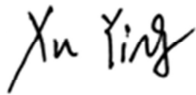


RF TEST REPORT

Applicant	Shanghai Sunmi Technology Co.,Ltd.
FCC ID	2AH25P3MIXH
Product	Smart POS Terminal
Brand	SUNMI
Model	T6721
Report No.	EFTA25090010-IE-02-R4
Issue Date	December 26, 2025

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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Summary of measurement results

Number	Test Case	Clause in FCC rules	Verdict
1	Duty Cycle	C63.10 12.2	PASS
2	Average output power	15.407(a)	PASS
3	Occupied bandwidth	15.407(e)	PASS
4	Frequency stability	15.407(g)	PASS
5	Power spectral density	15.407(a)	PASS
6	Unwanted Emissions	15.407(b), 15.205, 15.209	PASS
7	Conducted Emissions	15.207	PASS
Date of Testing: September 6, 2025 ~ December 6, 2025			
Date of Sample Received: September 1, 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
Post code: 201201
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E-mail: Kain.Xu@cpt.eurofinscn.com

2. General Description of Equipment under Test

2.1. Applicant and Manufacturer Information

Applicant	Shanghai Sunmi Technology Co., Ltd.
Applicant address	Room 505, No.388, Song Hu Road, Yang Pu District, Shanghai, China
Manufacturer	Shanghai Sunmi Technology Co., Ltd.
Manufacturer address	Room 505, No.388, Song Hu Road, Yang Pu District, Shanghai, China

2.2. General information

EUT Description		
Model	T6721	
SN	Conducted	PF25257G20015
	Radiated	PF21256J20011
Hardware Version	Bgf6e	
Software Version	P3_MIX_STD_user_HyperWi-Fi_v054_1.0.5_174_20250703	
Power Supply	Battery / AC adapter	
Antenna Type	Internal Antenna	
Antenna Connector	A permanently attached antenna (meet with the standard FCC Part 15.203 requirement)	
Antenna Gain	U-NII-1: 1.00 dBi U-NII-2A: 1.10 dBi U-NII-2C: 1.20 dBi U-NII-3: 1.15 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	16.74 dBm	
Operating temperature range	0 ° C to 45 ° C	
Operating voltage range	6.8 VDC to 8.0 VDC	
Testing temperature range	-30 ° C to 50° C	
Testing voltage range	6.8 VDC – 7.2VDC – 8.0 VDC	
State voltage	7.2 VDC	
EUT Accessory		
Adapter 1	Manufacturer: SHENZHEN TIANYIN ELECTRONICS CO., LTD.	

	Model: TPA-23A050200UU01 Input: 100-240V~50/60Hz 0.3A Output: 5.0V $\overline{\text{---}}$ 2.0A
Adapter 2	Manufacturer: Jiangsu Chenyang Electron Co., Ltd. Model: UC13US Input: 100-240V~50/60Hz 0.35A Output: 5.0V $\overline{\text{---}}$ 2.0A 10.0W
Battery 1	Manufacturer: Guangdong Pow-Tech New Power Co., Ltd. Model: LKPA DC 7.2V, 2500mAh
Battery 2	Manufacturer: POWER GLORY BATTERY TECH(HK) CO LTD Model: CR2032 DC 3V, 220mAh
Battery 3	Manufacturer: JHIH HONG TECHNOLOGY CO LTD Model: CR2032 DC 3V, 220mAh
USB Cable	Manufacturer: Saibao (Jiangxi) Industry Co., LTD Model: SSM-A001A
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. 4. Two-thirds of the batteries are backup batteries for financial tamper-proof authentication. When the main battery (Battery 1) is powered off, Batteries 2 and 3 are used to detect and trigger an alarm. 5. TPC mechanism is not required for systems with an e.i.r.p. of less than 500mW.	

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

KDB 662911 D01 Multiple Transmitter Output 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.

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
			144	5720MHz
		40 MHz	102	5510MHz
			110	5550MHz
			134	5670MHz
			142	5710MHz
		80 MHz	106	5530MHz
			138	5690MHz
	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

5.1. Duty Cycle

Ambient condition

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

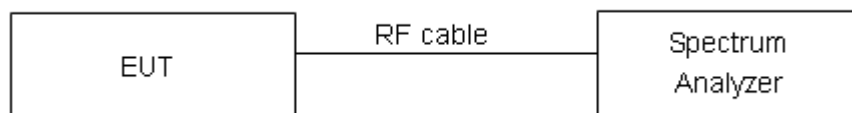
Methods of Measurement

During the process of the testing, The EUT was connected to Spectrum Analyzer with a known loss.

The zero-span measurement

- 1) Set the center frequency of the instrument to the center frequency of the transmission.
- 2) Set RBW $\geq$ OBW
- 3) Set detector = peak or average

Test Setup



Limits

For Reporting purposes only

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.

5.2. 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 and a known loss cable.

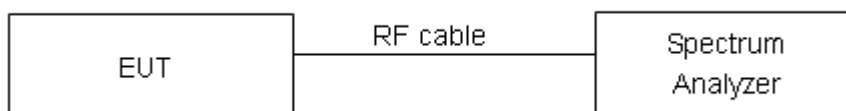
For U-NII-1/U-NII-2A/U-NII-2C, set RBW $\approx 1\%$ OCB kHz, VBW $\geq 3 \times$ RBW, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.

For U-NII-3, Set RBW = 100 kHz, VBW $\geq 3 \times$ 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/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.

5.3. Average Power Output

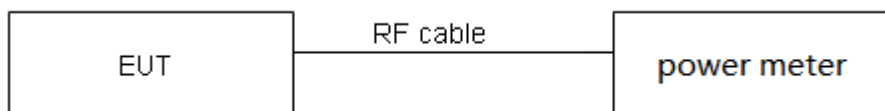
Ambient condition

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) (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 $k = 2$, $U = 0.44 \text{ dB}$.

5.4. 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 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 $k = 2$, $U = 936\text{Hz}$

5.5. 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 and a known loss cable.

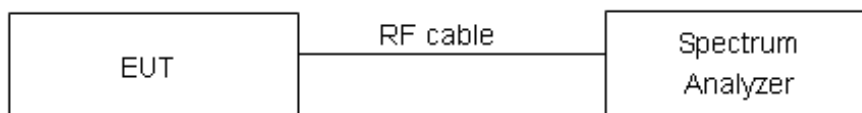
The method used for Power Spectral Density is KDB 987594 D02 v02r01, section F.

Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- (1) Measure the duty cycle, x , of the transmitter output signal as described in II.B.
- (2) Set span to encompass the EBW (or the entire 99% occupied bandwidth) of the signal.
- (3) Set RBW = 1 MHz.
- (4) Set VBW $\geq$ 3 MHz.
- (5) Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$.
- (6) Sweep time = auto.
- (7) Detector = power averaging (rms).
- (8) Trace average at least 100 traces in power averaging (rms) mode

For devices operating in the bands 5.15–5.25 GHz, 5.25–5.35 GHz, and 5.47–5.725 GHz, the preceding procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in Section 15.407(a)(5). For devices operating in the band 5.725–5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz).

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 $k = 2$, $U = 0.75\text{dB}$.

5.6. Unwanted Emission

Ambient condition

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

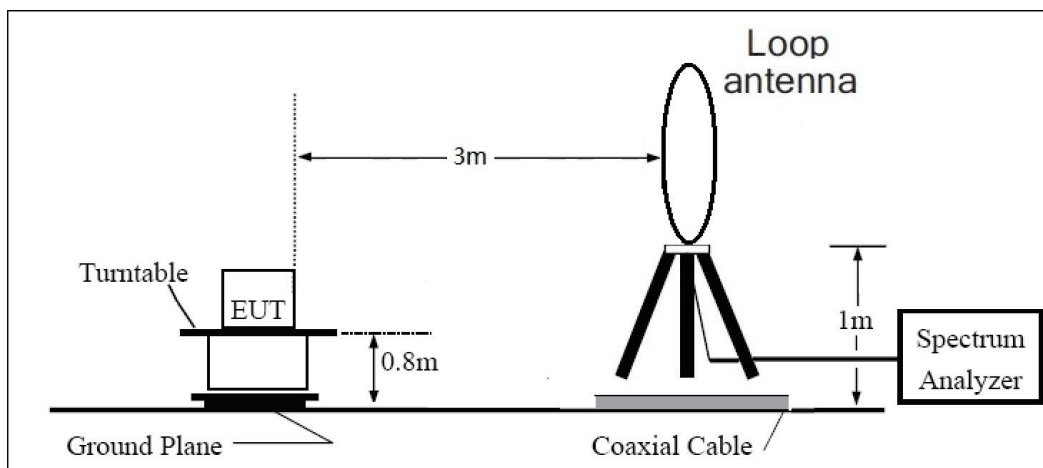
Reduce the video bandwidth until no significant variations in the displayed signal are observed in subsequent traces, provided the video bandwidth is no less than 1 Hz. For regulatory requirements that specify averaging only over the transmit duration (e.g., digital transmission system [DTS] and Unlicensed 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 field strength of spurious 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 (Z axis) and the loop antenna is vertical, others antenna are vertical and horizontal.

The test is in transmitting mode.

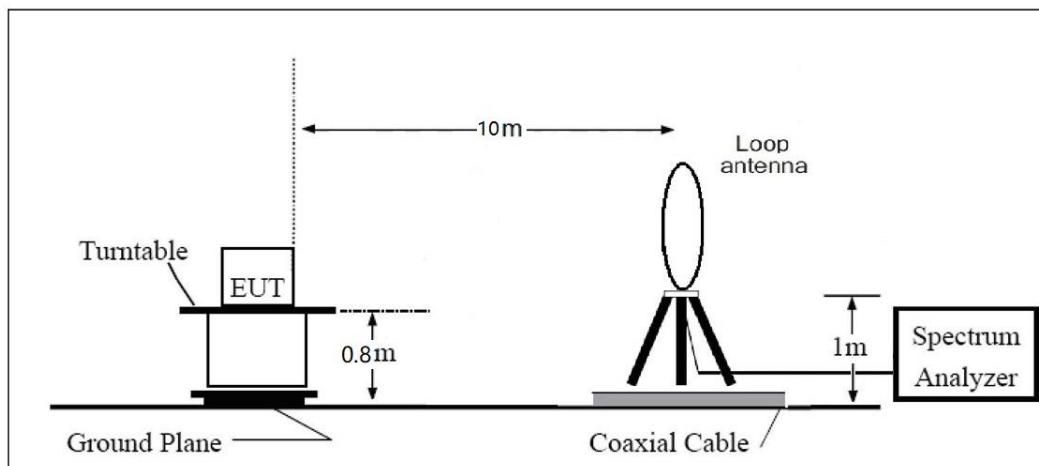
Test setup

9kHz~ 30MHz



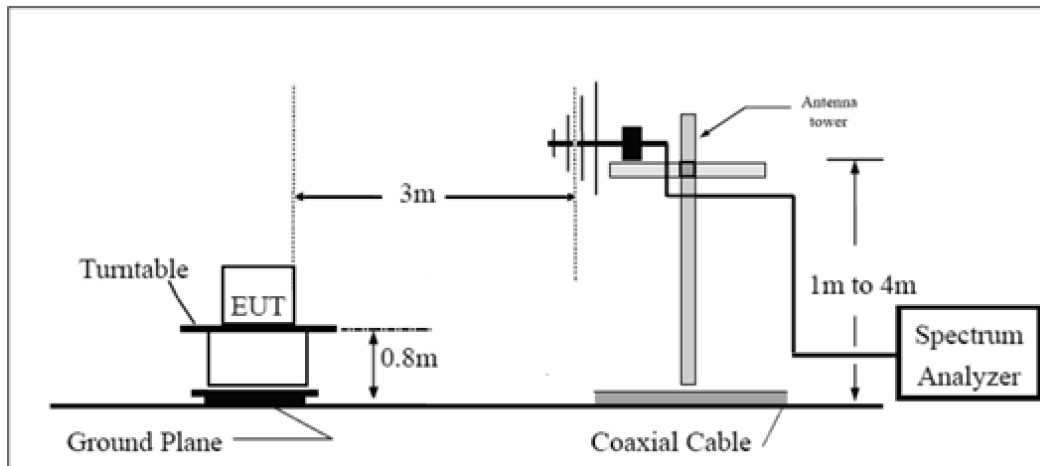
Note: Area side:2.4mX3.6m

Distance 10m



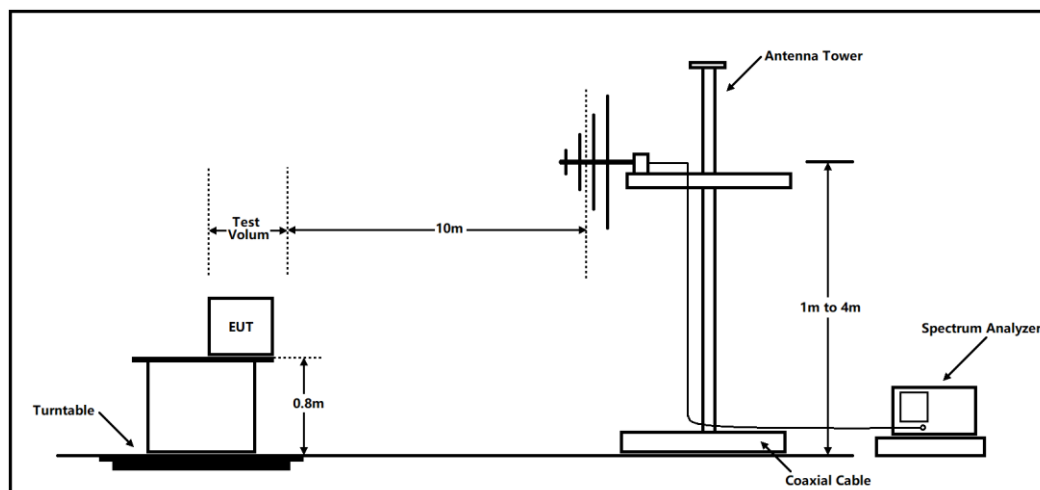
Note: Area side: 21m x 12m

30MHz~ 1GHz



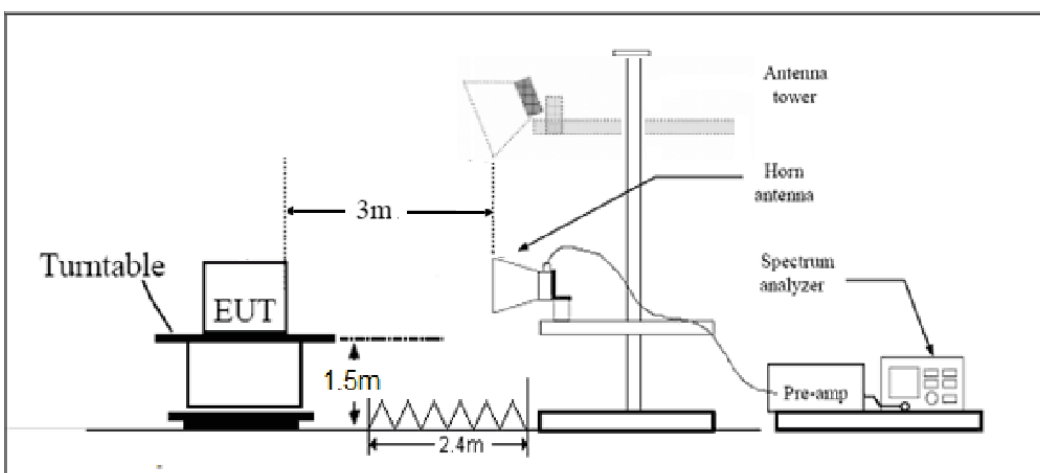
Note: Area side:2.4mX3.6m

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

5.7. Conducted Emission

Ambient condition

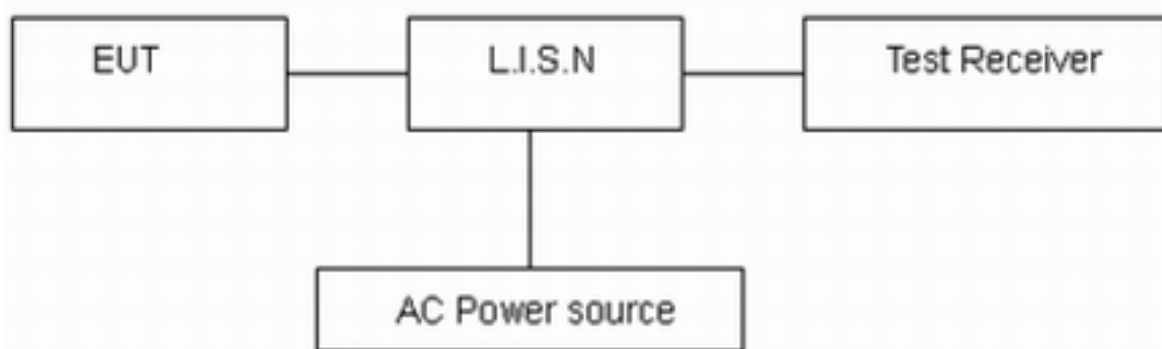
Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

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.

