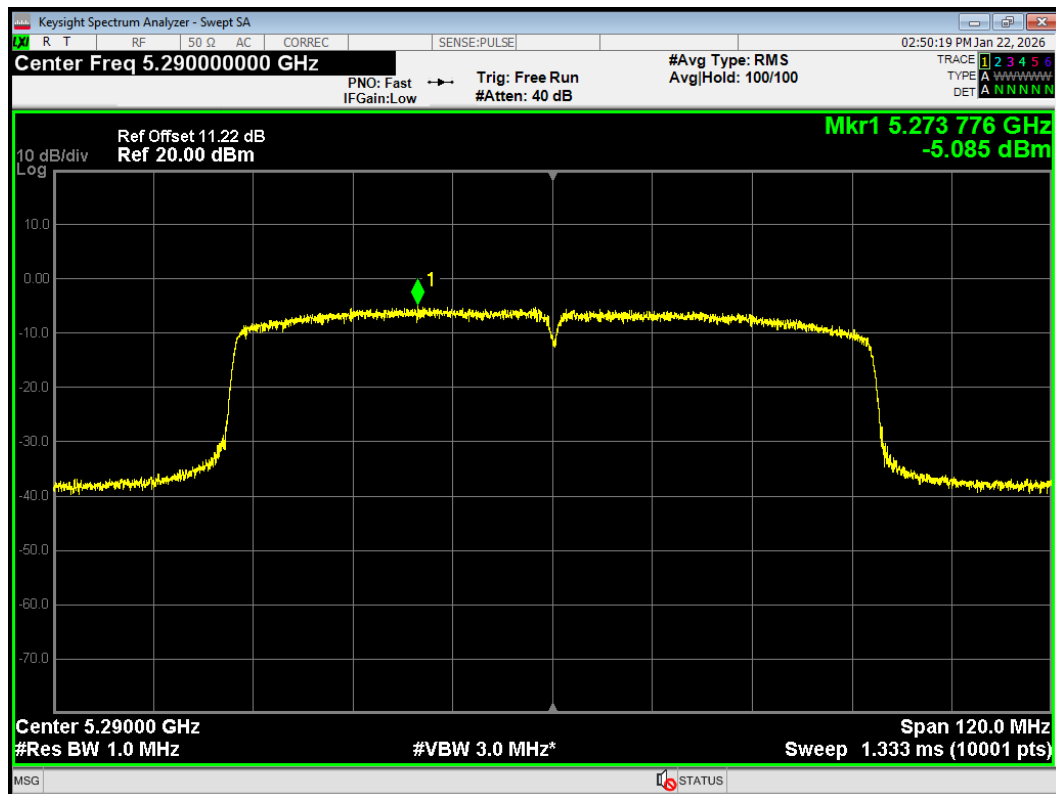
PSD 802.11ac(VHT40) 5270MHz



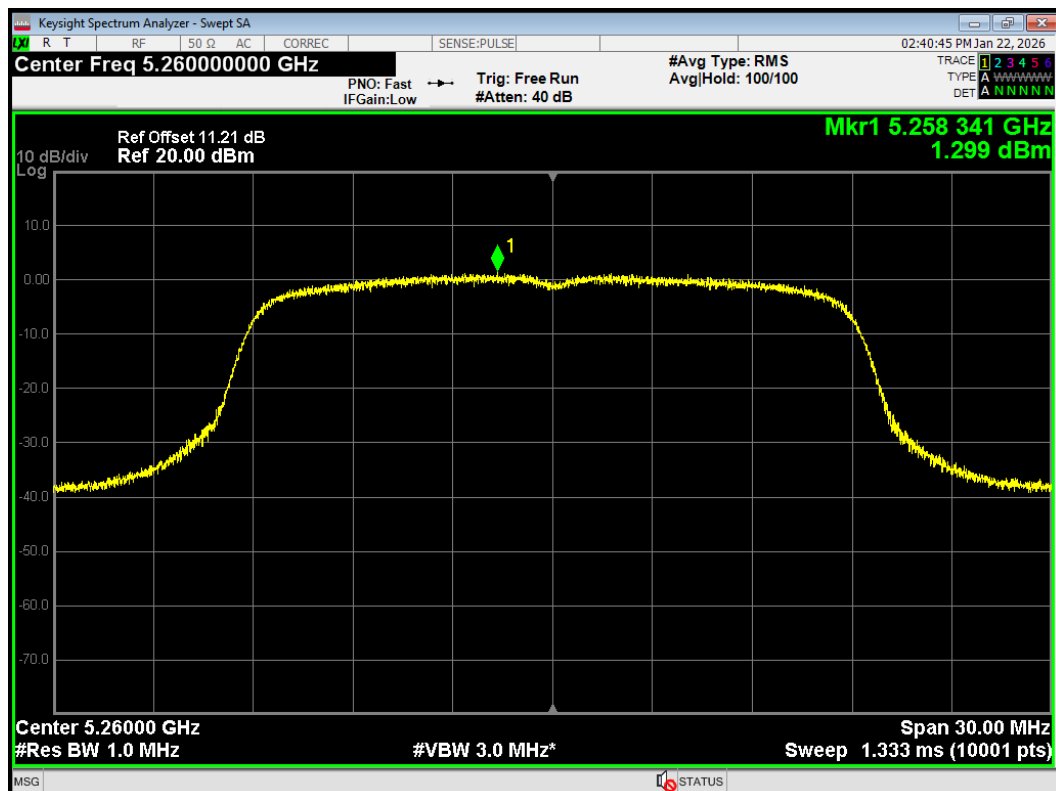
PSD 802.11ac(VHT40) 5310MHz



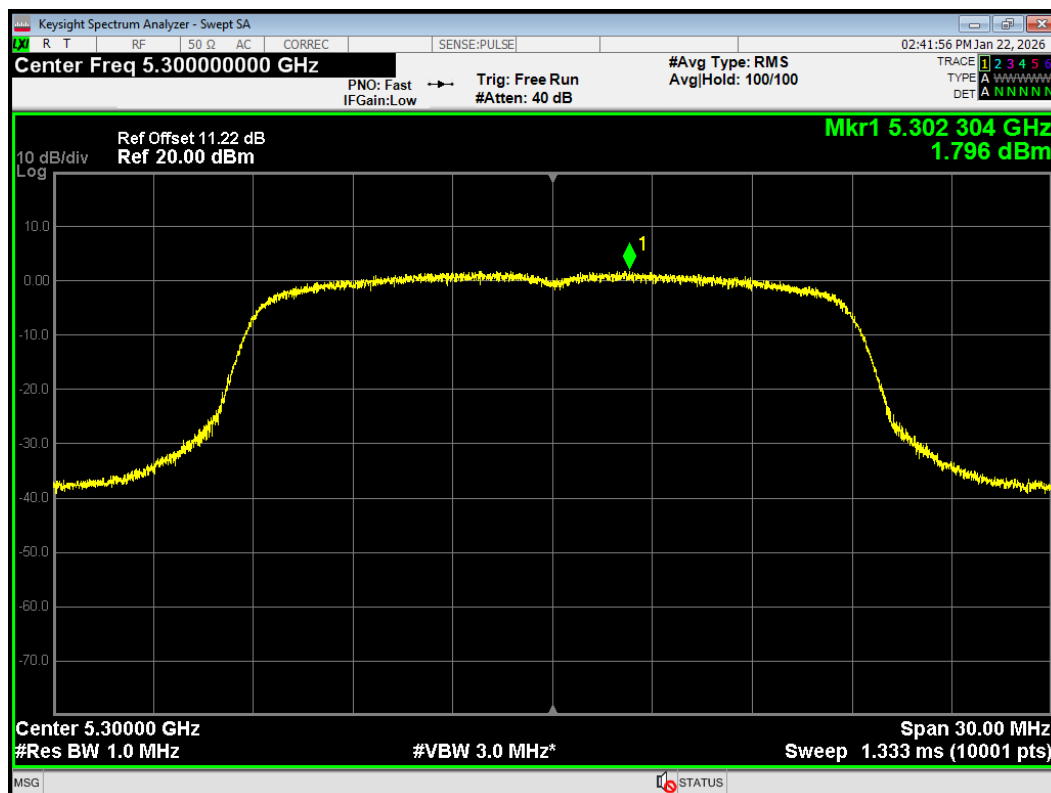
PSD 802.11ac(VHT80) 5290MHz



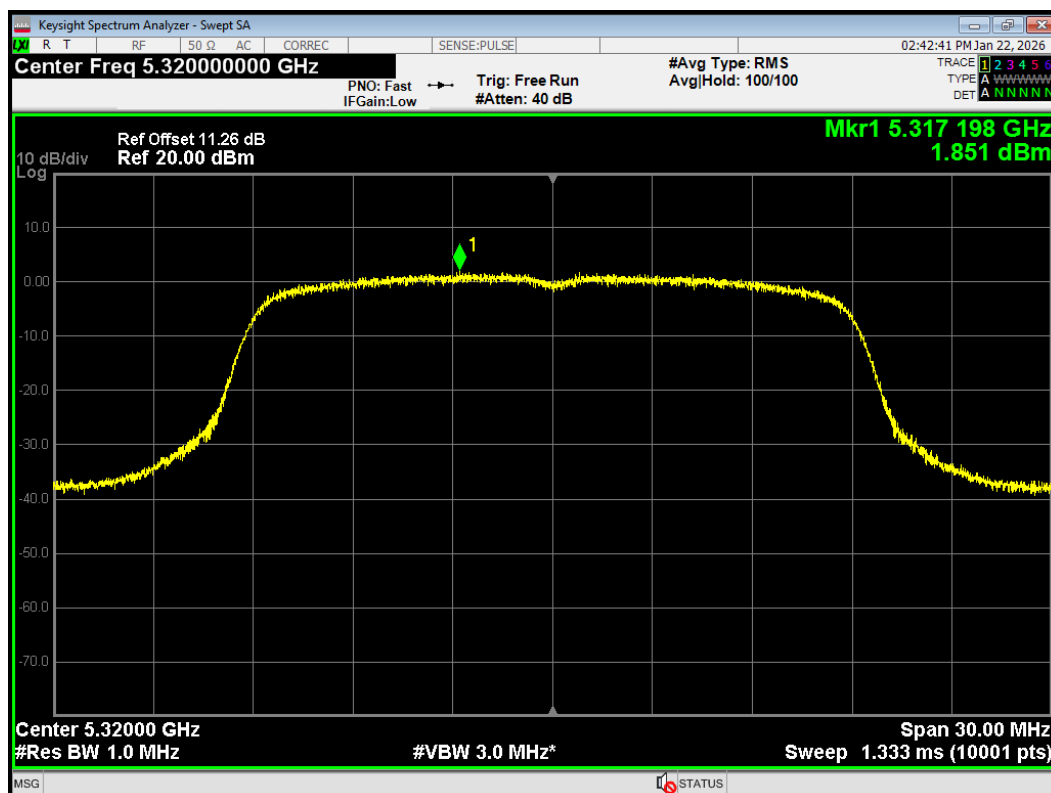
PSD 802.11n(HT20) 5260MHz



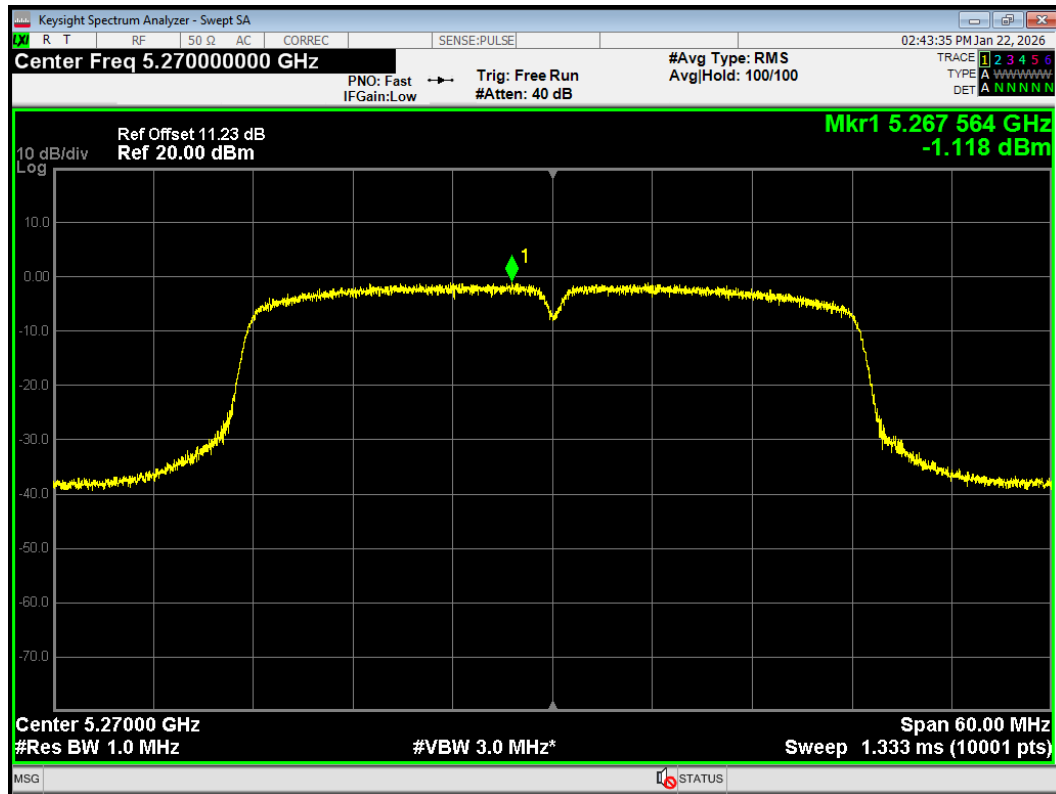
PSD 802.11n(HT20) 5300MHz



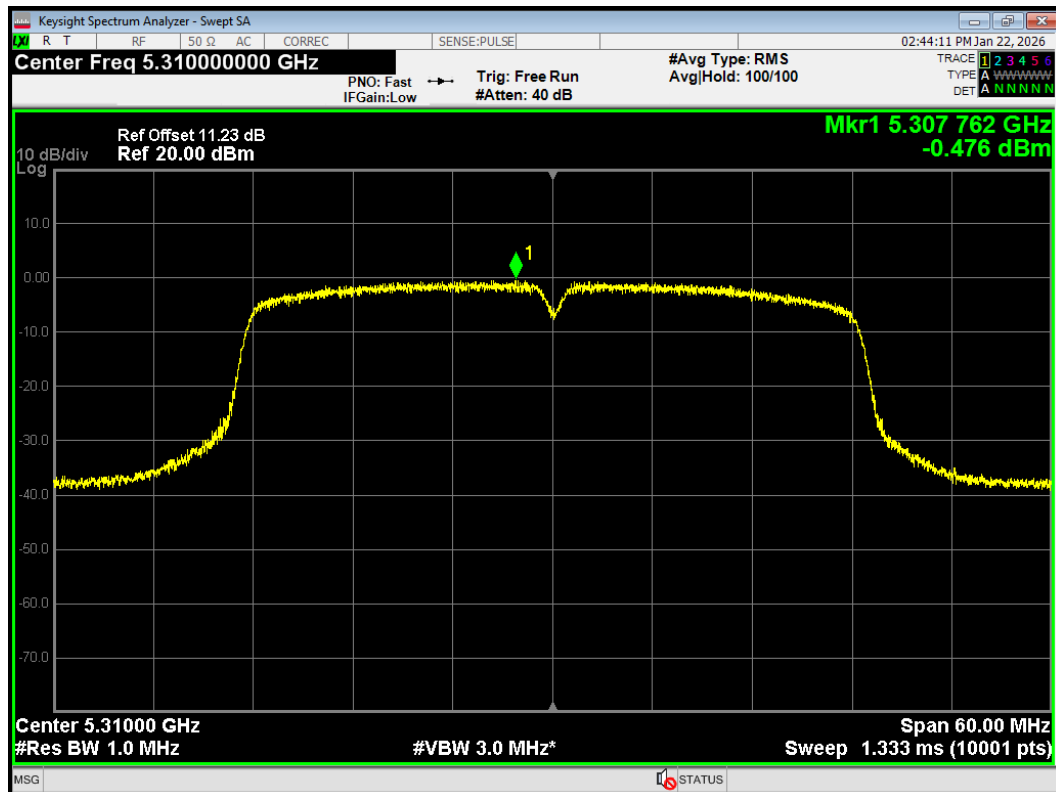
PSD 802.11n(HT20) 5320MHz



PSD 802.11n(HT40) 5270MHz

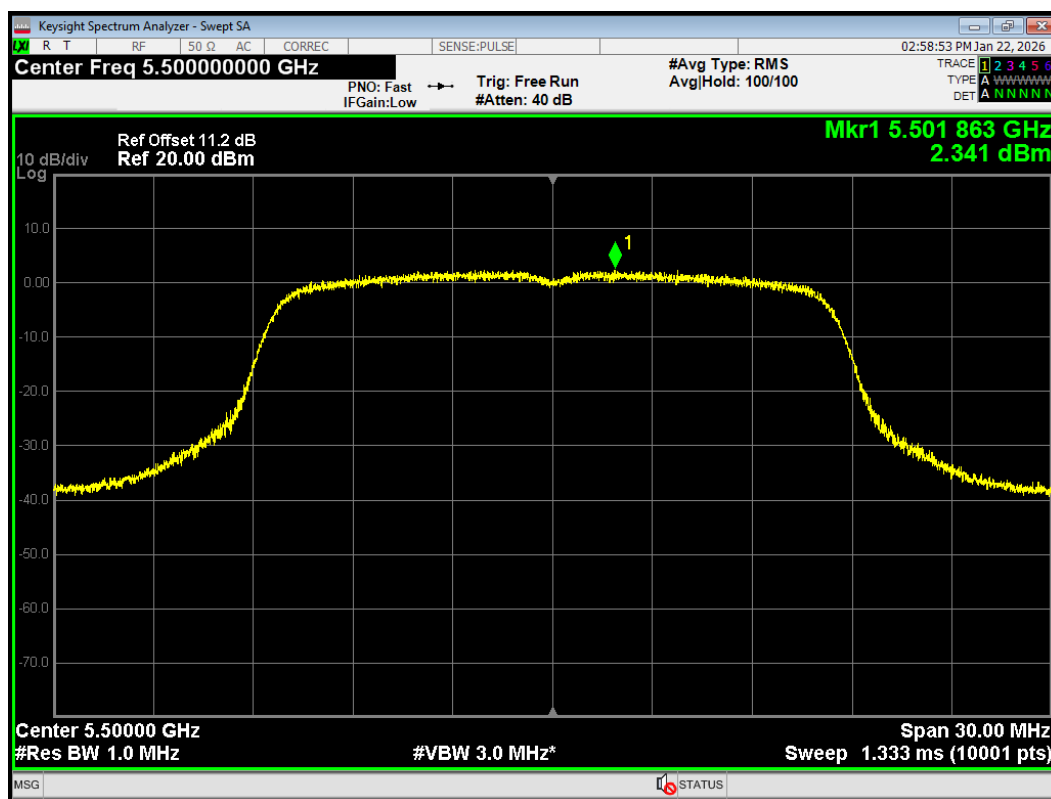