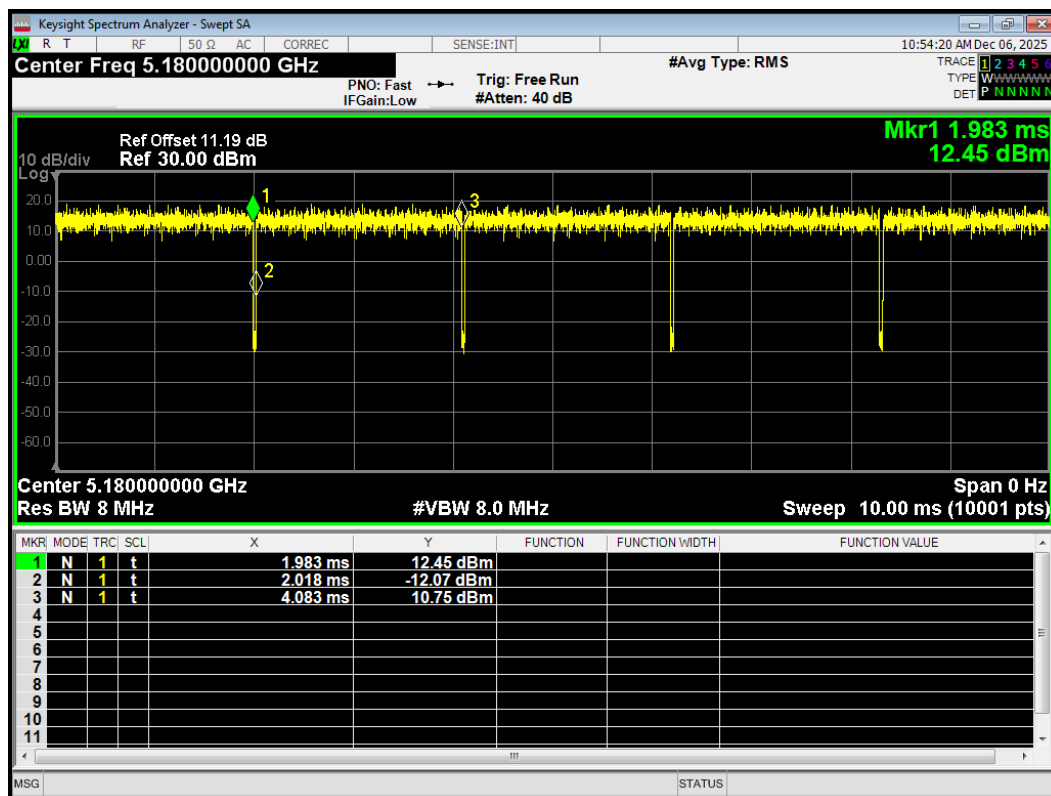
6. Test Results

6.1. Duty Cycle

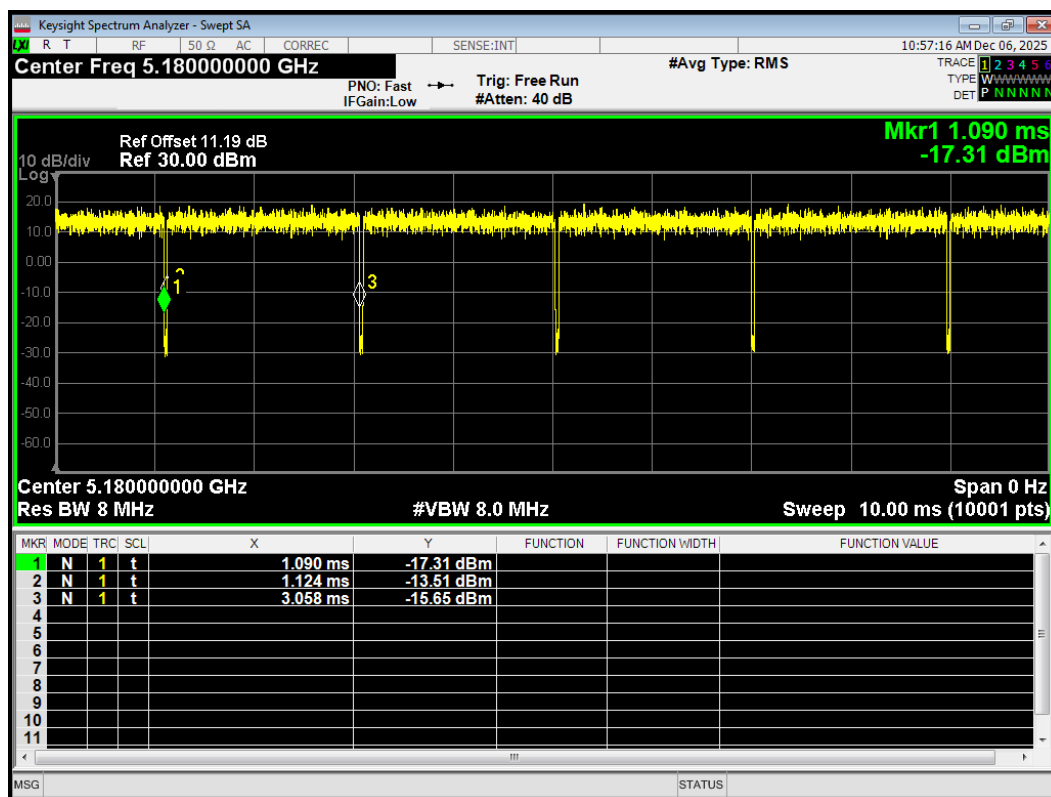
Test Mode	T _{on} (msec)	Period (msec)	Duty cycle (%)	Duty cycle correction Factor(dB)
802.11a	2.07	2.10	0.99	0.00
802.11n HT20	1.92	1.96	0.98	0.00
802.11n HT40	0.94	0.98	0.96	0.17
802.11ac VHT20	1.93	1.97	0.98	0.00
802.11ac VHT40	0.94	0.98	0.96	0.16
802.11ac VHT80	0.46	0.50	0.93	0.33

Note: when Duty cycle>0.98, Duty cycle correction Factor not required.

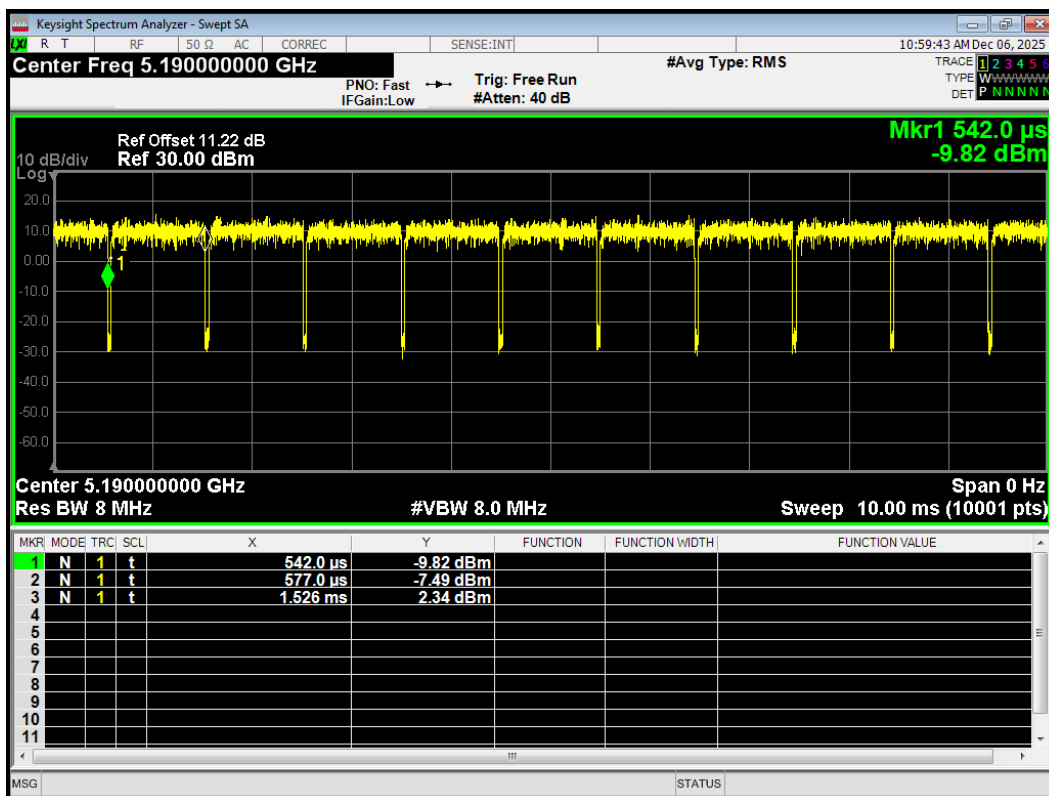
Duty Cycle 802.11a 5180MHz



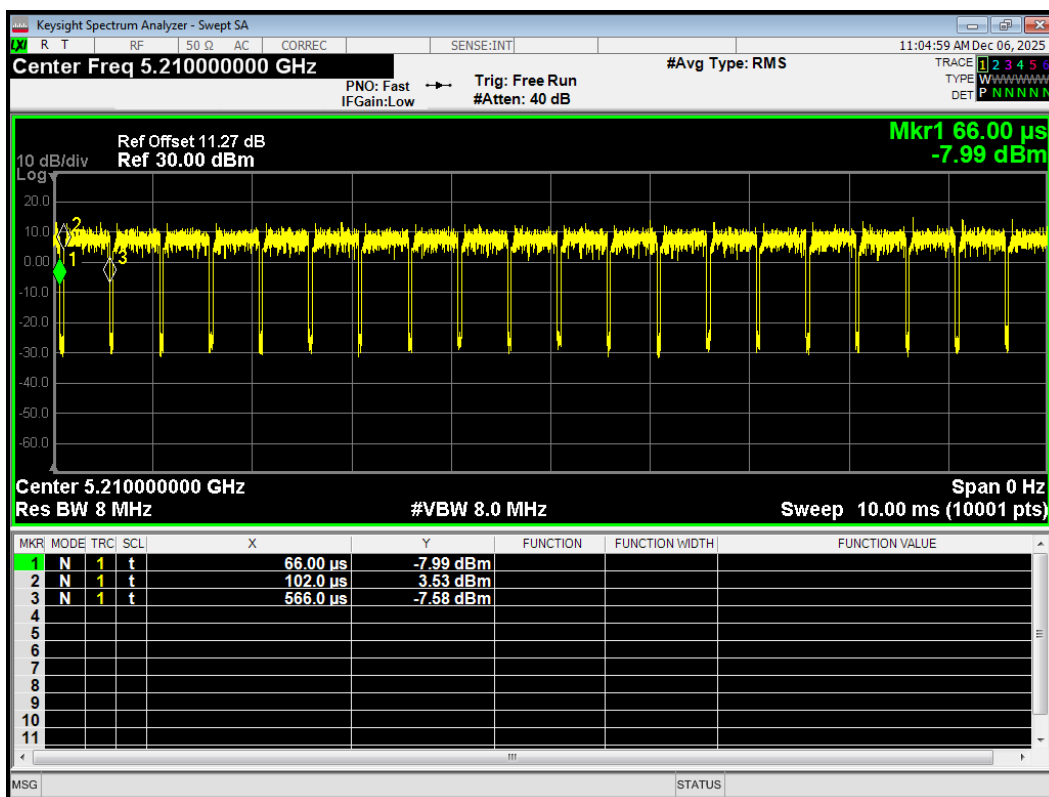
Duty Cycle 802.11ac(VHT20) 5180MHz



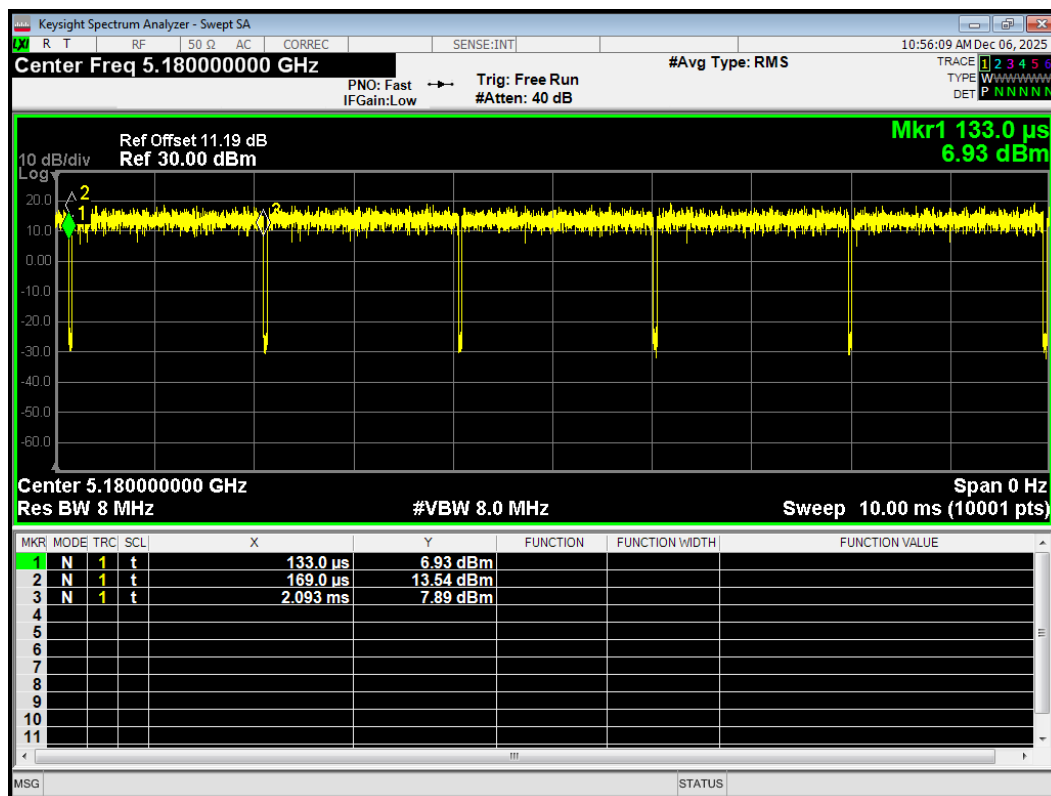
Duty Cycle 802.11ac(VHT40) 5190MHz



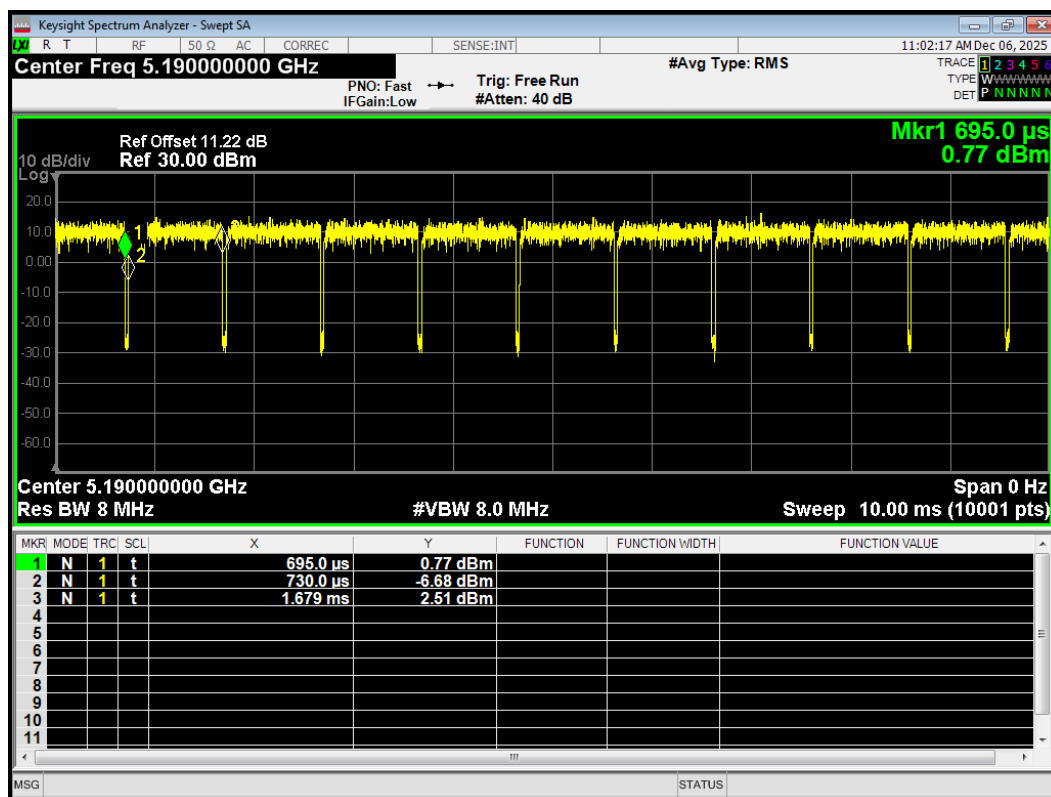
Duty Cycle 802.11ac(VHT80) 5210MHz



Duty Cycle 802.11n(HT20) 5180MHz



Duty Cycle 802.11n(HT40) 5190MHz



6.2. Occupied Bandwidth

U-NII-1

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	5180	16.737	22.880	Pass
802.11a	5200	16.731	22.799	Pass
802.11a	5240	16.789	22.182	Pass
802.11n(HT20)	5180	17.883	23.371	Pass
802.11n(HT20)	5200	17.969	23.665	Pass
802.11n(HT20)	5240	17.927	23.763	Pass
802.11n(HT40)	5190	36.479	45.346	Pass
802.11n(HT40)	5230	36.536	45.871	Pass
802.11ac(VHT20)	5180	17.958	24.760	Pass
802.11ac(VHT20)	5200	17.980	23.027	Pass
802.11ac(VHT20)	5240	18.000	24.869	Pass
802.11ac(VHT40)	5190	36.588	42.689	Pass
802.11ac(VHT40)	5230	36.571	46.666	Pass
802.11ac(VHT80)	5210	75.799	90.369	Pass

U-NII-2A

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	5260	16.766	22.723	PASS
802.11a	5300	16.779	22.479	PASS
802.11a	5320	16.746	22.833	PASS
802.11n(HT20)	5260	18.029	23.262	PASS
802.11n(HT20)	5300	17.931	23.561	PASS
802.11n(HT20)	5320	17.888	23.320	PASS
802.11n(HT40)	5270	36.535	45.892	PASS
802.11n(HT40)	5310	36.554	45.517	PASS
802.11ac(VHT20)	5260	17.956	24.173	PASS
802.11ac(VHT20)	5300	17.967	24.534	PASS
802.11ac(VHT20)	5320	17.900	23.676	PASS
802.11ac(VHT40)	5270	36.636	45.701	PASS
802.11ac(VHT40)	5310	36.660	46.628	PASS
802.11ac(VHT80)	5290	75.982	87.958	PASS

U-NII-2C

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	5500	16.757	23.155	PASS
802.11a	5580	16.757	22.583	PASS
802.11a	5700	16.726	22.008	PASS
802.11a	5720	16.768	22.619	PASS
802.11n(HT20)	5500	17.971	24.046	PASS
802.11n(HT20)	5580	17.909	23.621	PASS
802.11n(HT20)	5700	17.934	23.726	PASS
802.11n(HT20)	5720	17.933	23.215	PASS
802.11n(HT40)	5510	36.601	46.988	PASS
802.11n(HT40)	5550	36.491	45.178	PASS
802.11n(HT40)	5670	36.512	45.061	PASS
802.11n(HT40)	5710	36.507	45.059	PASS
802.11ac(VHT20)	5500	17.923	23.829	PASS
802.11ac(VHT20)	5580	17.950	23.764	PASS
802.11ac(VHT20)	5700	17.945	23.629	PASS
802.11ac(VHT20)	5720	17.963	23.333	PASS
802.11ac(VHT40)	5510	36.800	45.916	PASS
802.11ac(VHT40)	5550	36.632	45.961	PASS
802.11ac(VHT40)	5670	36.590	47.252	PASS
802.11ac(VHT40)	5710	36.589	45.304	PASS
802.11ac(VHT80)	5530	75.791	90.880	PASS
802.11ac(VHT80)	5690	75.739	89.512	PASS

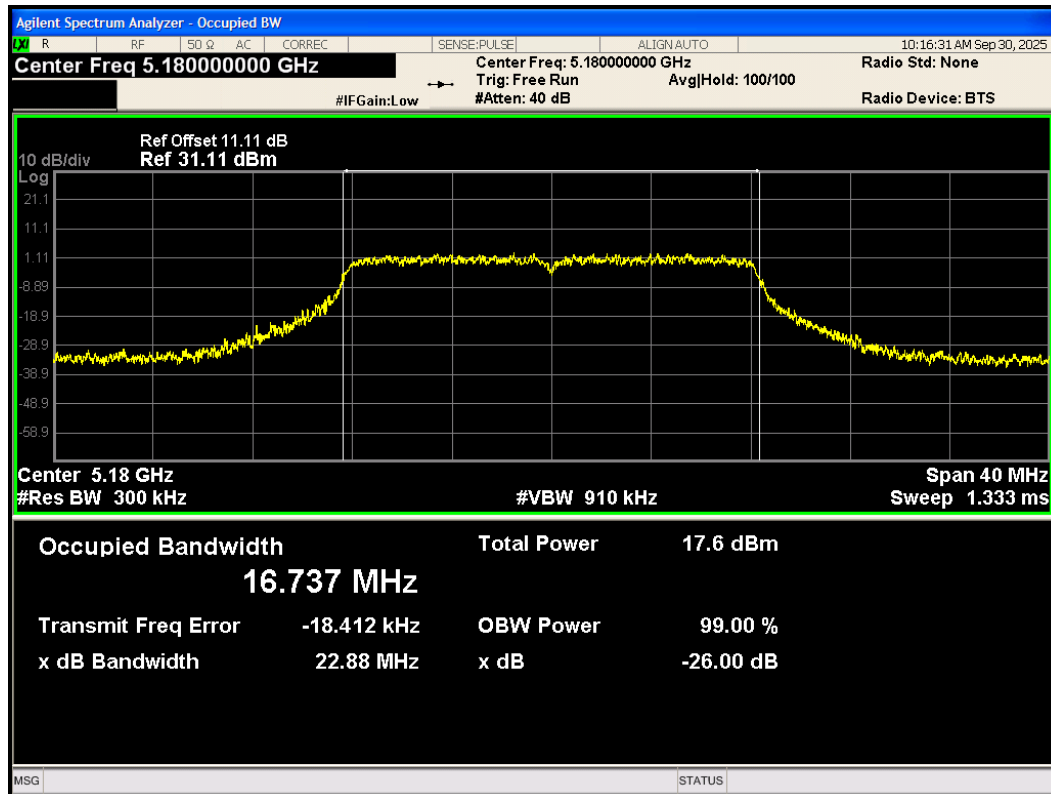
U-NII-3

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11a	5720	16.746	16.363	500	PASS
802.11a	5745	16.782	16.353	500	PASS
802.11a	5785	16.796	16.375	500	PASS
802.11a	5825	16.756	16.342	500	PASS
802.11n(HT20)	5720	17.947	17.578	500	PASS
802.11n(HT20)	5745	17.923	17.591	500	PASS
802.11n(HT20)	5785	17.972	17.601	500	PASS
802.11n(HT20)	5825	17.971	17.590	500	PASS
802.11n(HT40)	5710	36.539	36.335	500	PASS
802.11n(HT40)	5755	36.495	36.333	500	PASS
802.11n(HT40)	5795	36.584	36.326	500	PASS
802.11ac(VHT20)	5720	17.939	17.587	500	PASS
802.11ac(VHT20)	5745	17.931	17.610	500	PASS
802.11ac(VHT20)	5785	17.978	17.570	500	PASS
802.11ac(VHT20)	5825	17.949	17.579	500	PASS
802.11ac(VHT40)	5710	36.646	36.312	500	PASS
802.11ac(VHT40)	5755	36.622	36.334	500	PASS
802.11ac(VHT40)	5795	36.630	36.332	500	PASS
802.11ac(VHT80)	5690	75.764	75.733	500	PASS
802.11ac(VHT80)	5775	75.773	75.747	500	PASS