PSD 802.11n(HT40) 5310MHz

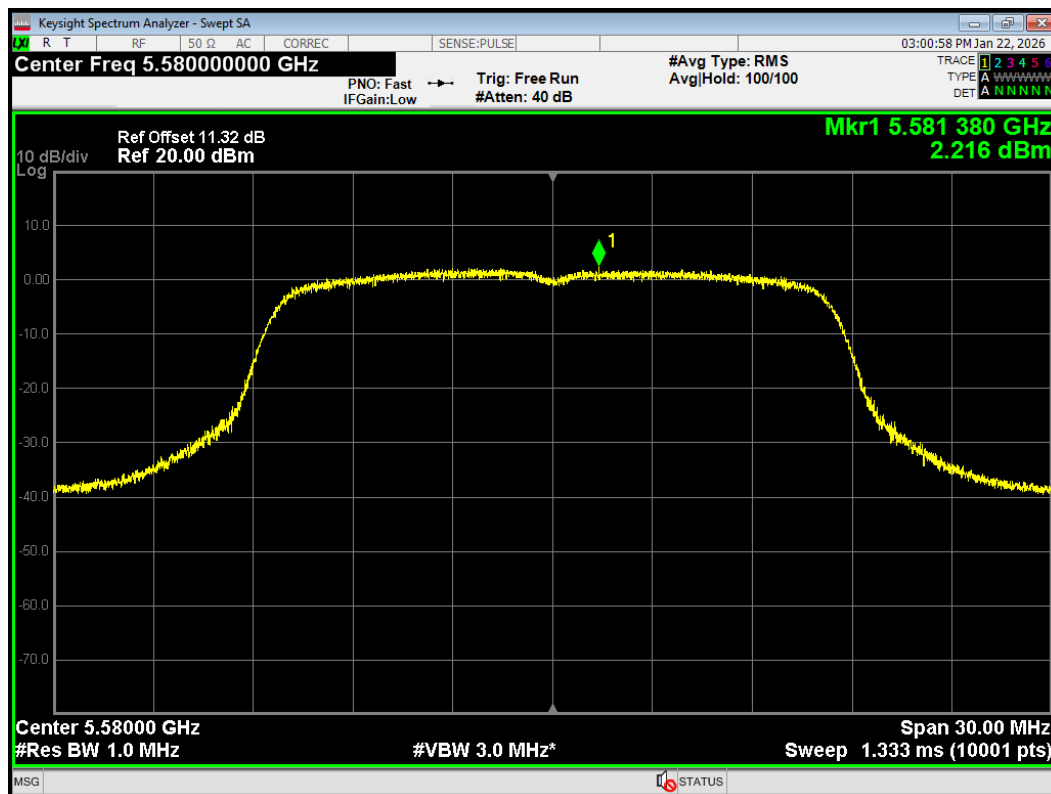


U-NII-2C

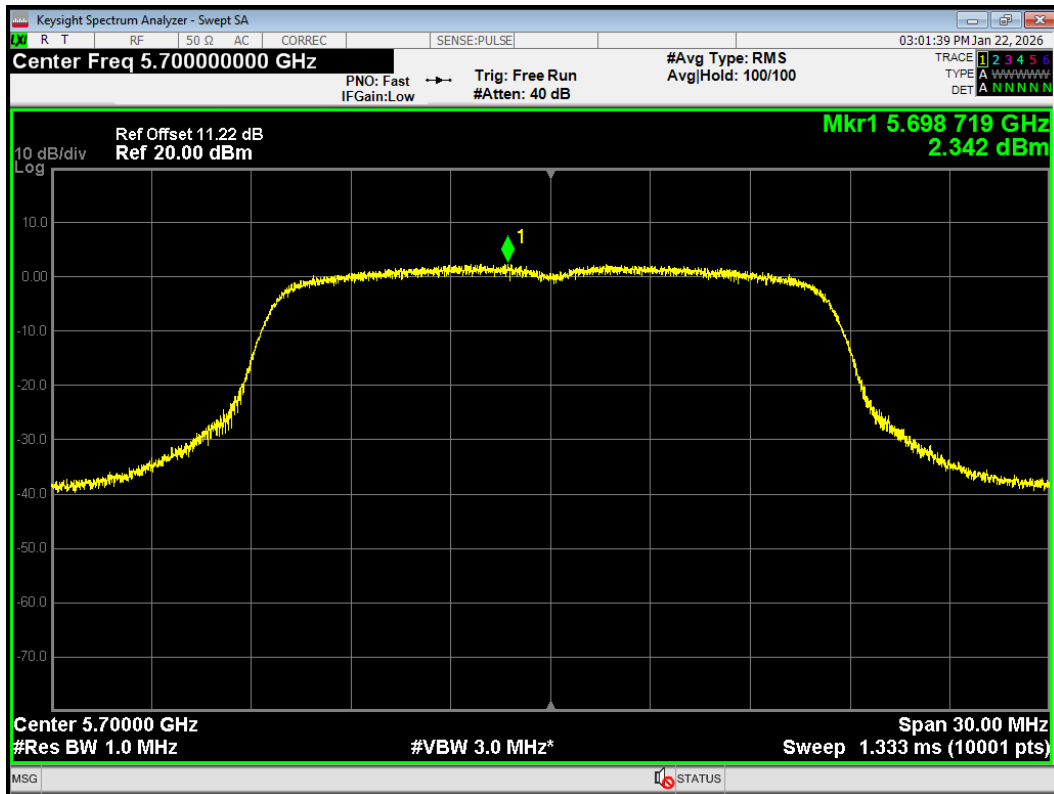
PSD 802.11a 5500MHz



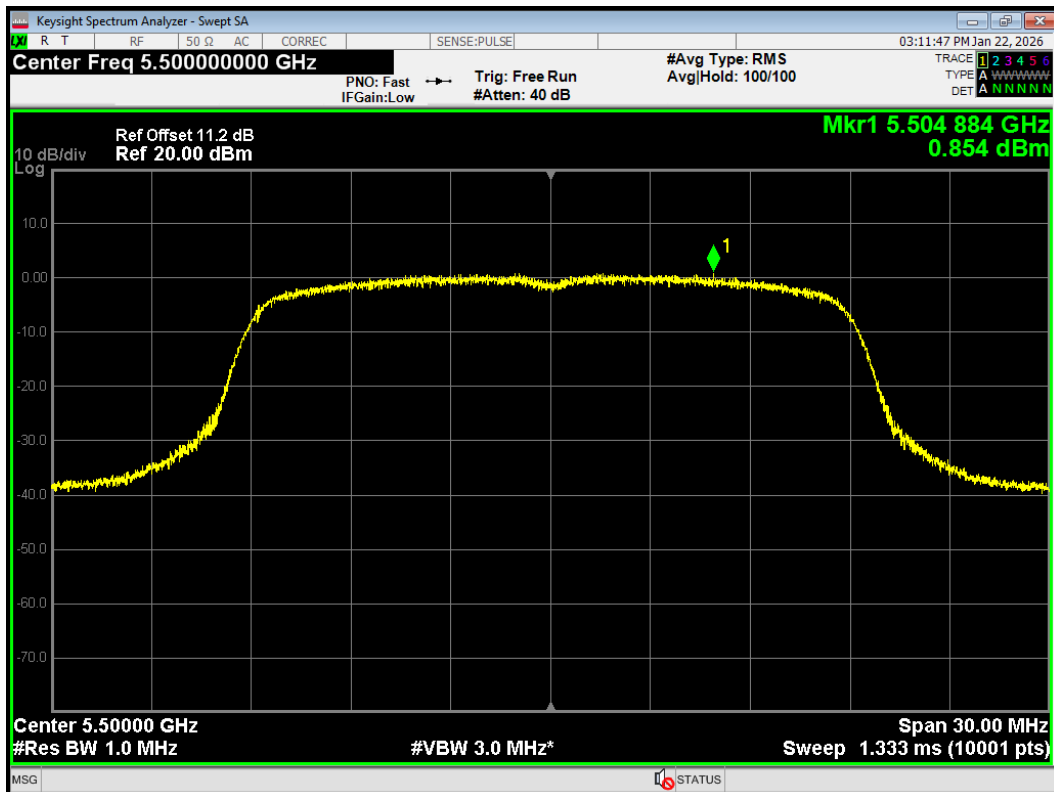
PSD 802.11a 5580MHz



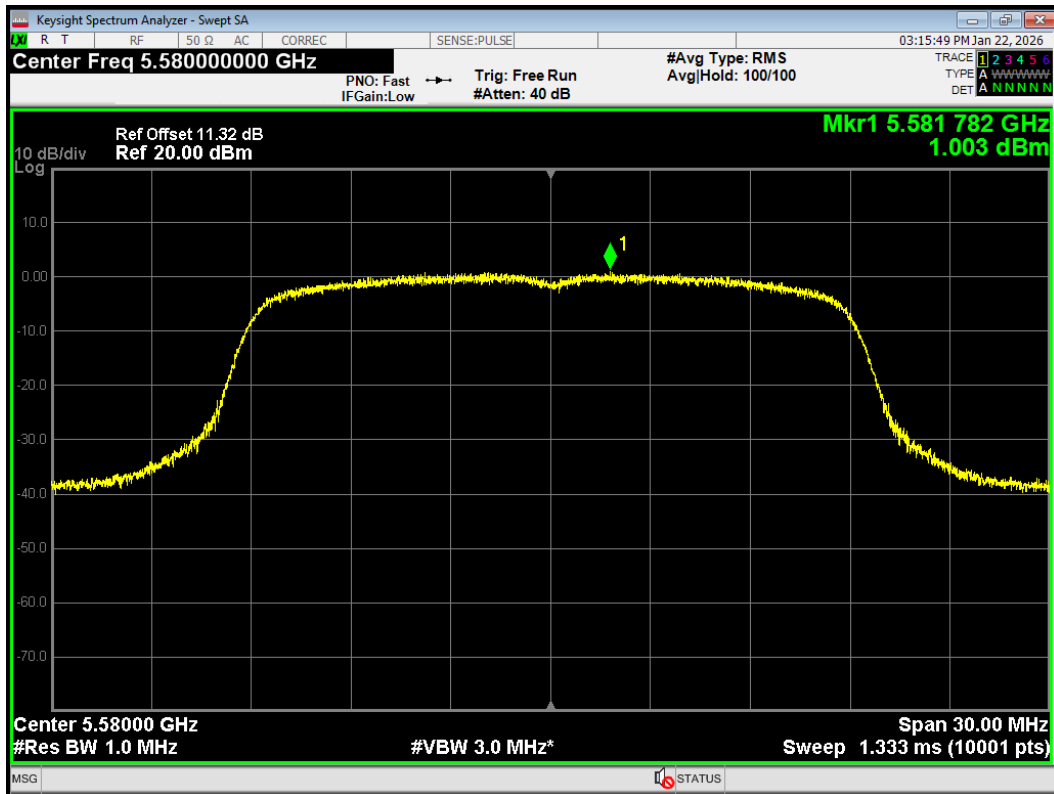
PSD 802.11a 5700MHz



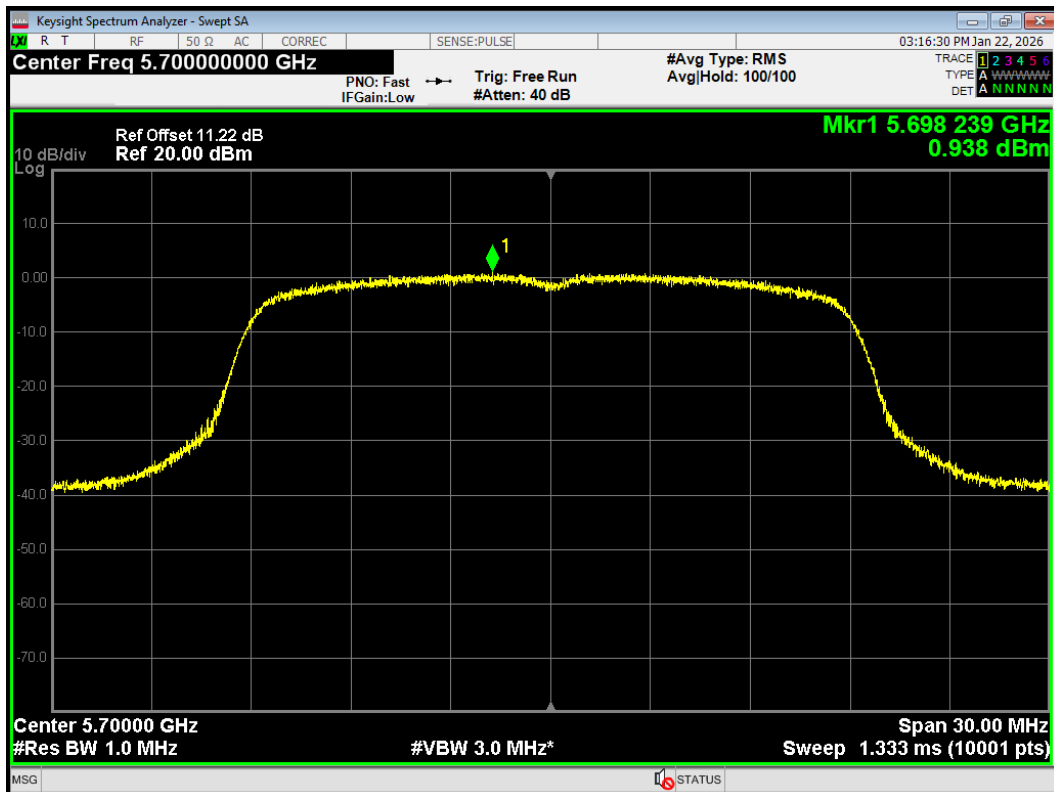
PSD 802.11ac(VHT20) 5500MHz



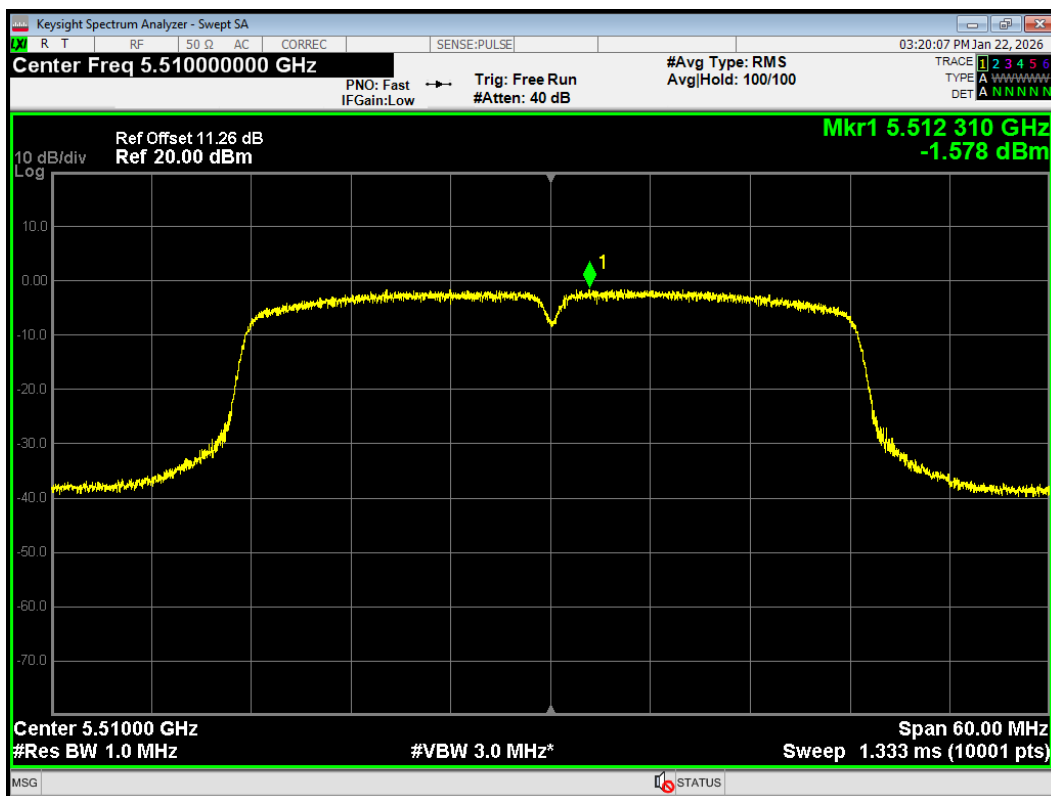
PSD 802.11ac(VHT20) 5580MHz



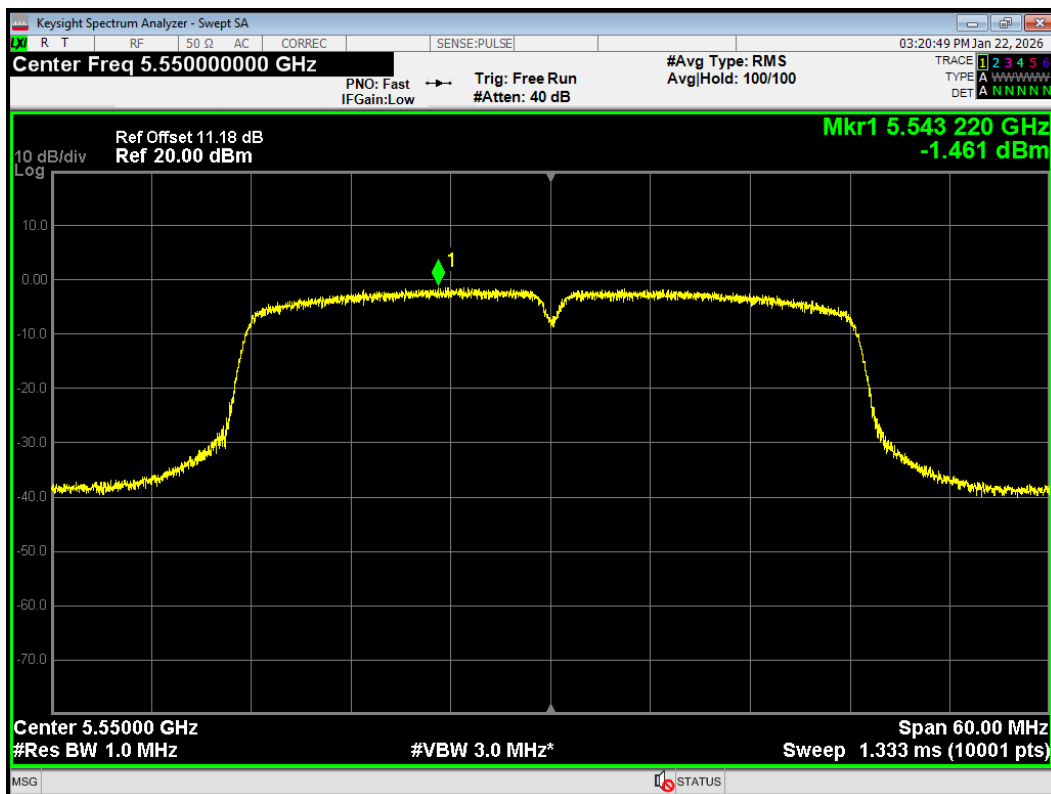
PSD 802.11ac(VHT20) 5700MHz