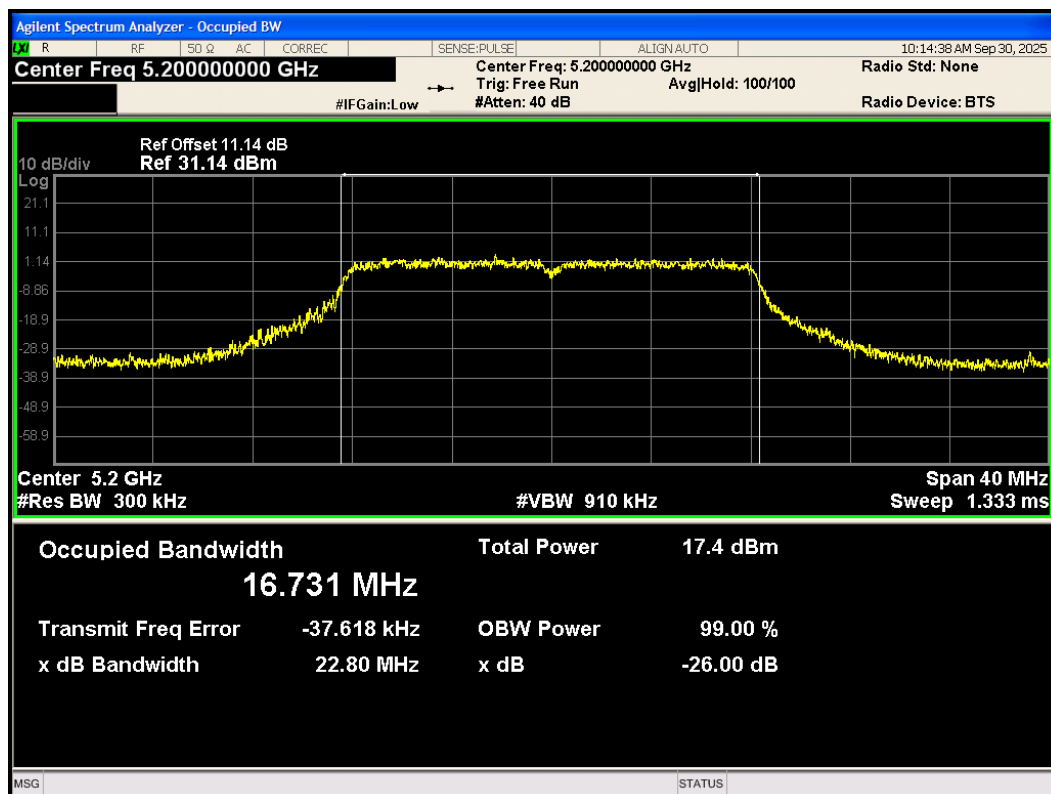
99% bandwidth

U-NII-1

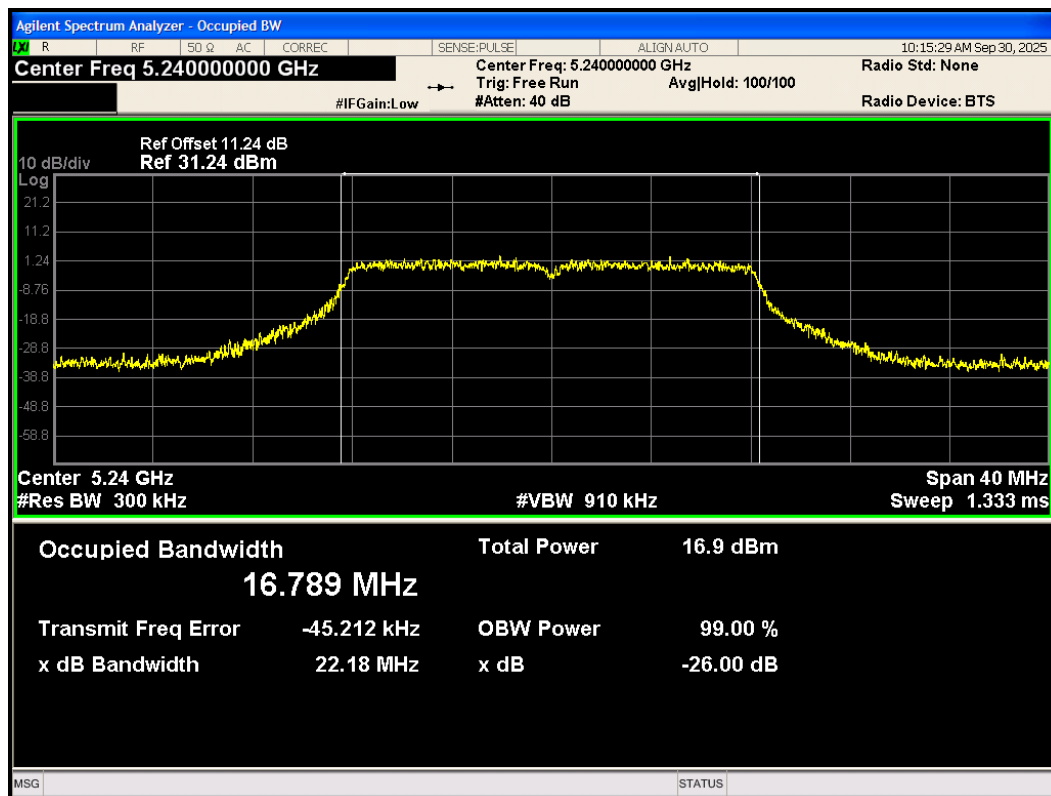
OBW 802.11a 5180MHz



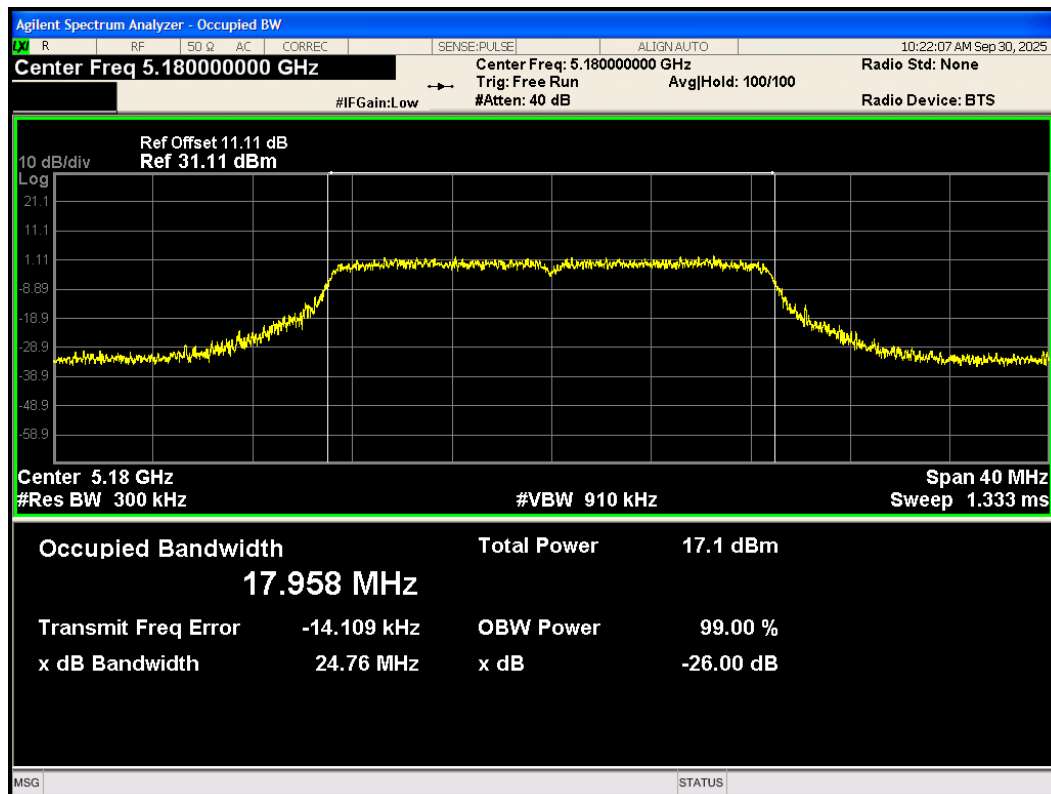
OBW 802.11a 5200MHz



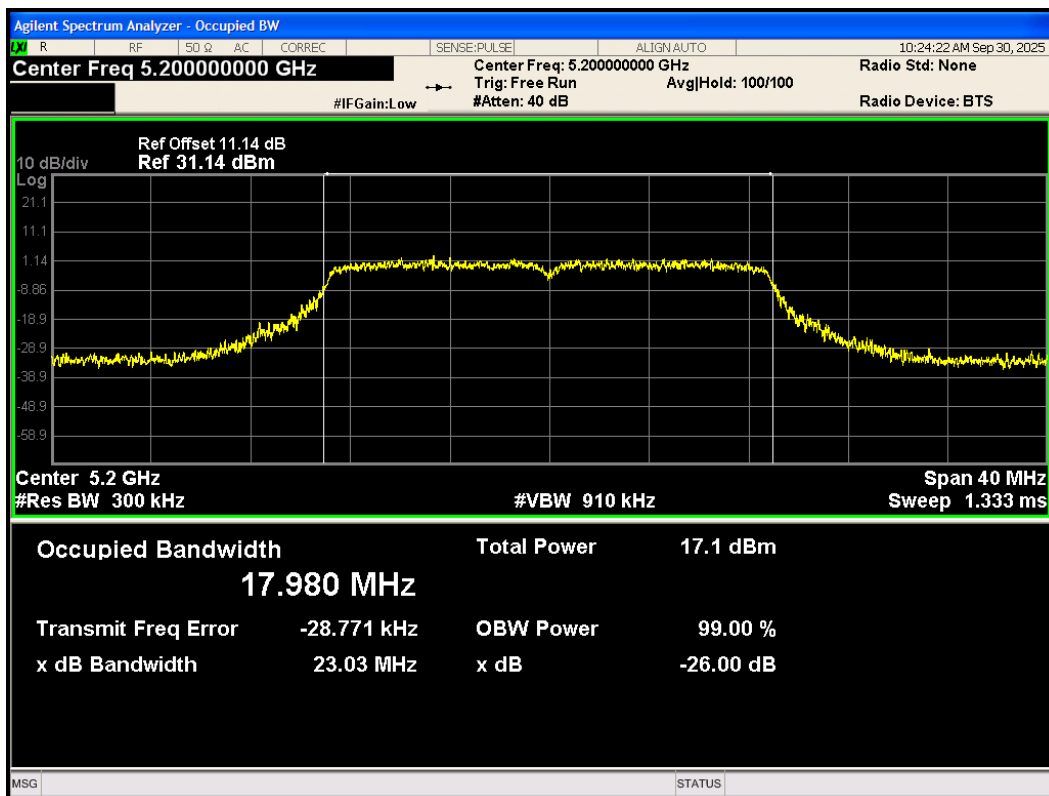
OBW 802.11a 5240MHz



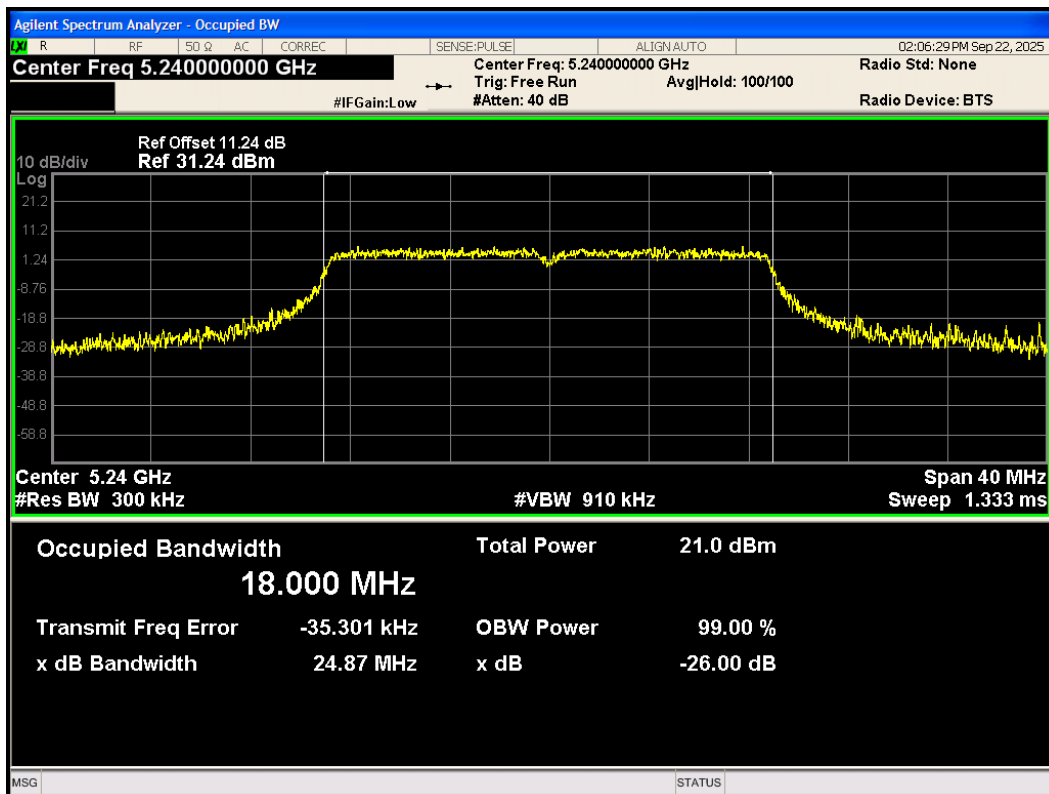
OBW 802.11ac(VHT20) 5180MHz



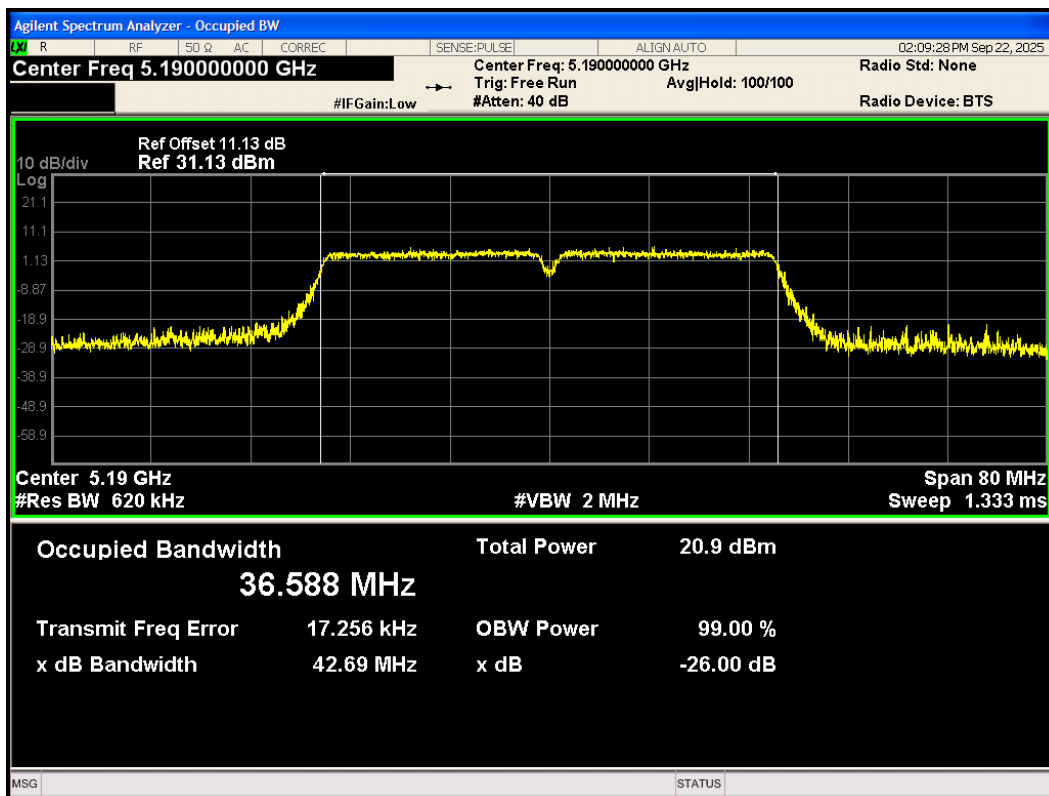
OBW 802.11ac(VHT20) 5200MHz



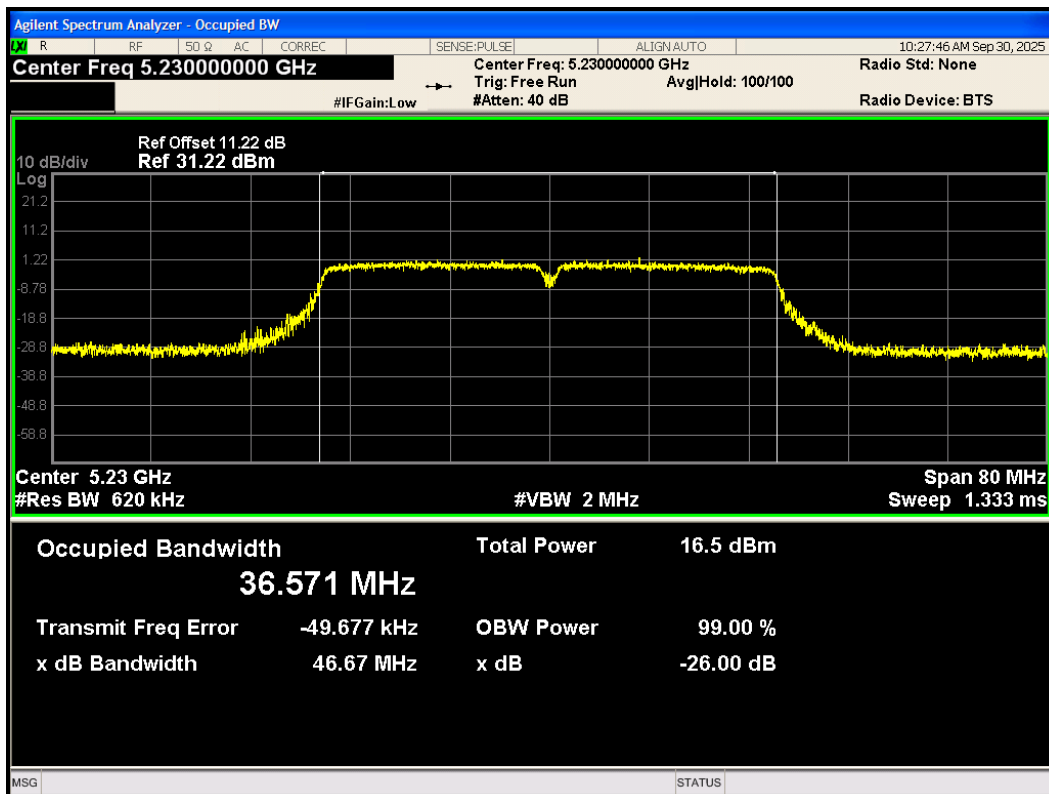
OBW 802.11ac(VHT20) 5240MHz



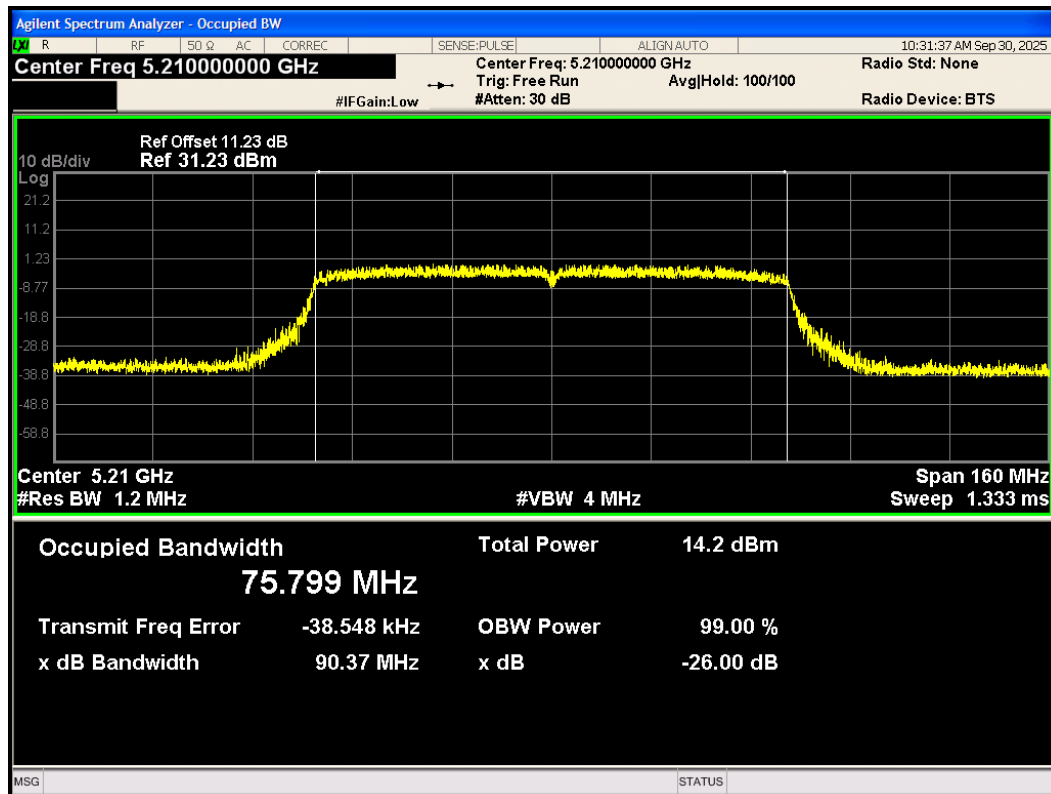
OBW 802.11ac(VHT40) 5190MHz



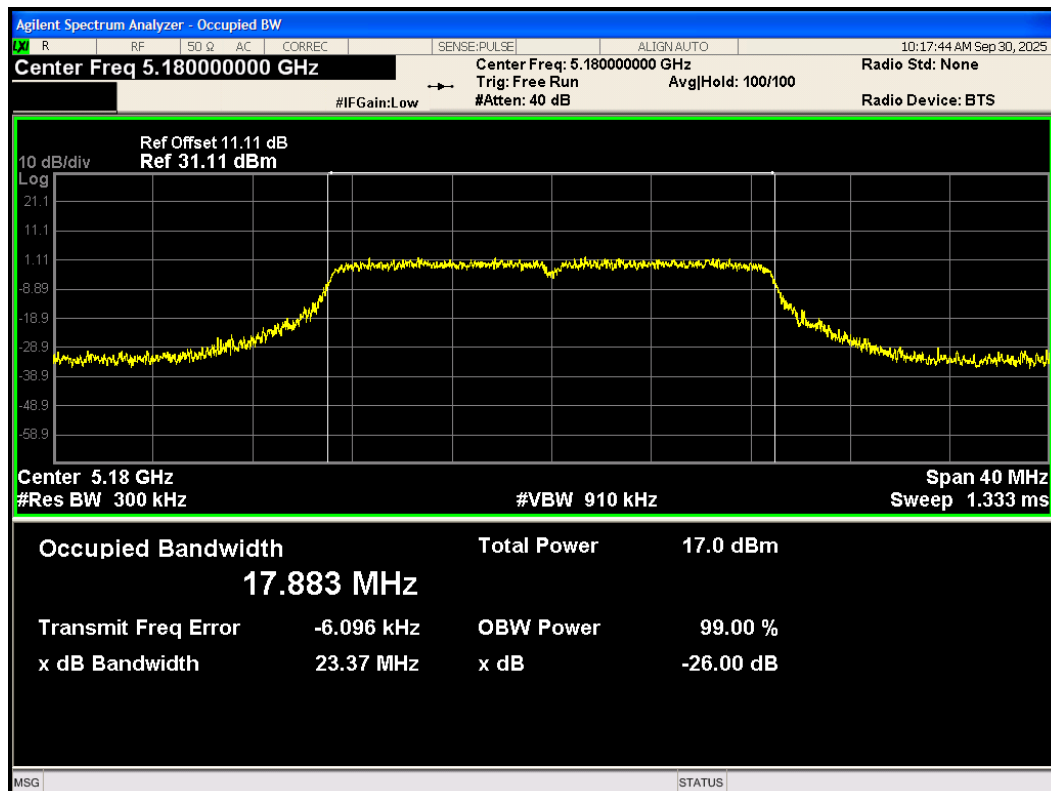
OBW 802.11ac(VHT40) 5230MHz



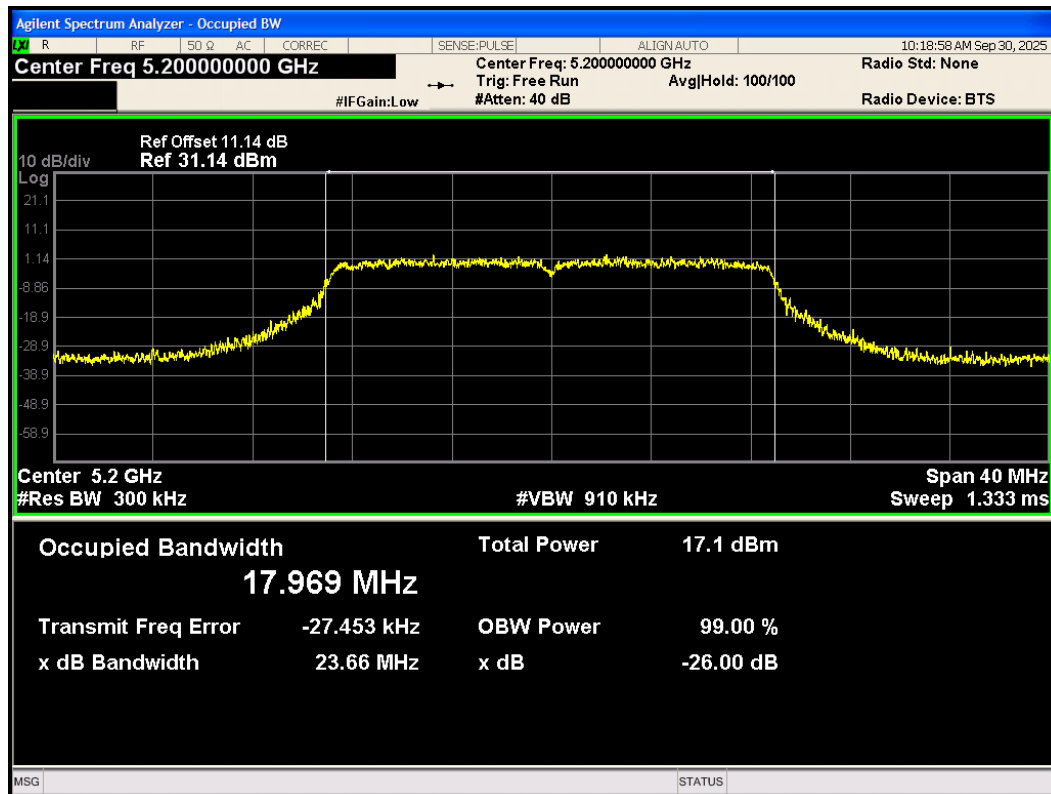
OBW 802.11ac(VHT80) 5210MHz



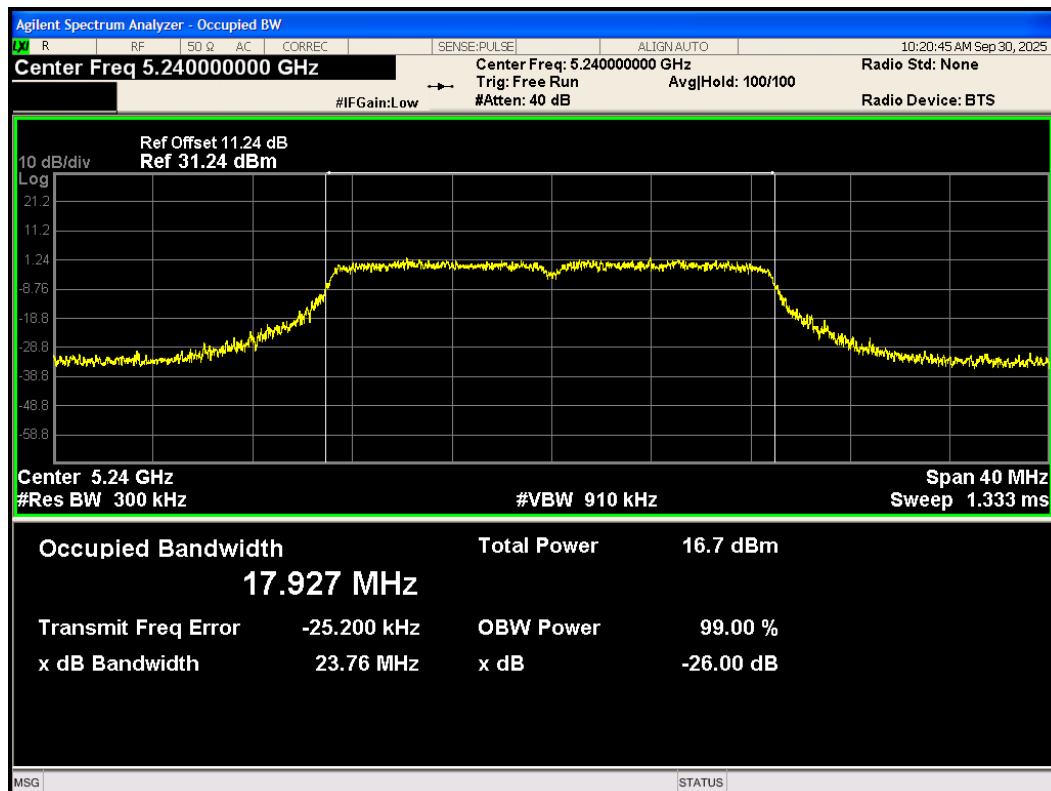
OBW 802.11n(HT20) 5180MHz



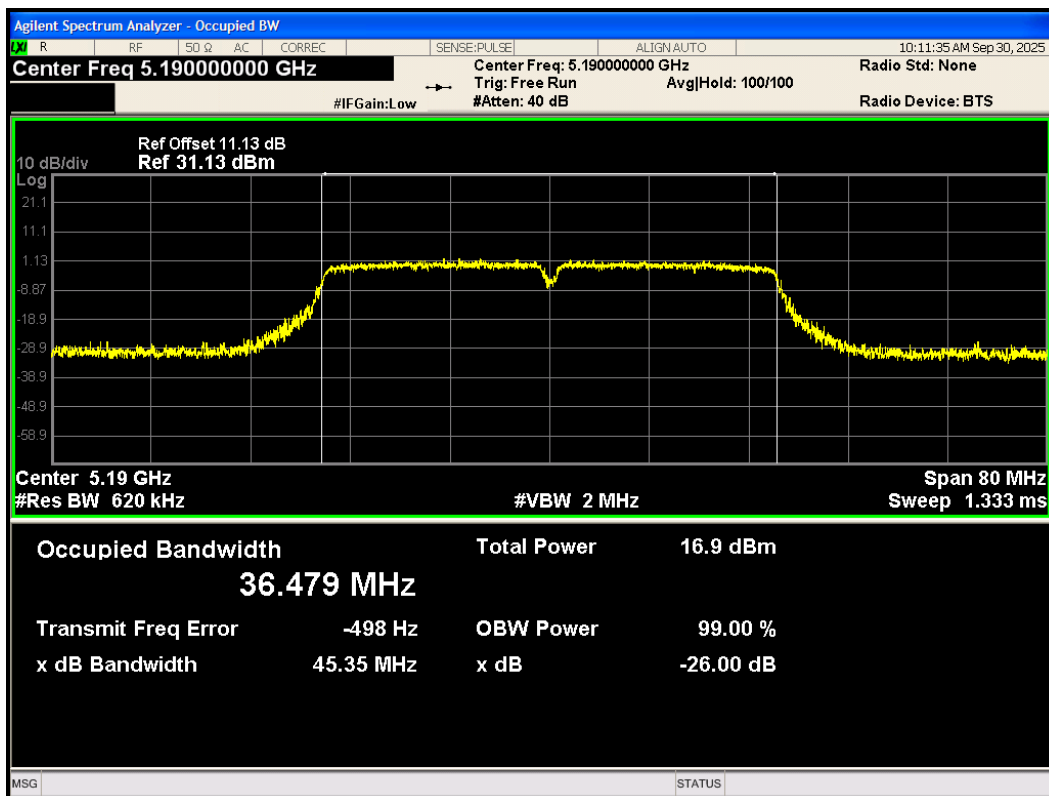
OBW 802.11n(HT20) 5200MHz



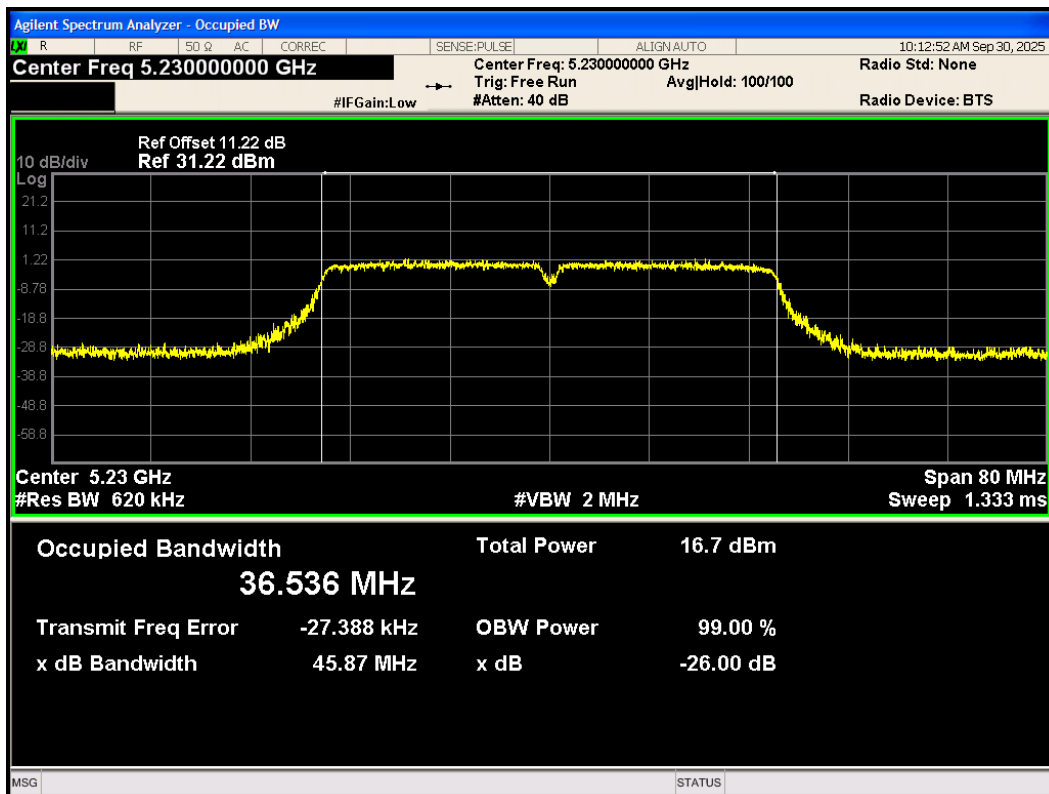
OBW 802.11n(HT20) 5240MHz



OBW 802.11n(HT40) 5190MHz

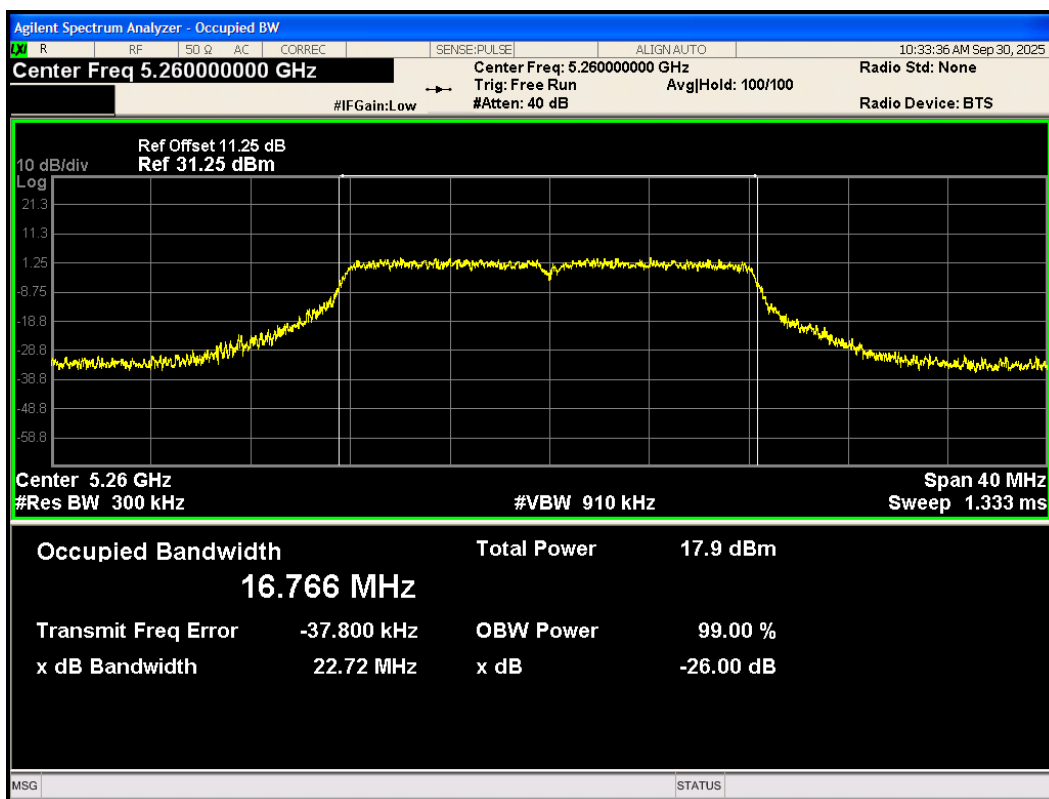


OBW 802.11n(HT40) 5230MHz

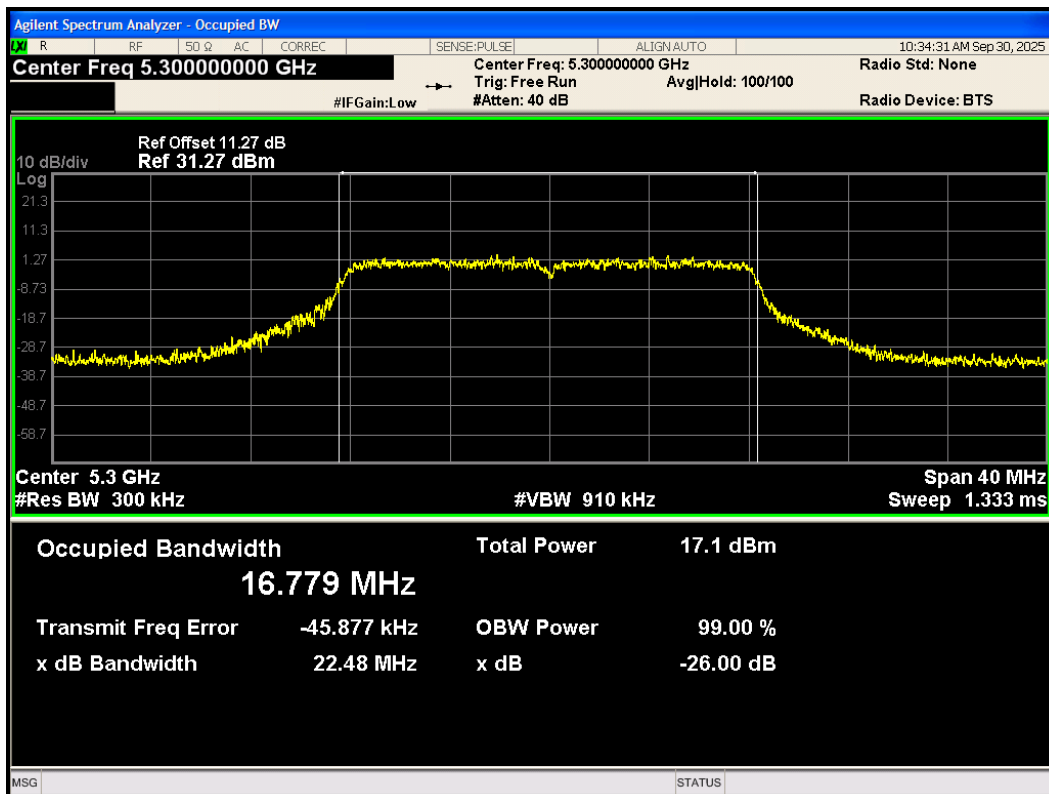


U-NII-2A