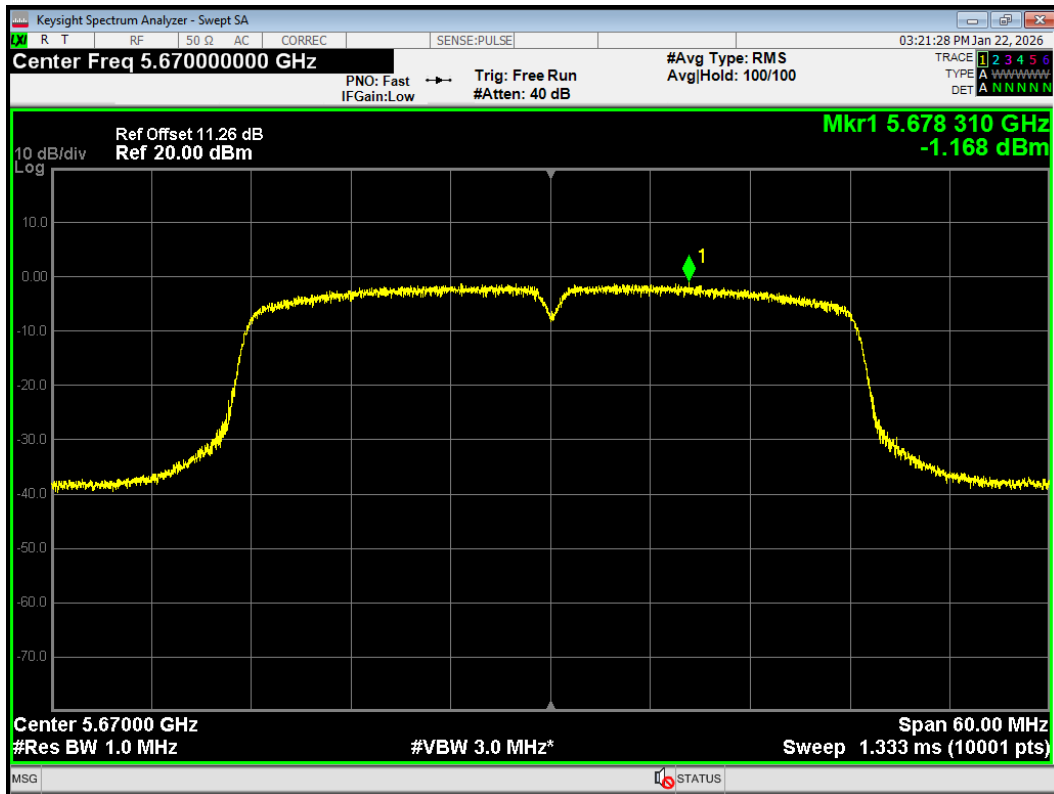
PSD 802.11ac(VHT40) 5510MHz



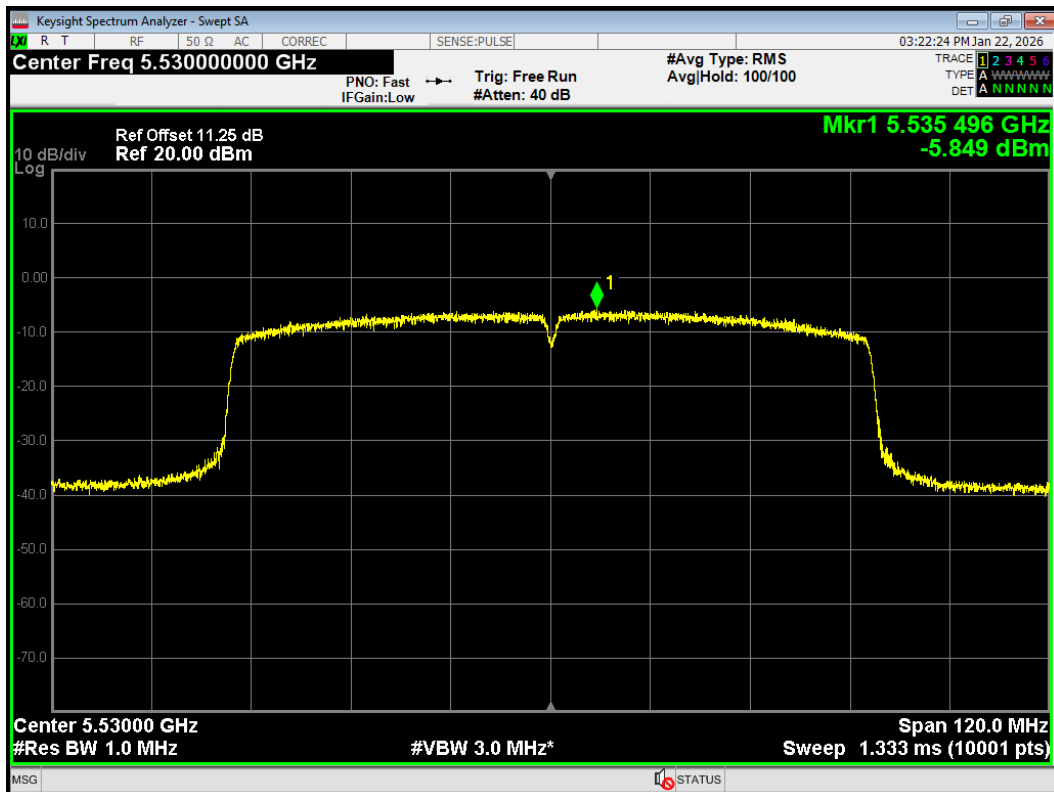
PSD 802.11ac(VHT40) 5550MHz



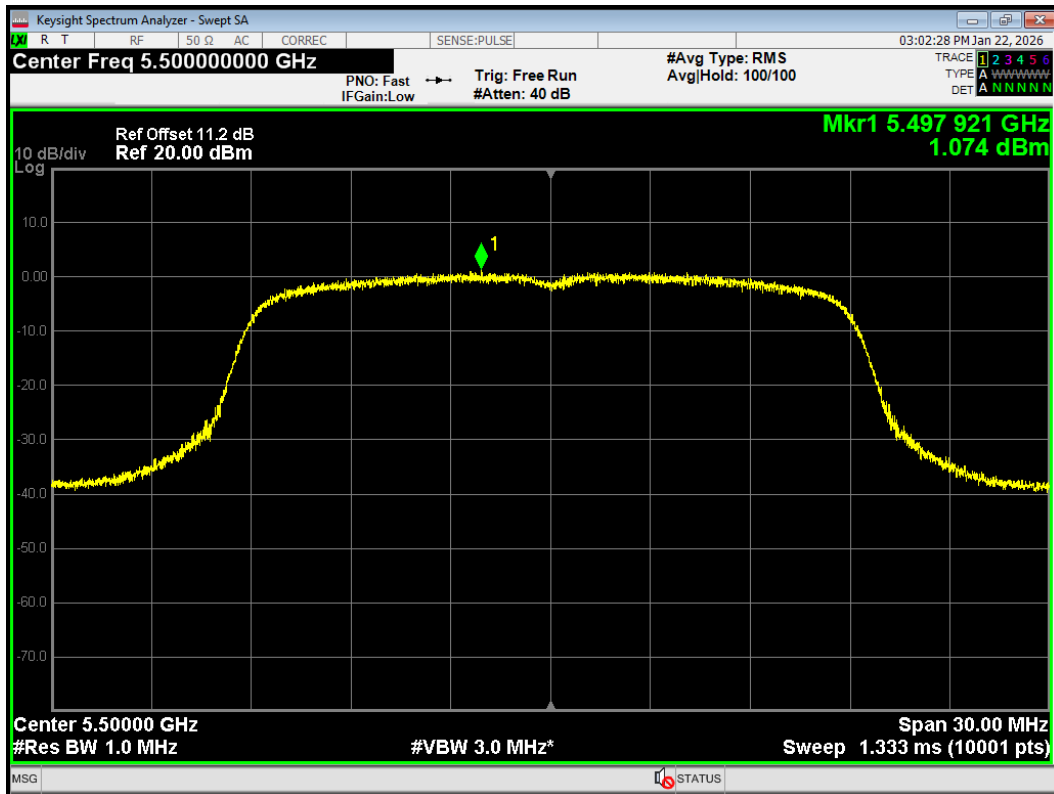
PSD 802.11ac(VHT40) 5670MHz



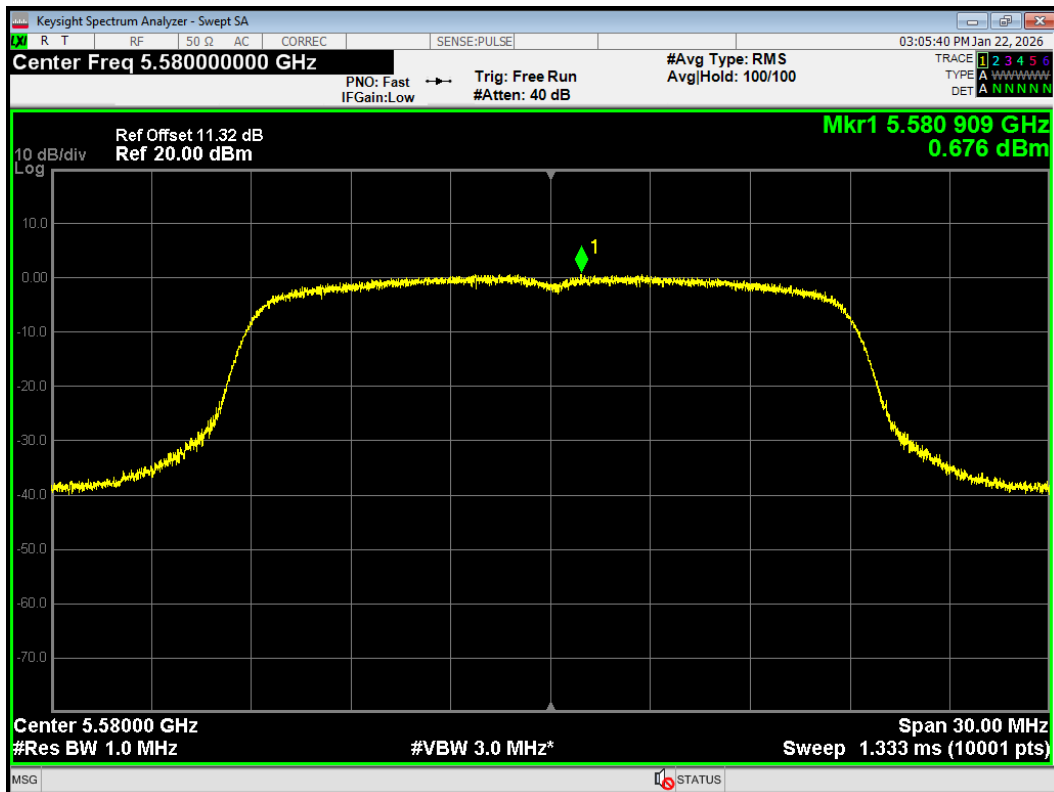
PSD 802.11ac(VHT80) 5530MHz



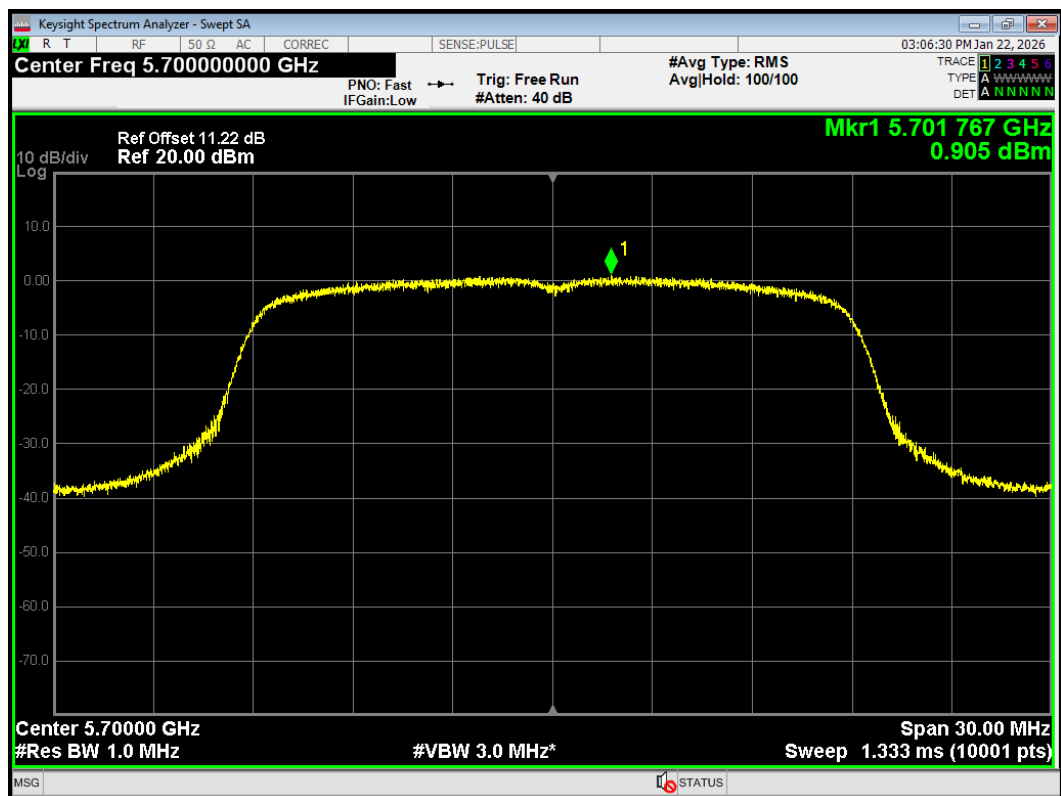
PSD 802.11n(HT20) 5500MHz



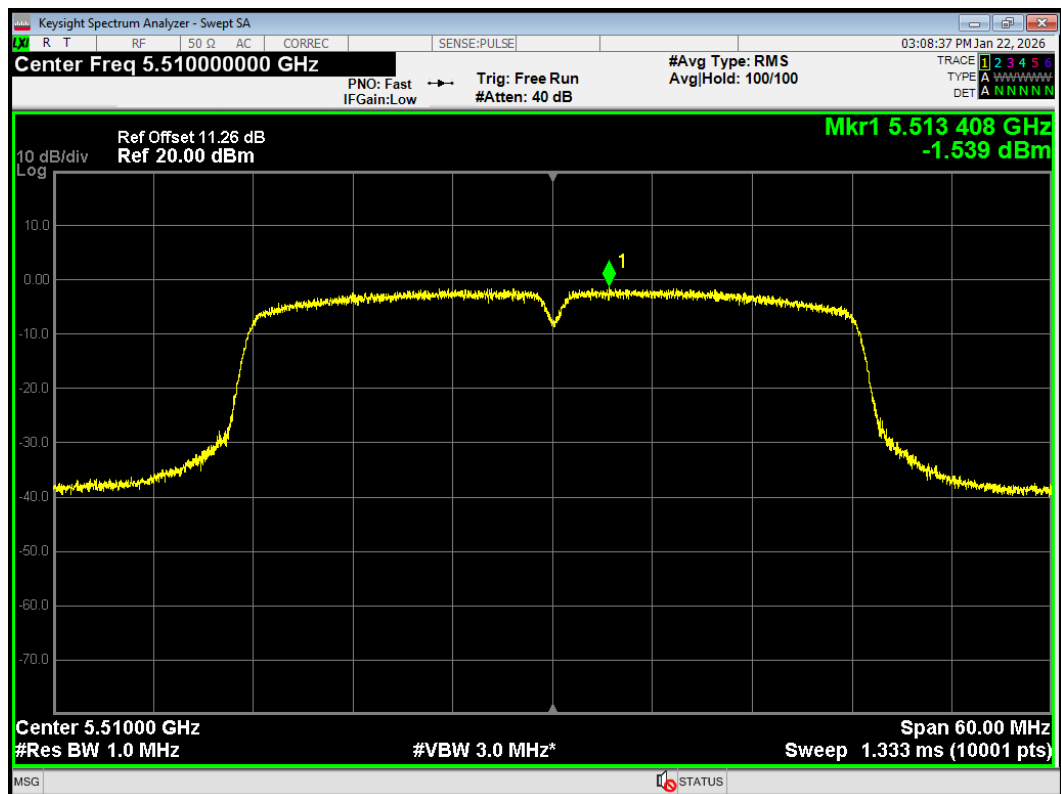
PSD 802.11n(HT20) 5580MHz



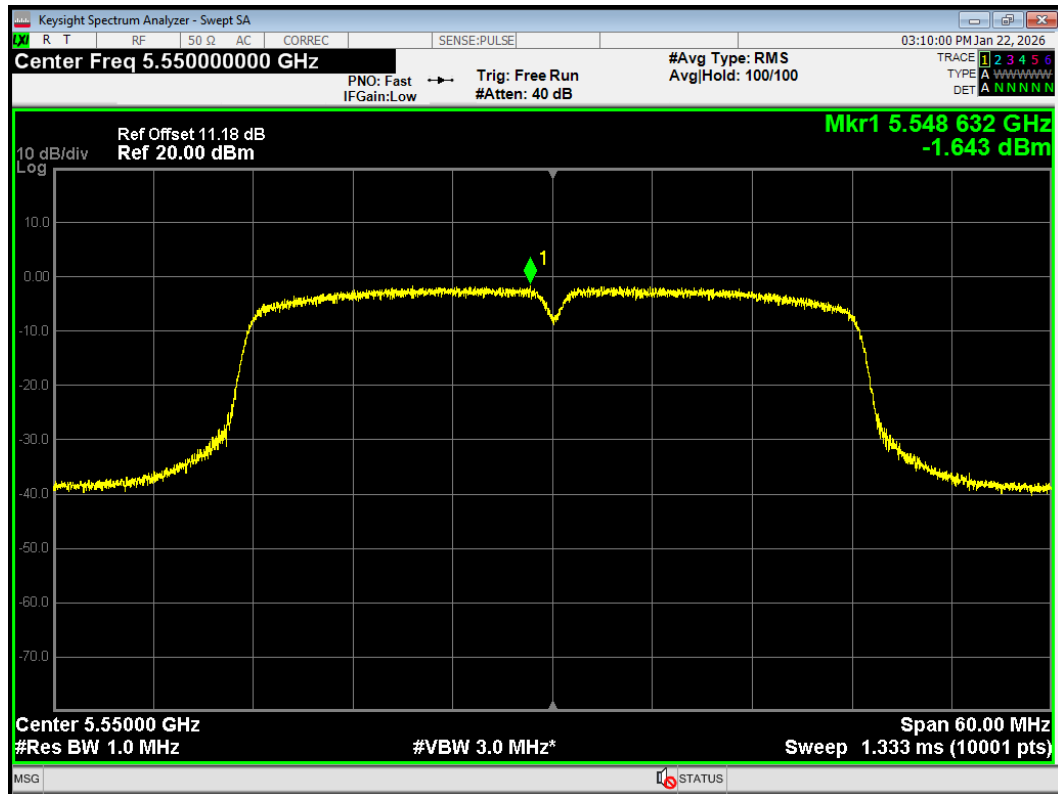
PSD 802.11n(HT20) 5700MHz