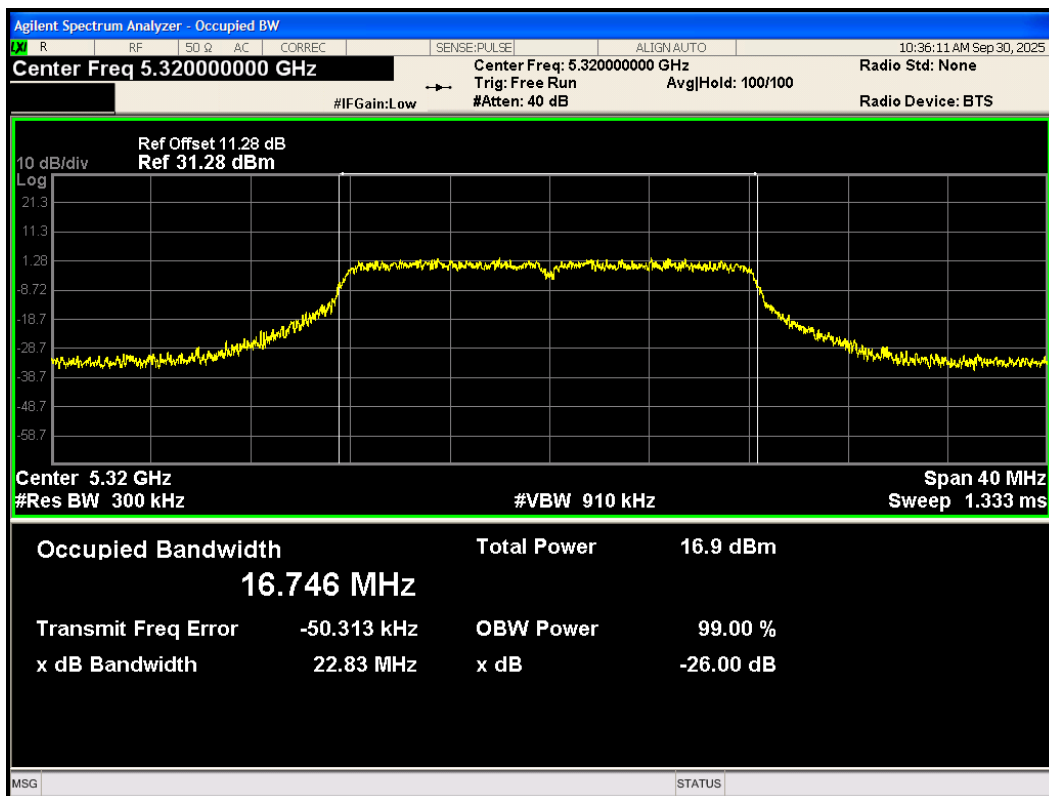
OBW 802.11a 5260MHz



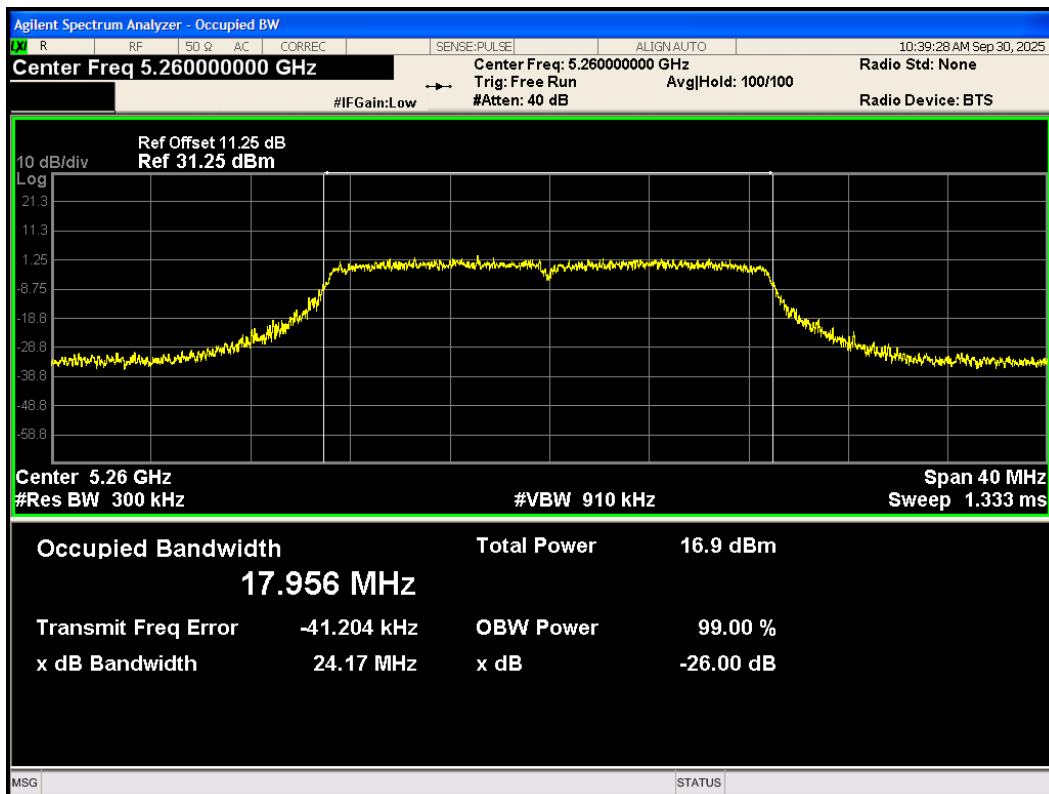
OBW 802.11a 5300MHz



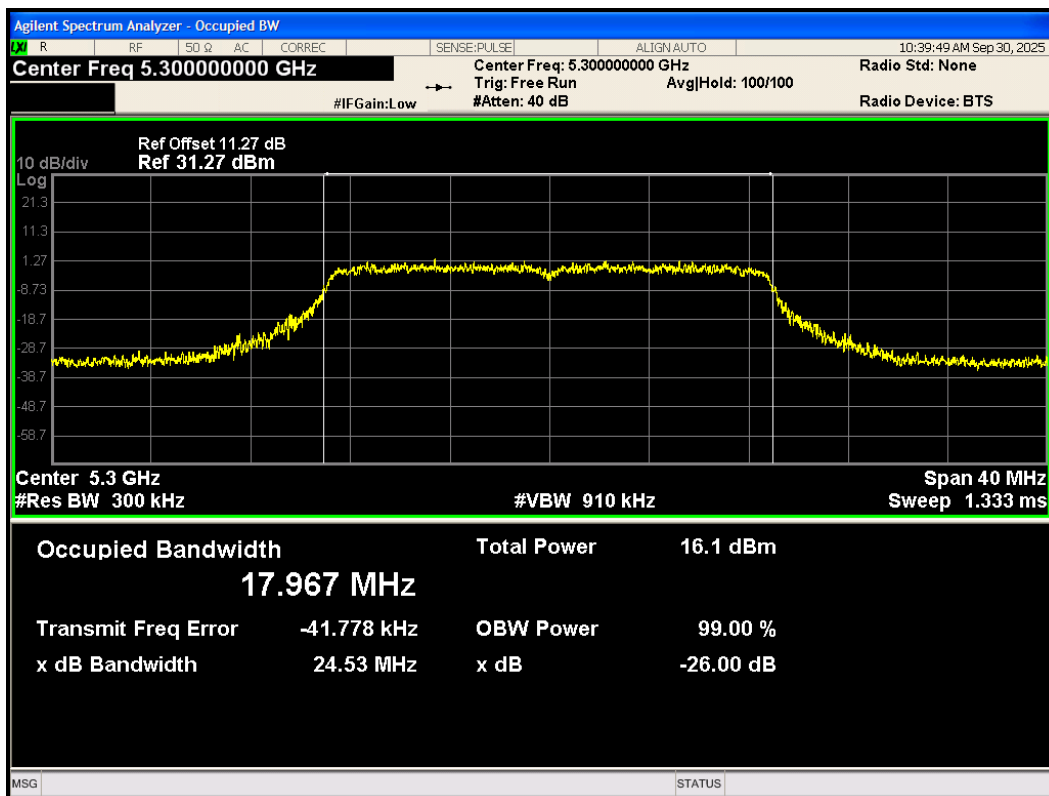
OBW 802.11a 5320MHz



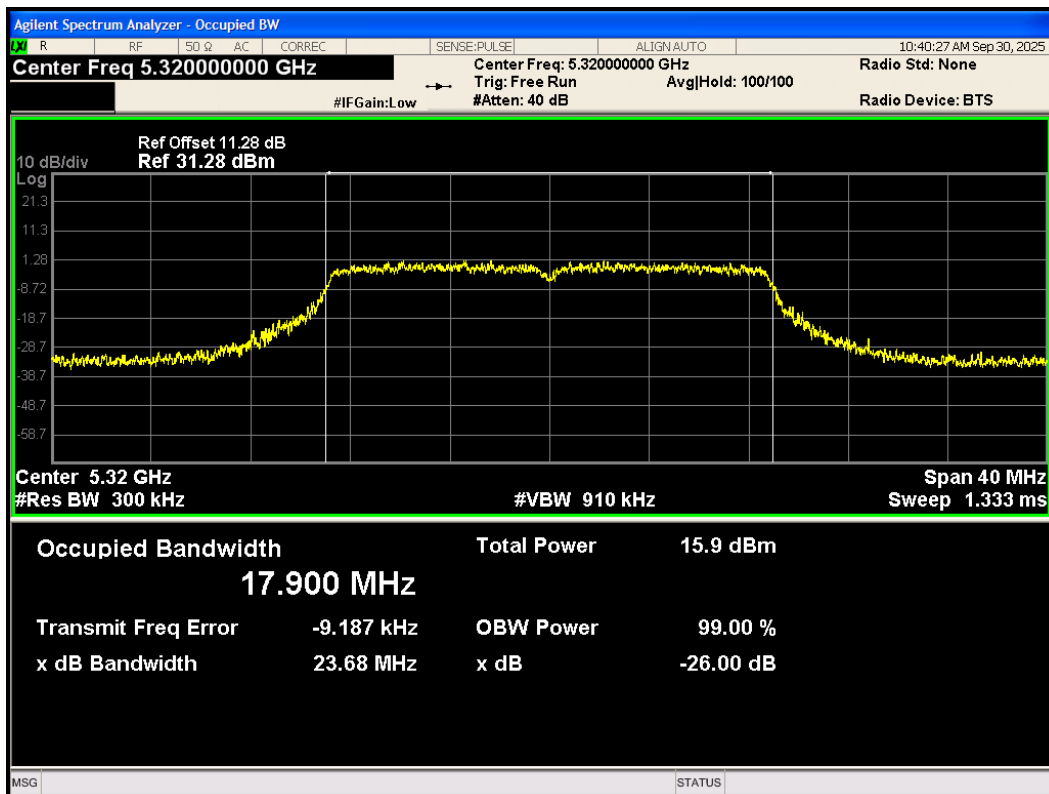
OBW 802.11ac(VHT20) 5260MHz



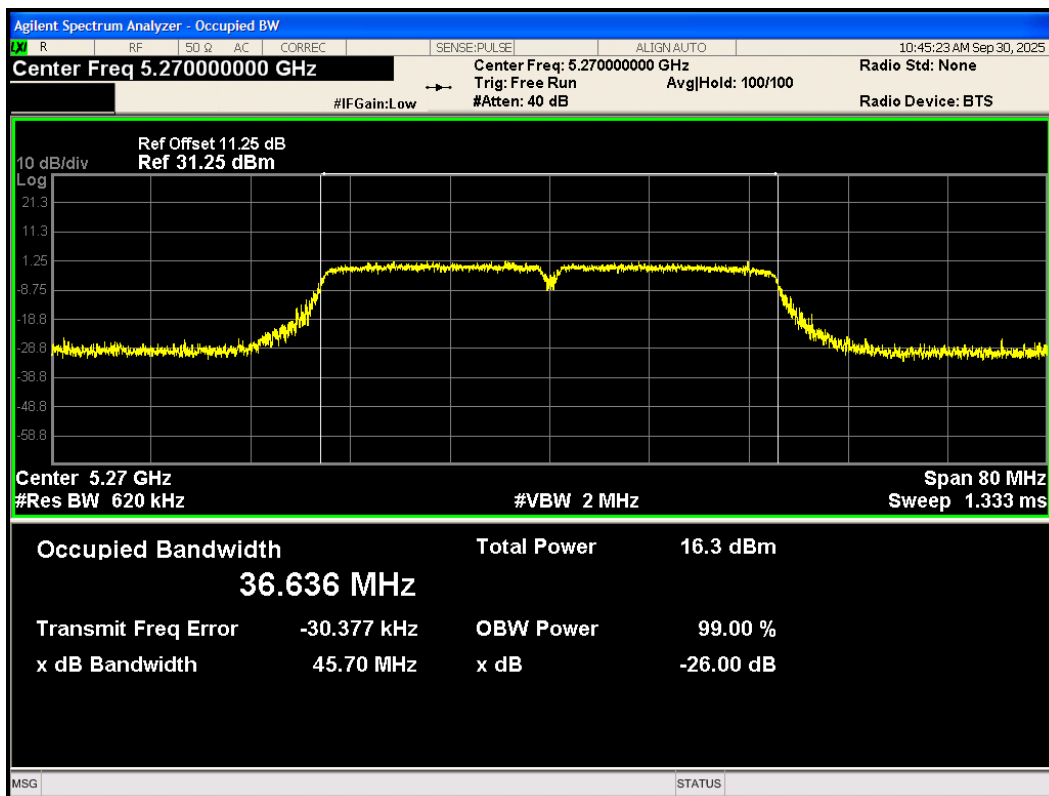
OBW 802.11ac(VHT20) 5300MHz



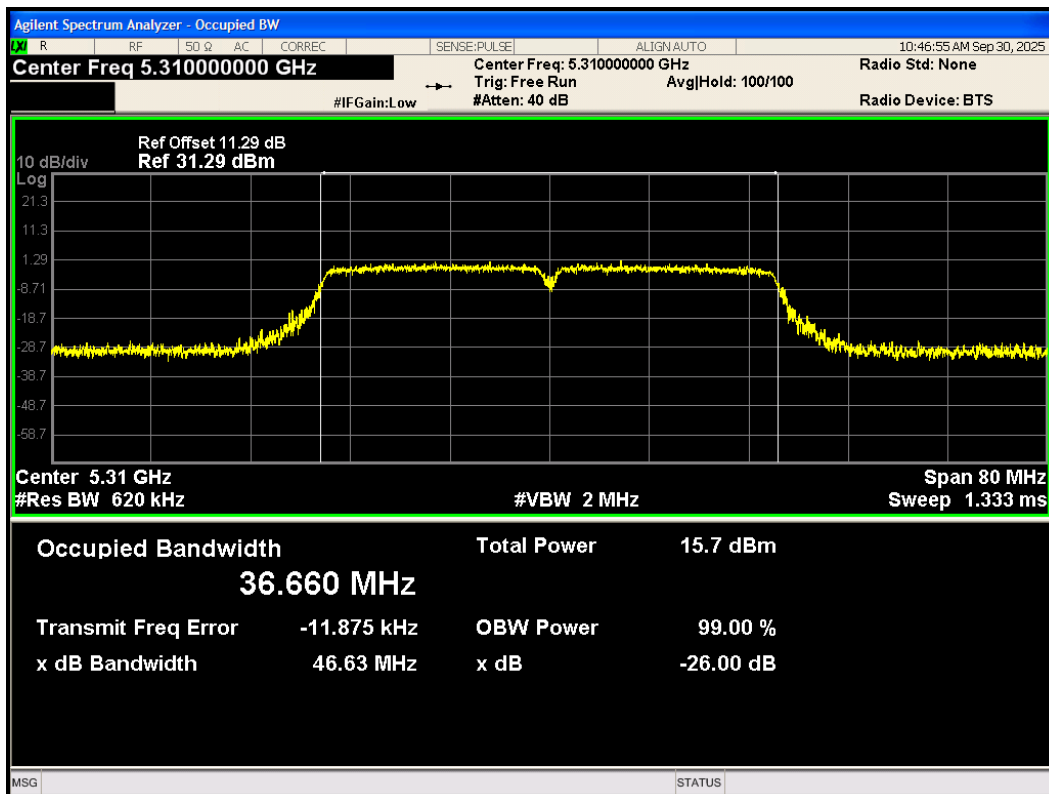
OBW 802.11ac(VHT20) 5320MHz



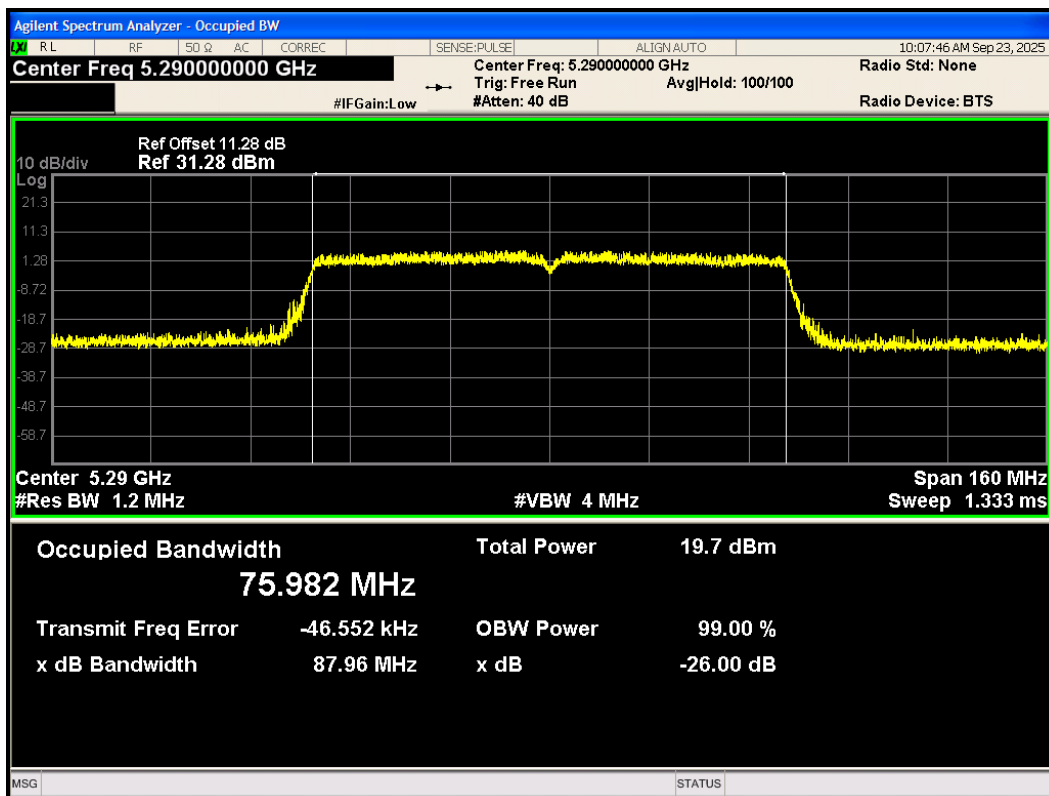
OBW 802.11ac(VHT40) 5270MHz



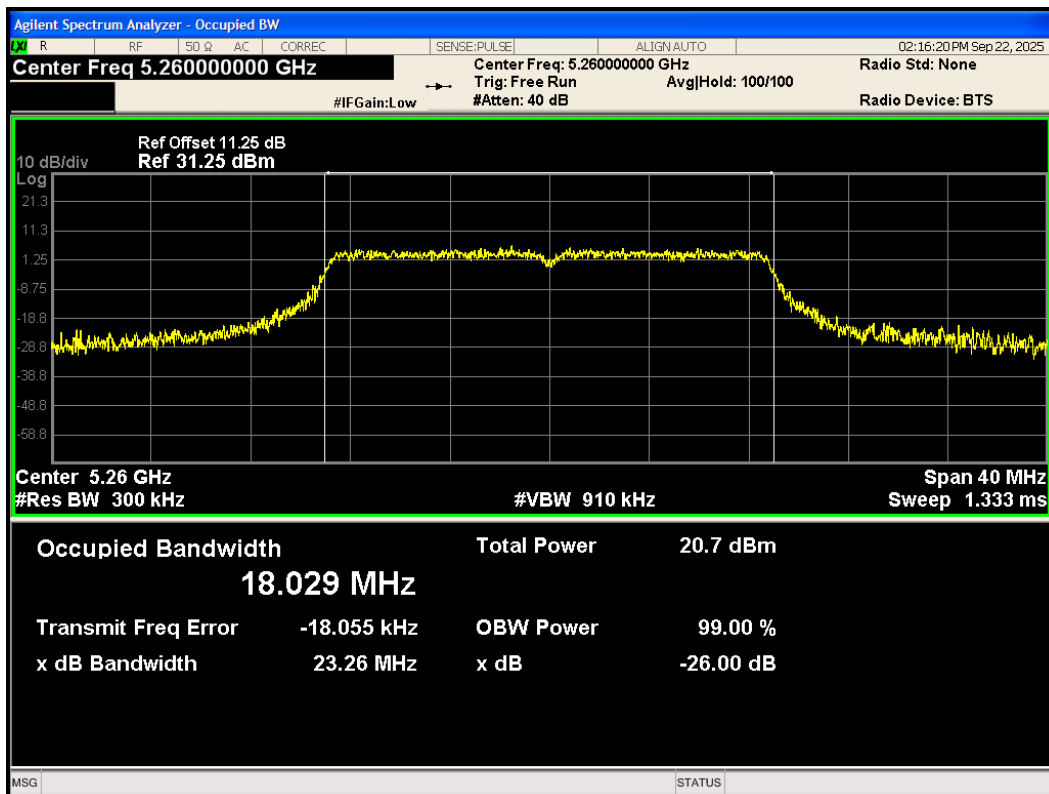
OBW 802.11ac(VHT40) 5310MHz