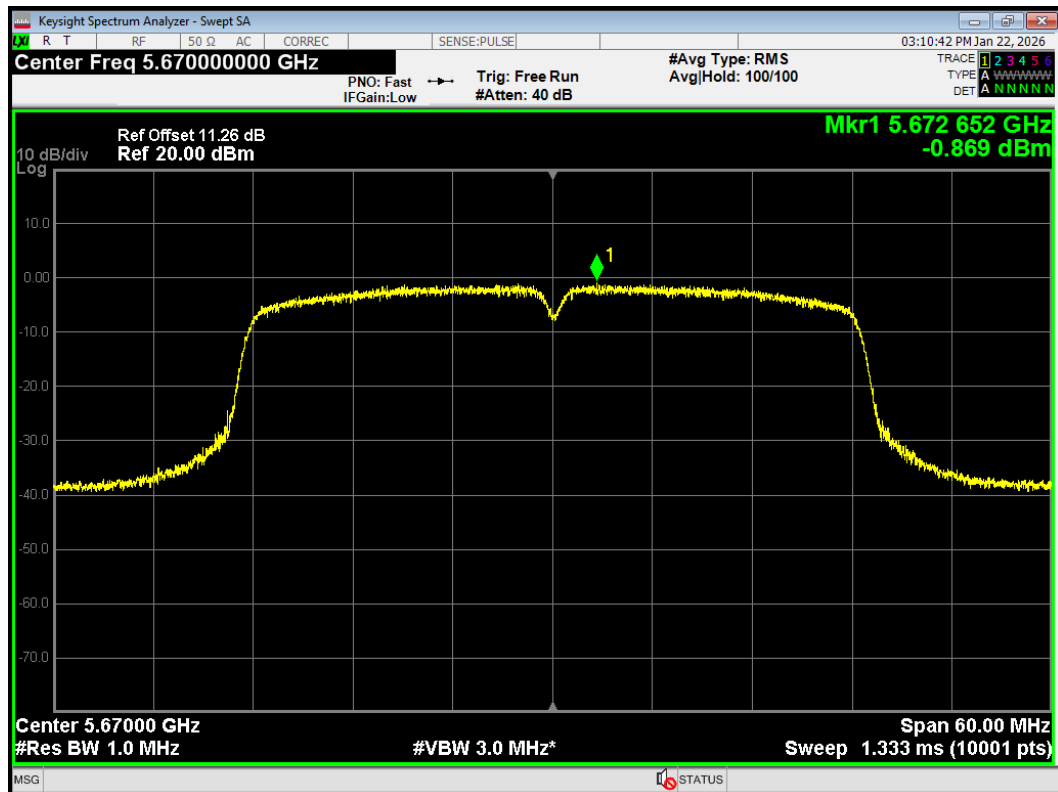
PSD 802.11n(HT40) 5510MHz



PSD 802.11n(HT40) 5550MHz

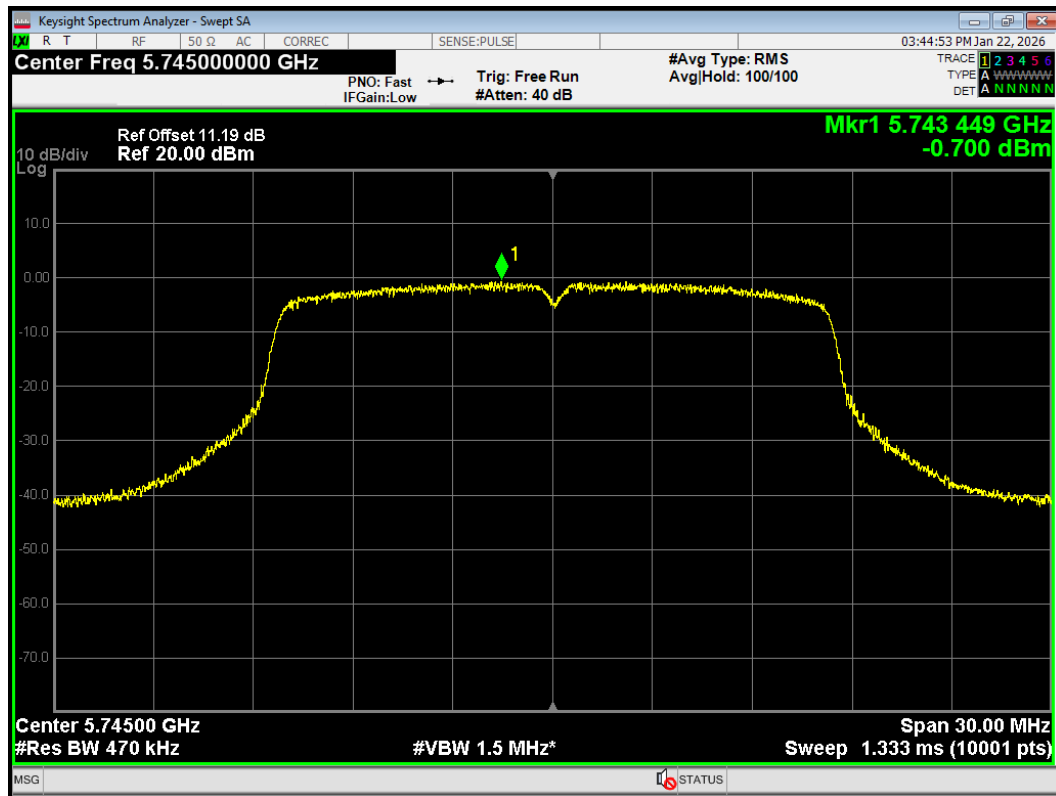


PSD 802.11n(HT40) 5670MHz

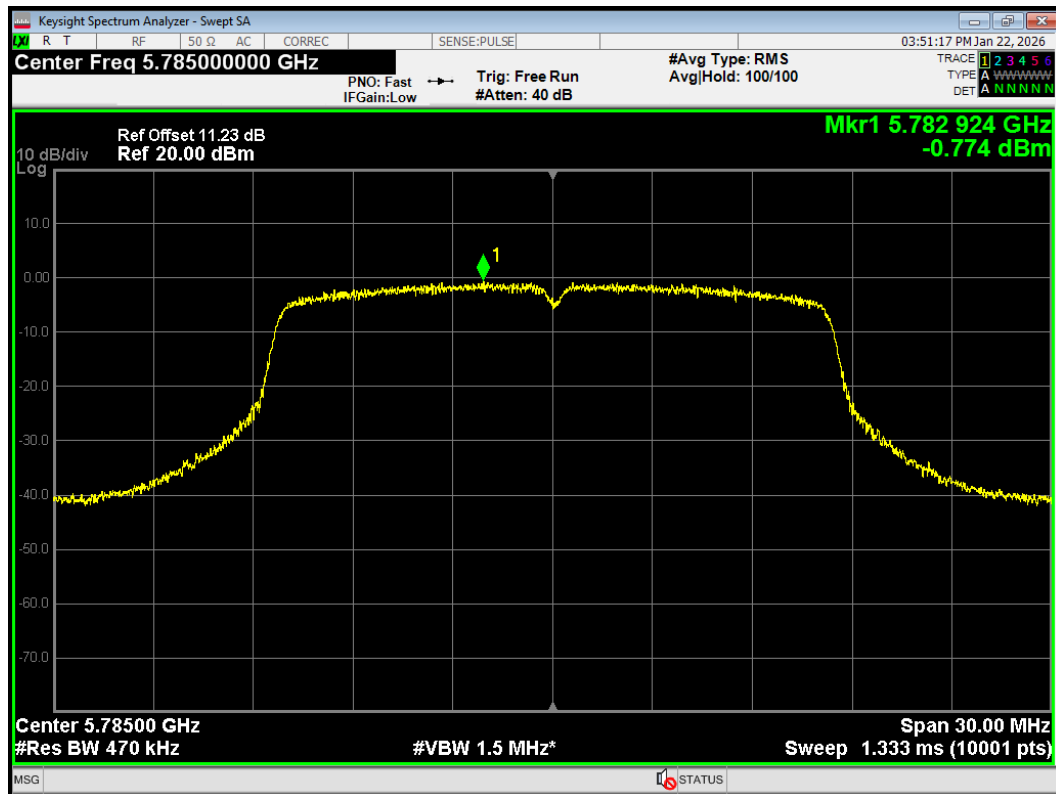


U-NII-3

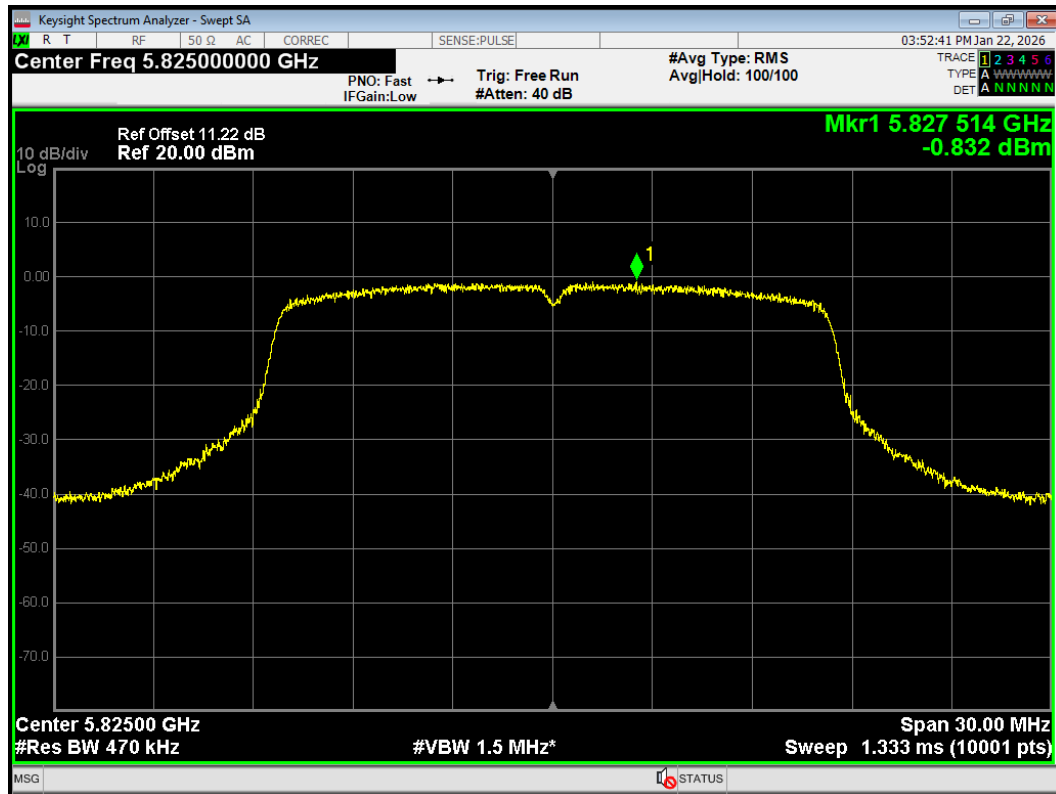
PSD 802.11a 5745MHz



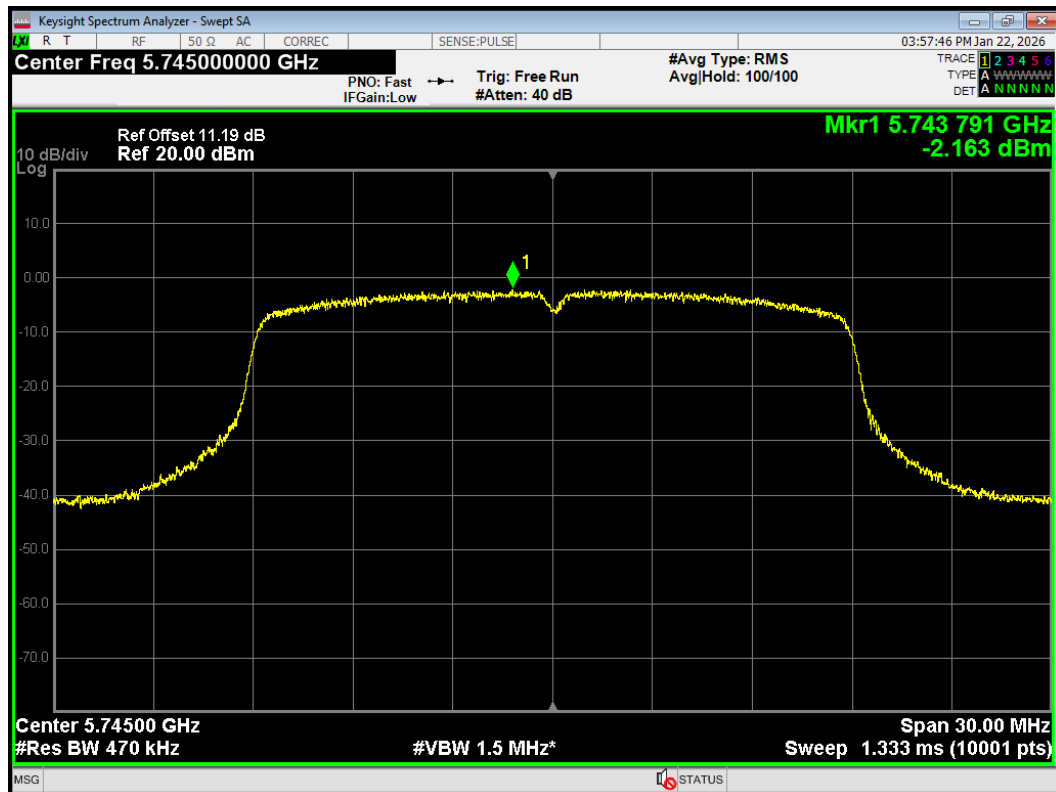
PSD 802.11a 5785MHz



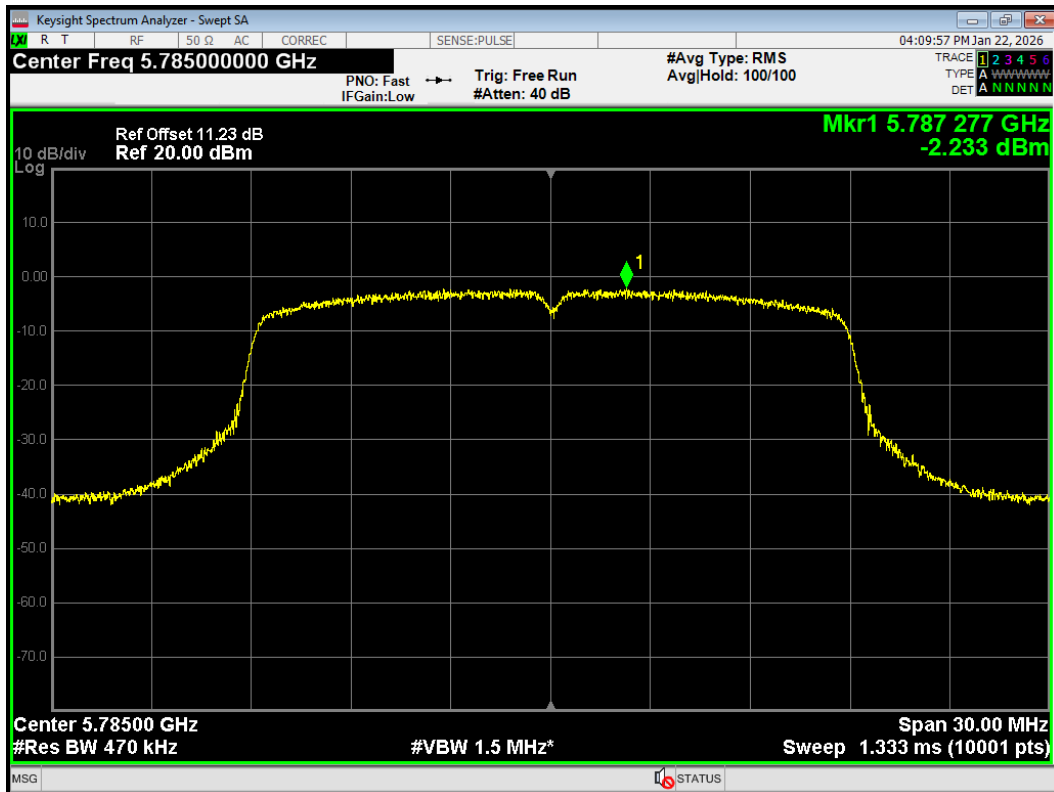
PSD 802.11a 5825MHz



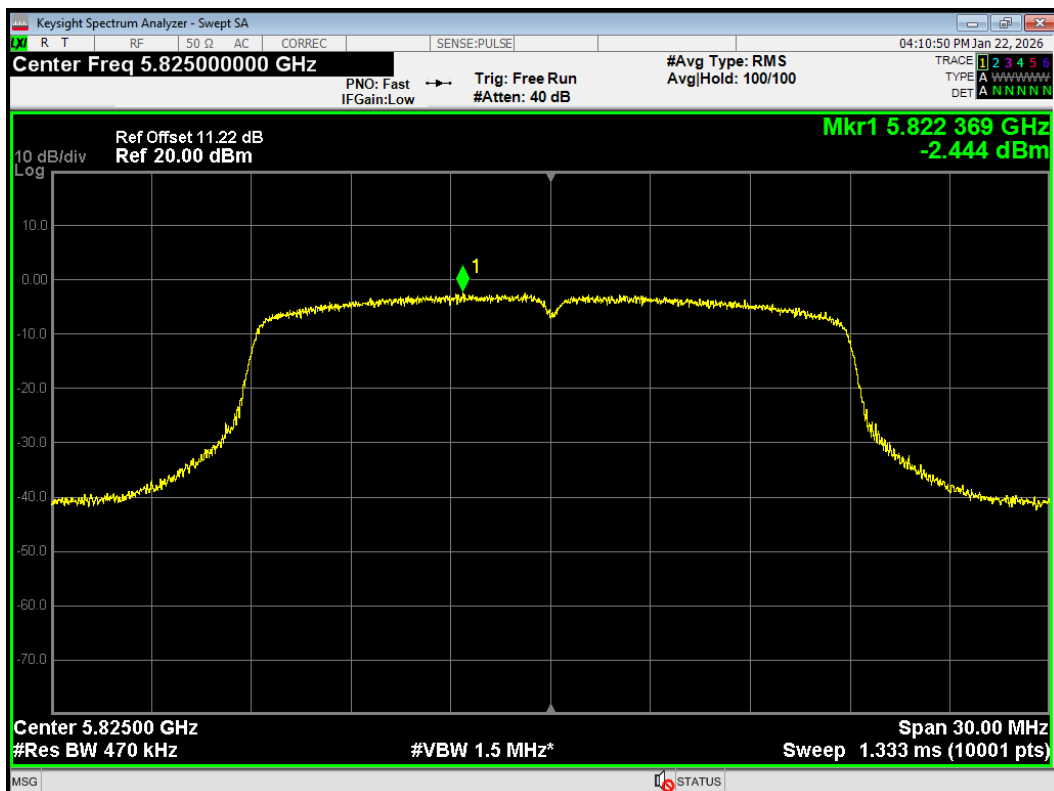
PSD 802.11ac(VHT20) 5745MHz



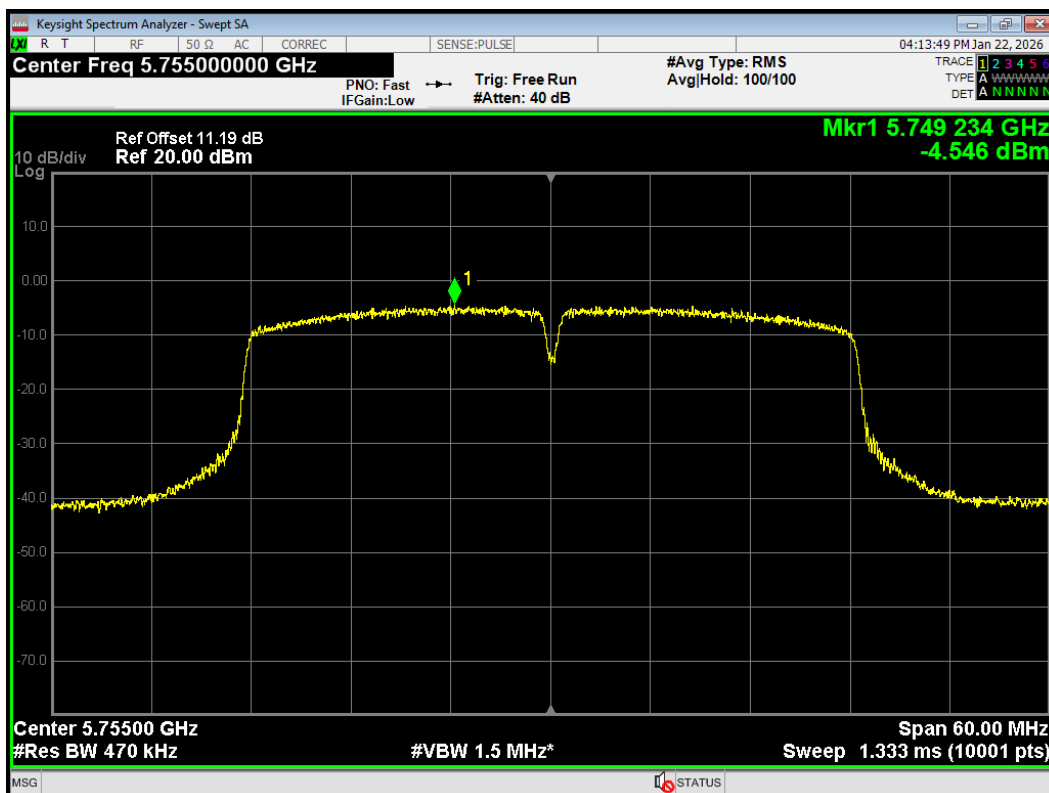
PSD 802.11ac(VHT20) 5785MHz



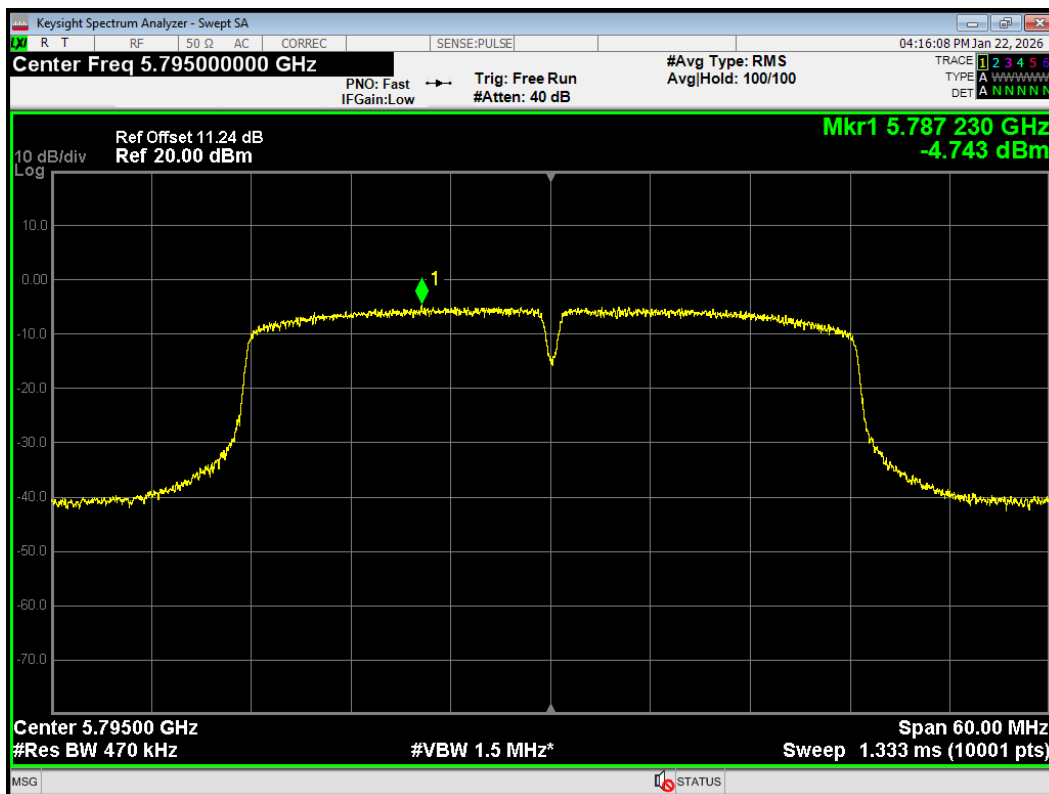
PSD 802.11ac(VHT20) 5825MHz



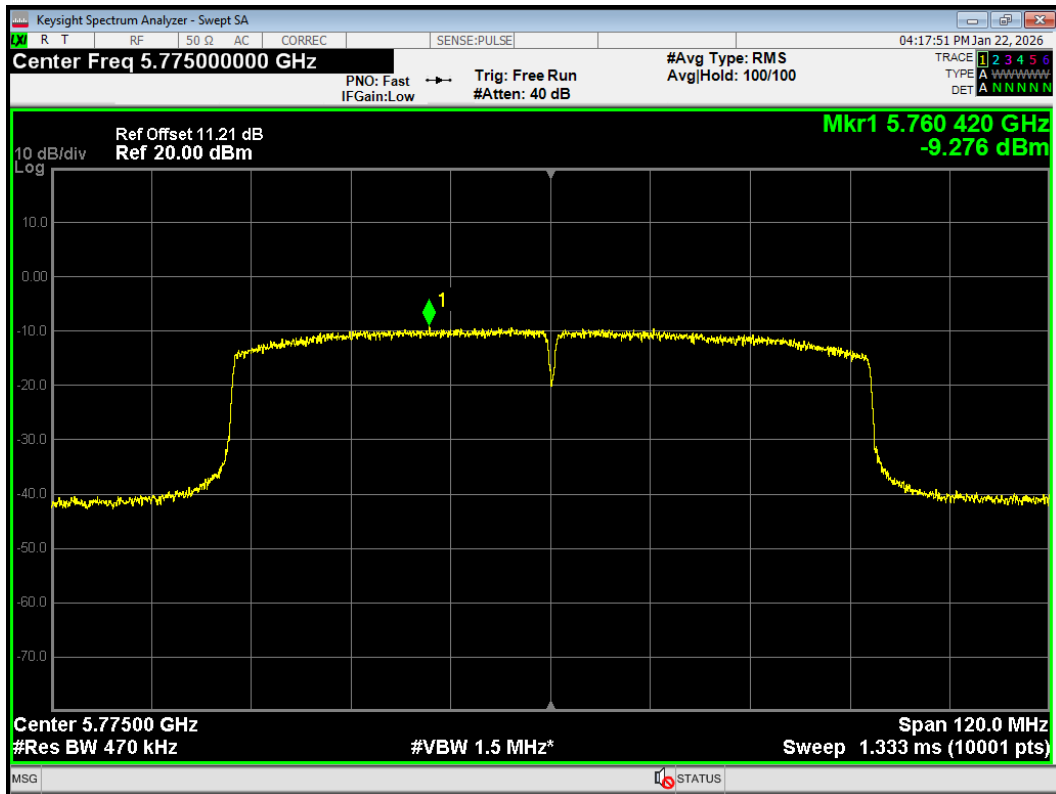
PSD 802.11ac(VHT40) 5755MHz



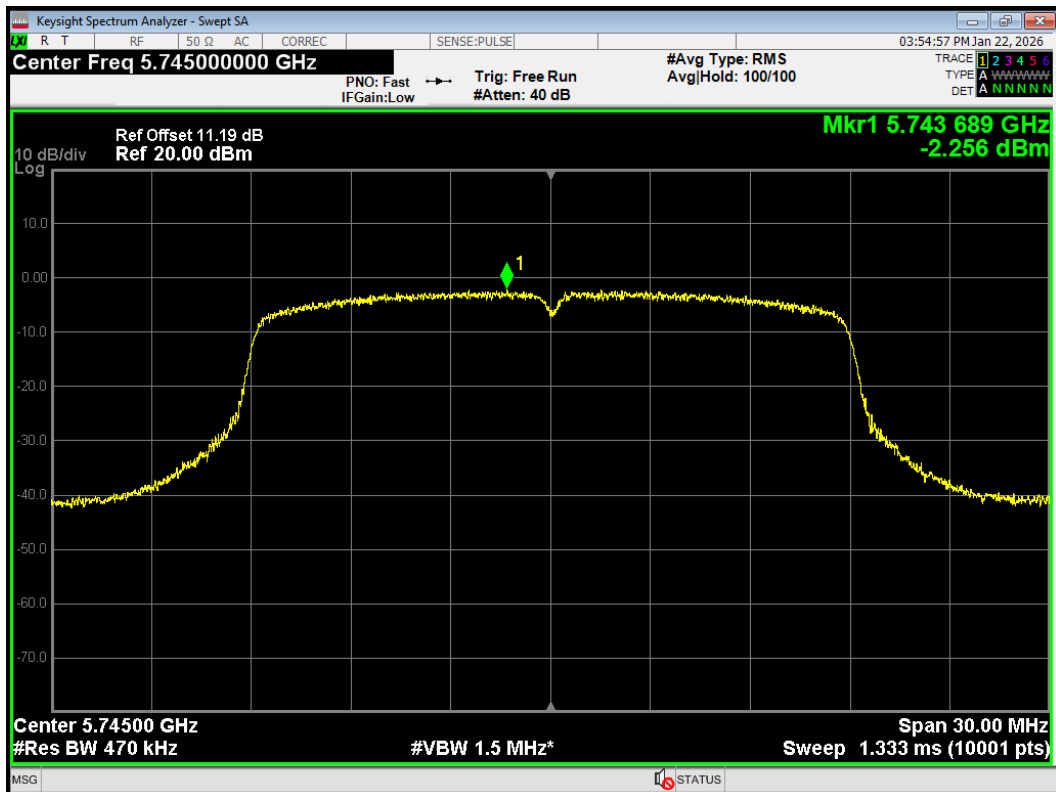
PSD 802.11ac(VHT40) 5795MHz



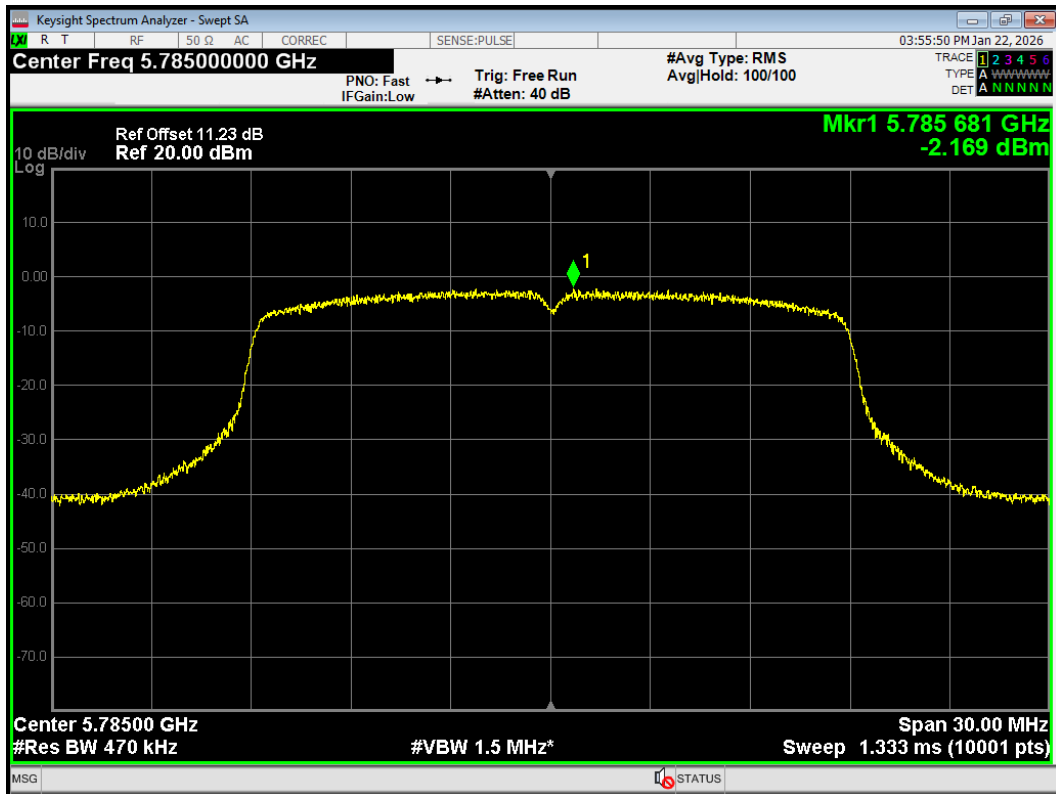
PSD 802.11ac(VHT80) 5775MHz



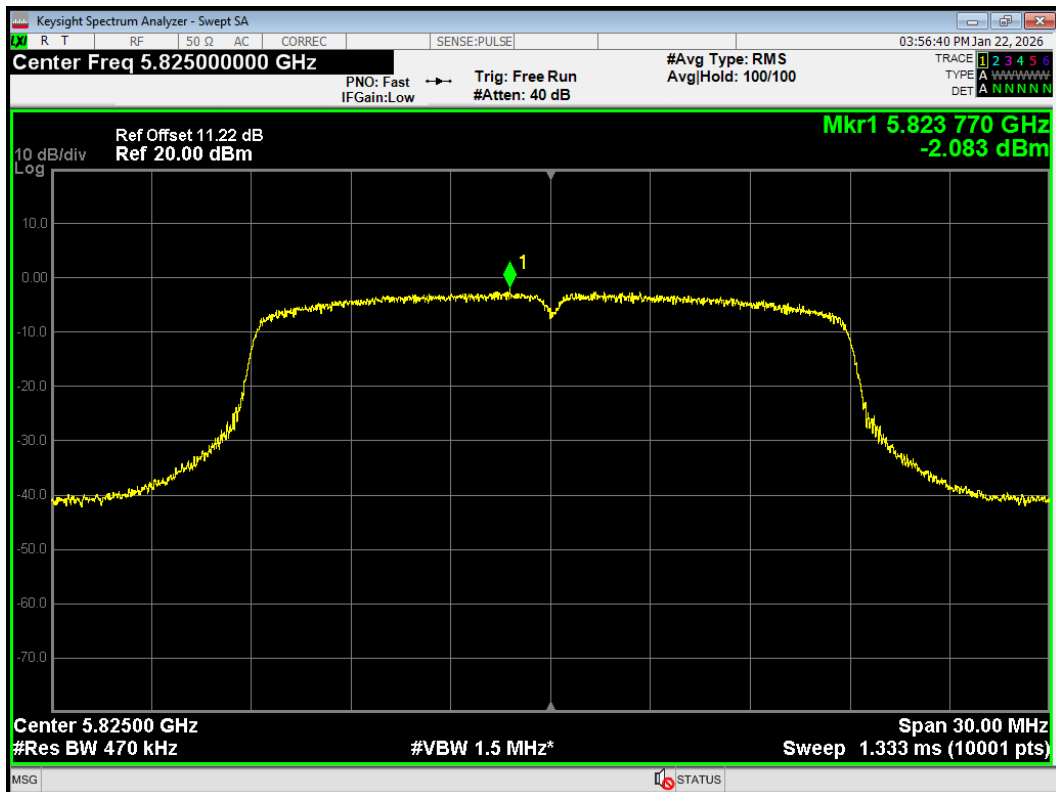
PSD 802.11n(HT20) 5745MHz



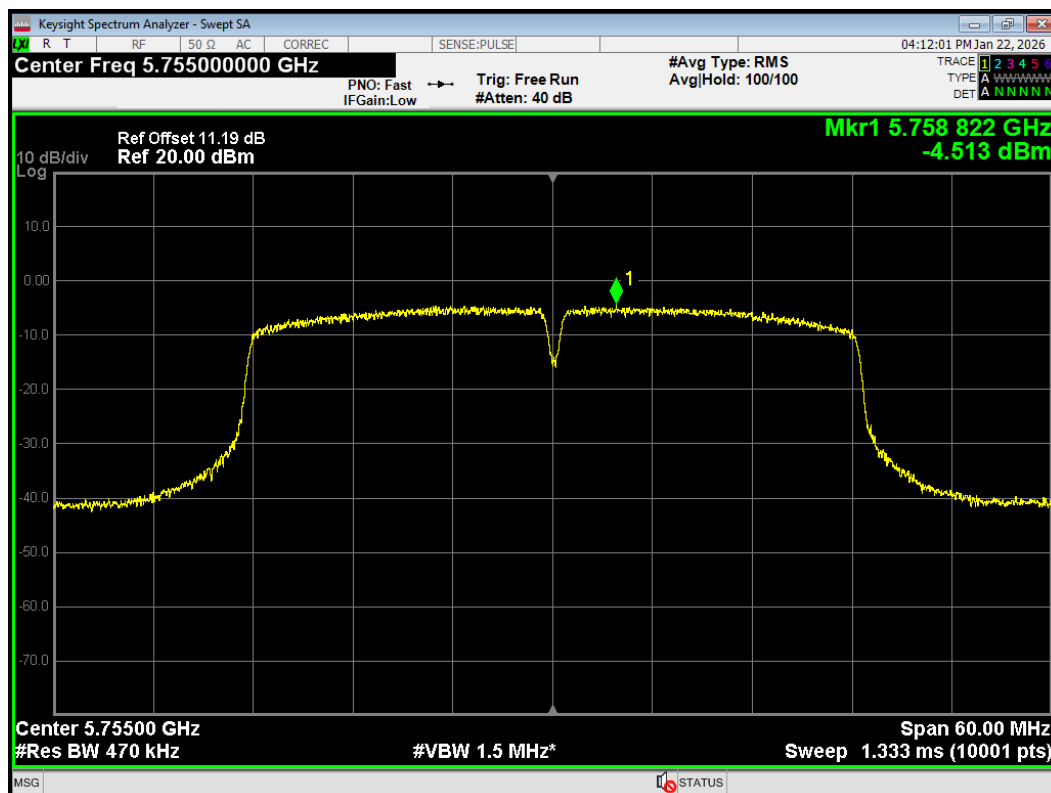
PSD 802.11n(HT20) 5785MHz