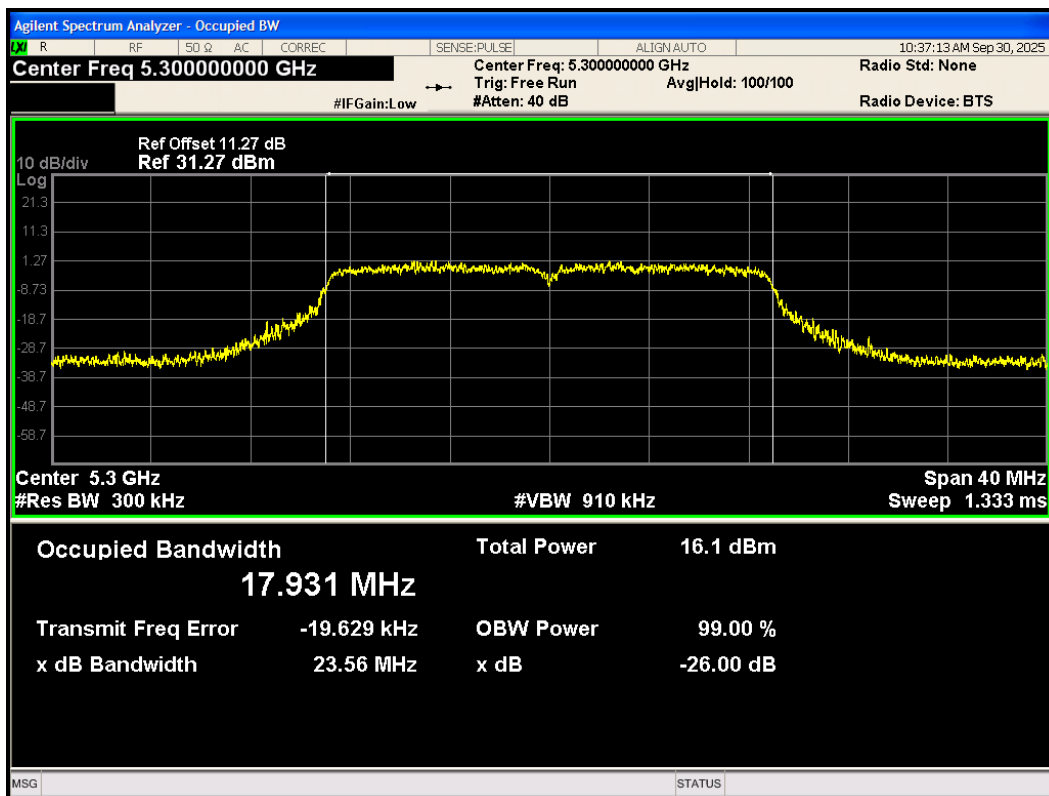
OBW 802.11ac(VHT80) 5290MHz



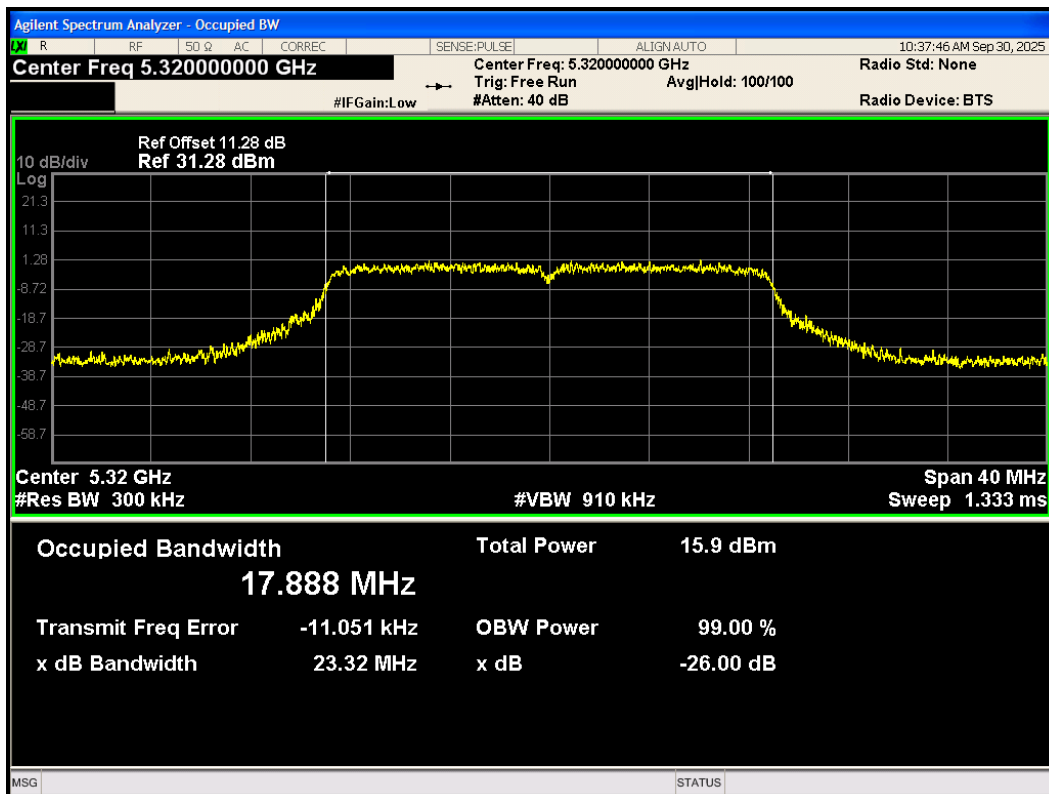
OBW 802.11n(HT20) 5260MHz



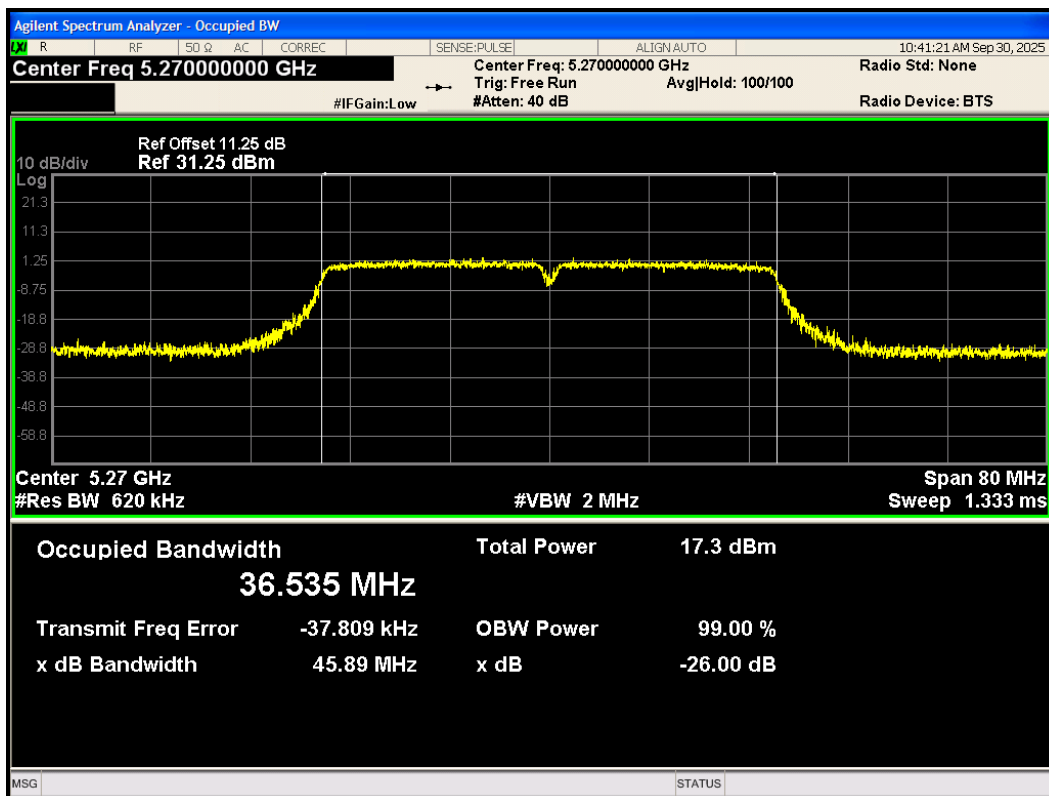
OBW 802.11n(HT20) 5300MHz



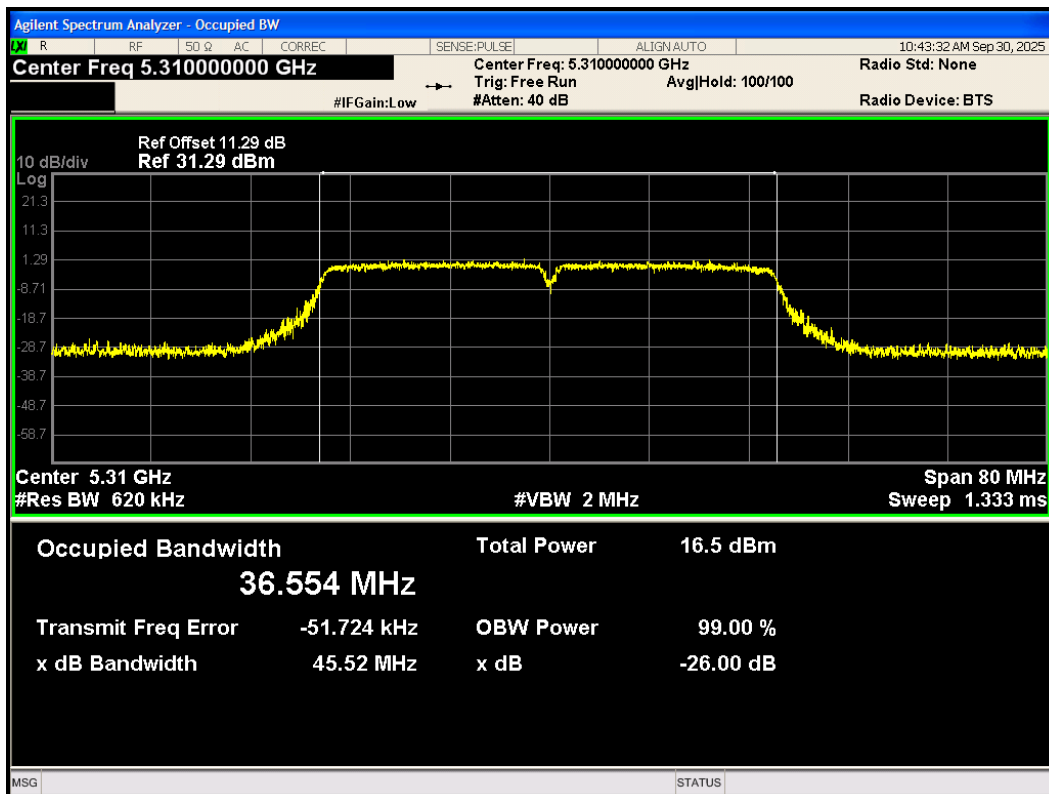
OBW 802.11n(HT20) 5320MHz



OBW 802.11n(HT40) 5270MHz

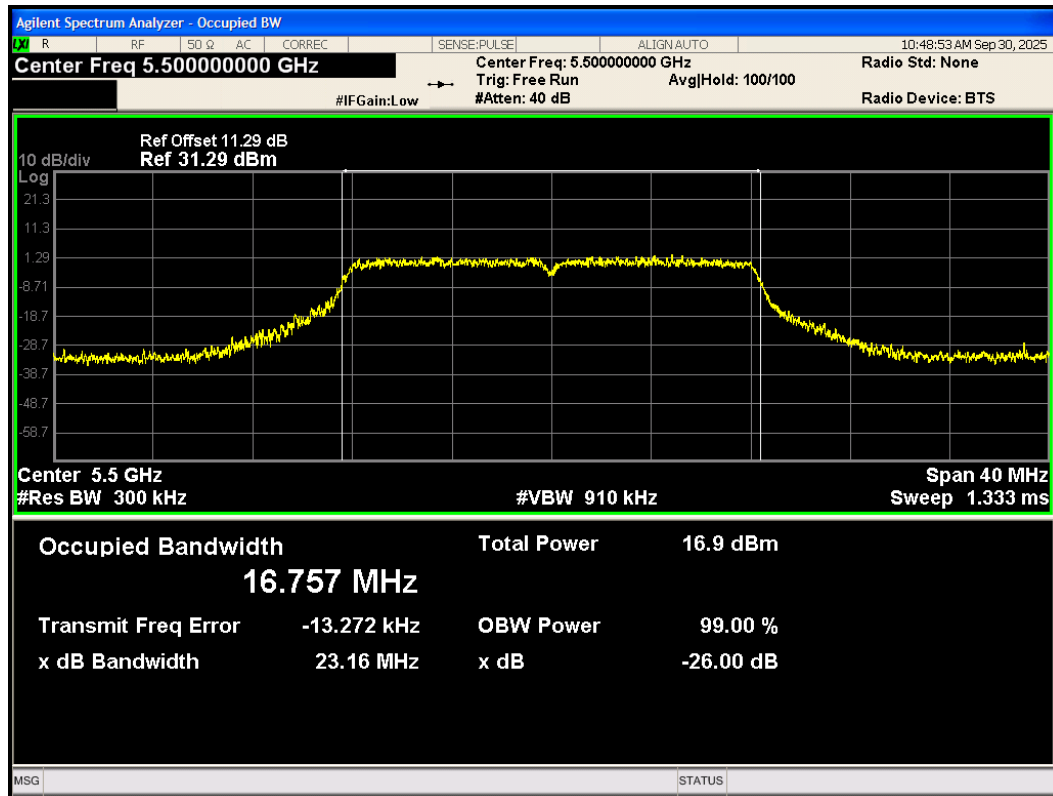


OBW 802.11n(HT40) 5310MHz

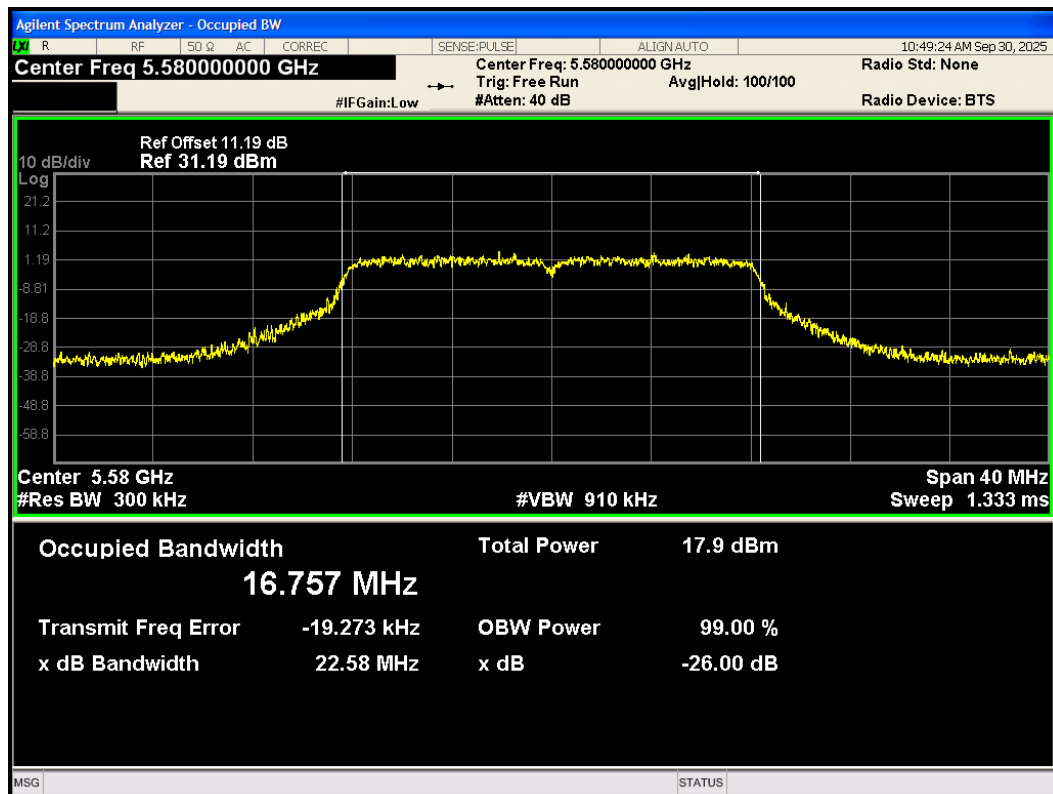


U-NII-2C

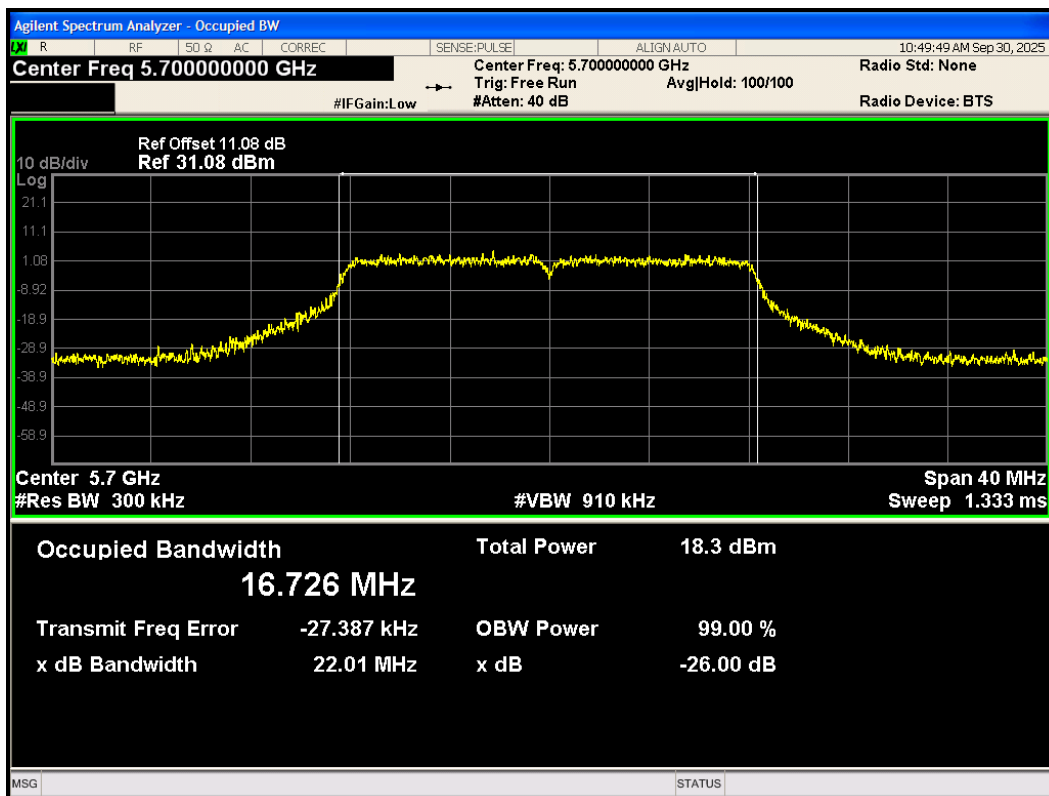
OBW 802.11a 5500MHz



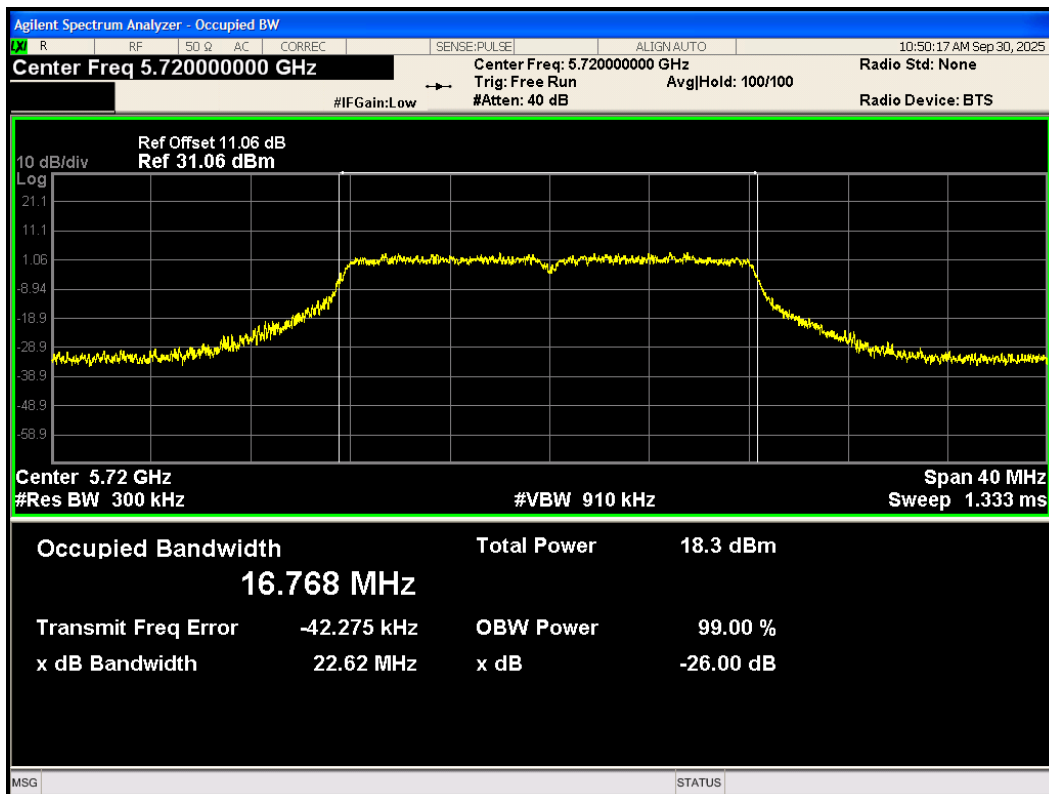