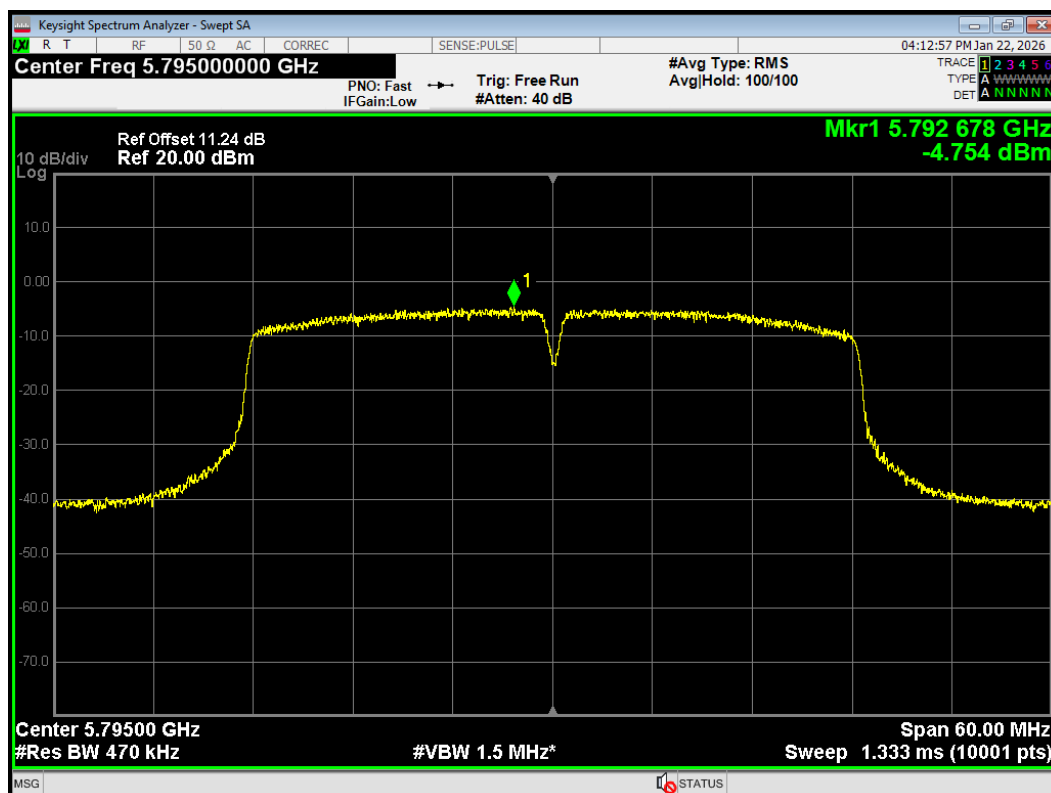
PSD 802.11n(HT20) 5825MHz



PSD 802.11n(HT40) 5755MHz



PSD 802.11n(HT40) 5795MHz



6.5. Unwanted Emission

The detailed test data see *EFTA25120112-IE-03-R3-ANNEX A* Test Result.

6.6. Conducted Emission

The detailed test data see *EFTA25120112-IE-03-R3-ANNEX A* Test Result.

7. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Power sensor	R&S	NRP18S	101954	2025-05-06	2026-05-05
Spectrum Analyzer	KEYSIGHT	N9020A	MY51330870	2025-05-06	2026-05-05
DC Power Supply	UNI-T	UTP1306S+	2205D0517426	2025-11-24	2026-11-25
Climate Chamber	ESPEC	SU-242	93000506	2025-11-24	2026-11-25
Test software	MW	MTS8310	2.0.0.0	-	-
Attenuator	HASCO	HA18A-10	0003	-	-
EMI Test Receiver	R&S	ESCI3	100948	2025-05-07	2026-05-06
Signal Analyzer	R&S	FSV40	101186	2025-05-06	2026-05-05
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2023-04-16	2026-04-15
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	1023	2023-07-14	2026-07-13
Horn Antenna	SCHWARZBECK	BBHA 9120D	430	2024-07-18	2027-07-17
Amplifier	R&S	SCU18F	101022	2025-05-06	2026-05-05
Horn Antenna	R&S	BBHA 9170	101301	2023-09-16	2026-09-15
Amplifier	MicroWave	SCU40F1	100649	2025-12-01	2026-11-30
Software	R&S	EMC32	9.26.01	/	/
Artificial main network	R&S	ENV216	102191	2025-11-24	2026-11-23
EMI Test Receiver	R&S	ESR	101667	2025-05-06	2026-05-05
Software	R&S	ELEKTRA	5.02.1	/	/

8. The EUT Appearance

Refer to *EUT Appearance*.

9. Test Setup Photos

Refer to *Part15E Test Setup*.

***** END OF REPORT *****