OBW 802.11a 5580MHz



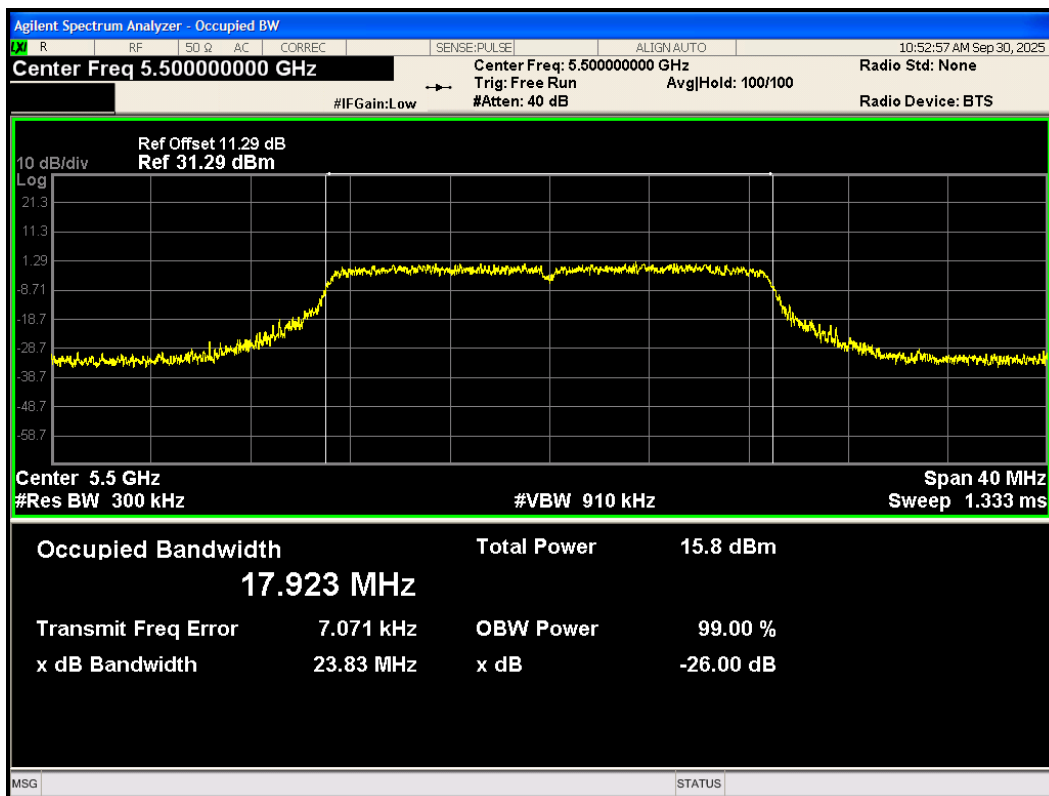
OBW 802.11a 5700MHz



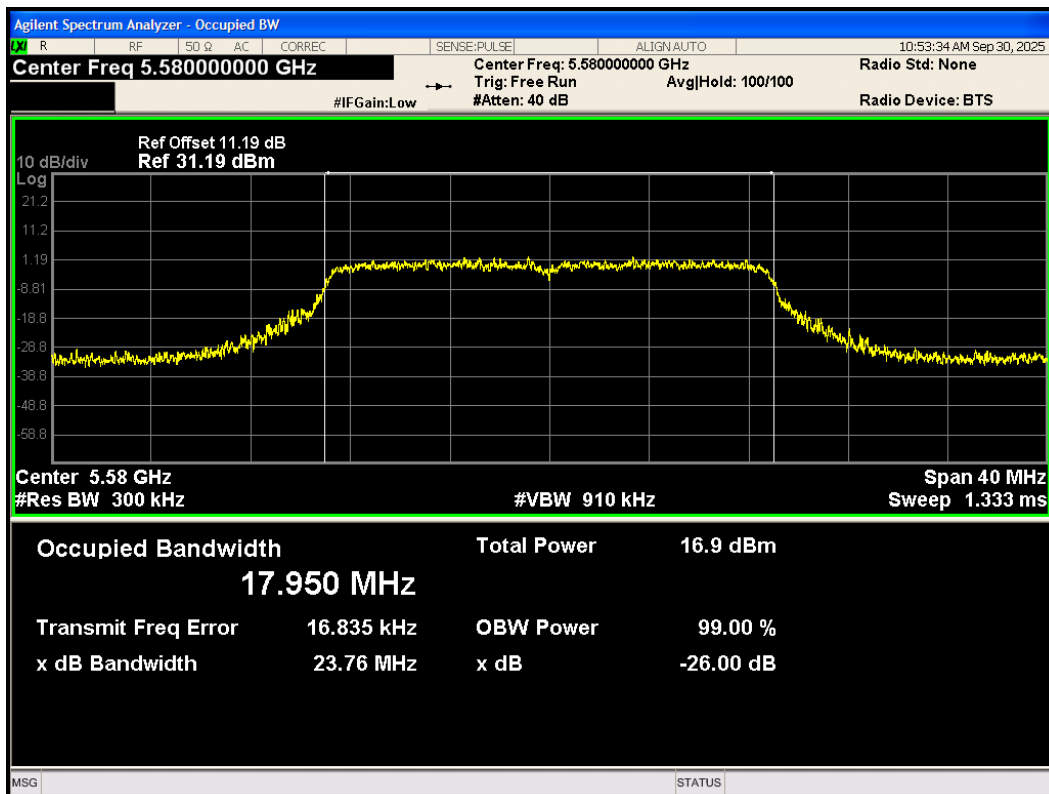
OBW 802.11a 5720MHz



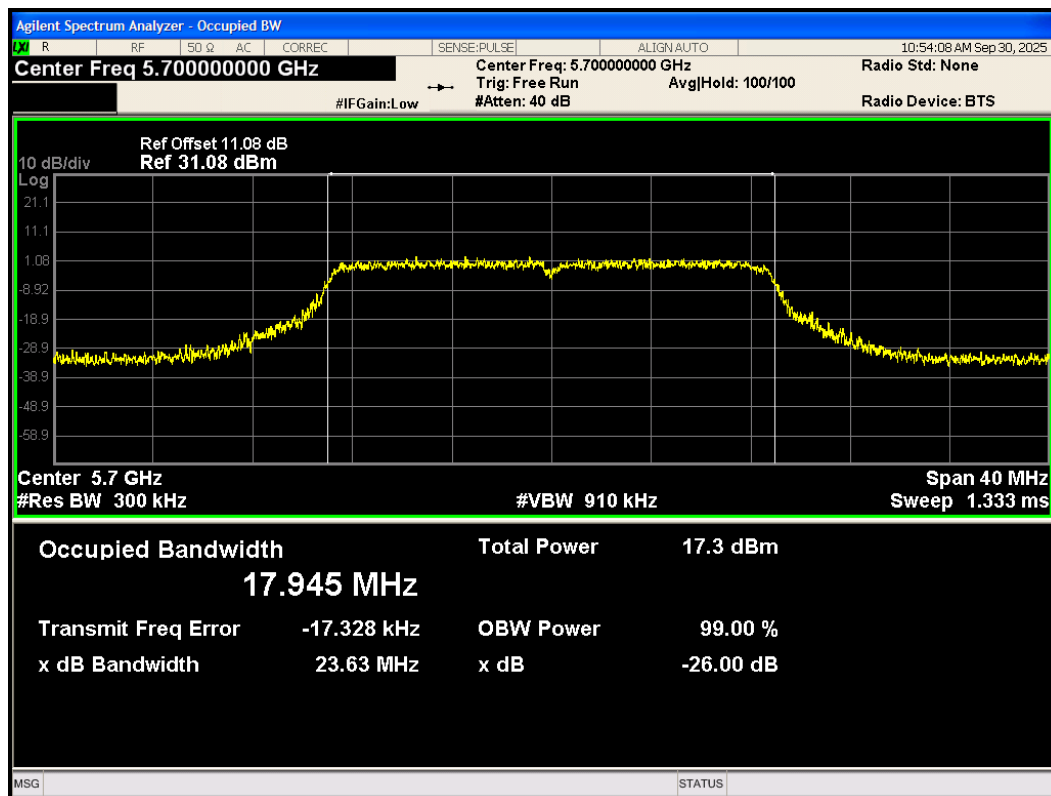
OBW 802.11ac(VHT20) 5500MHz



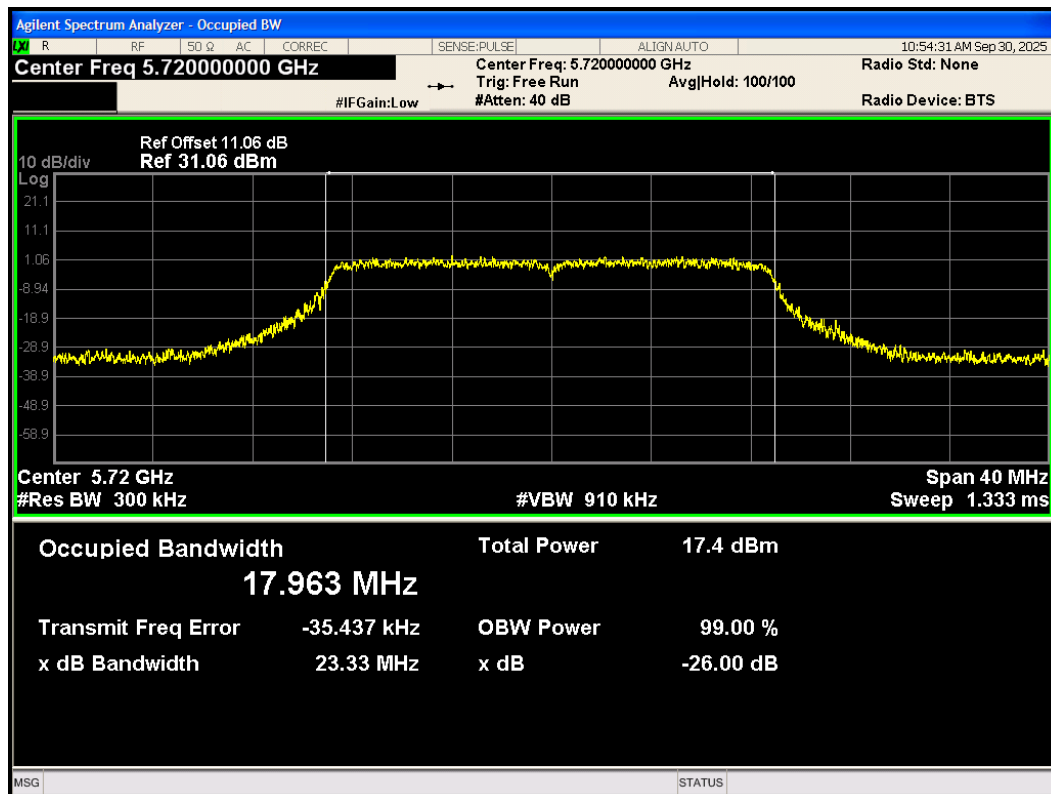
OBW 802.11ac(VHT20) 5580MHz



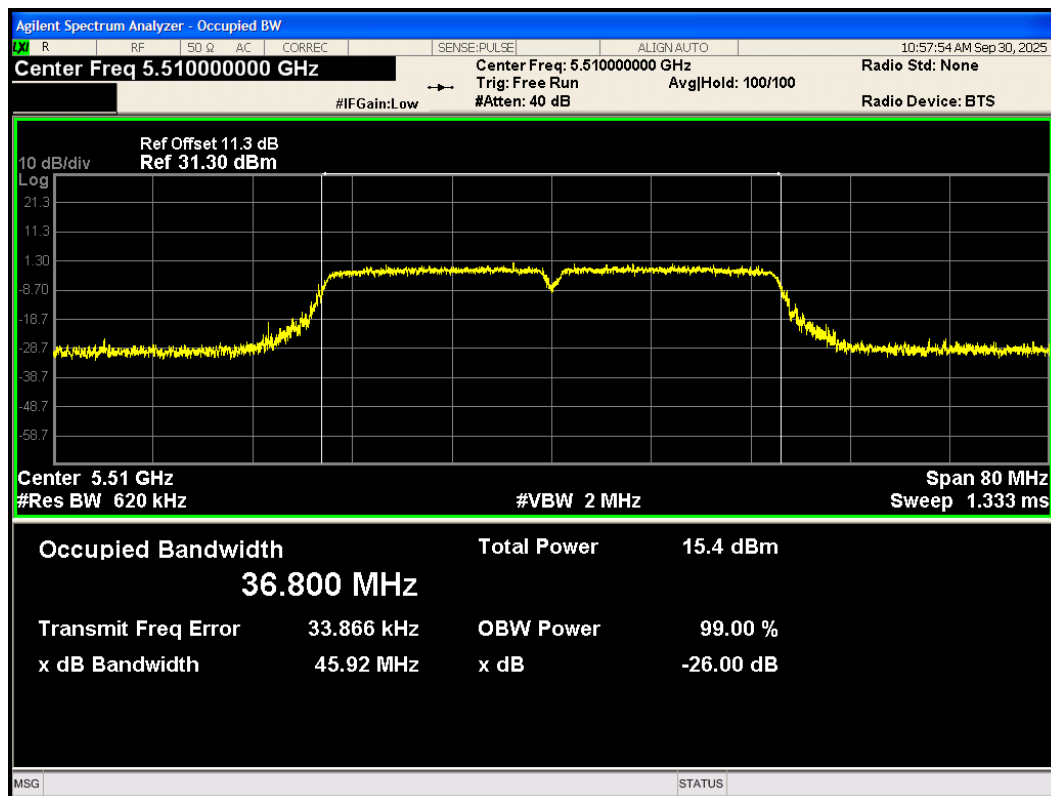
OBW 802.11ac(VHT20) 5700MHz



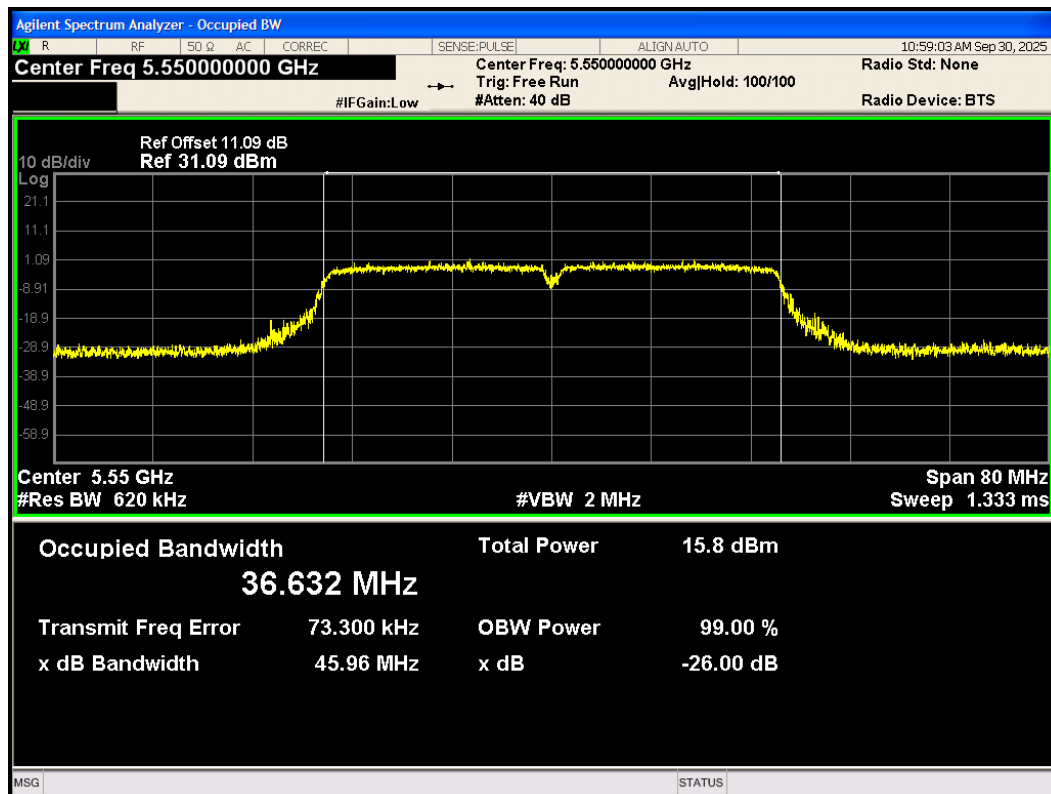
OBW 802.11ac(VHT20) 5720MHz



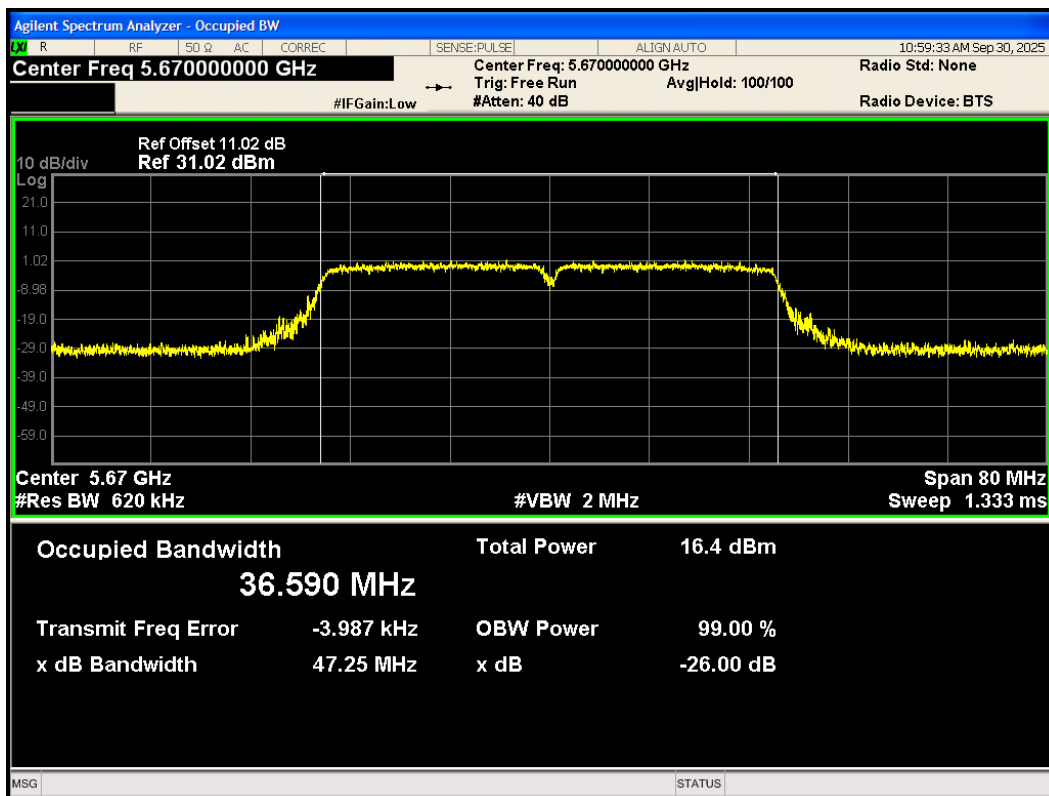
OBW 802.11ac(VHT40) 5510MHz



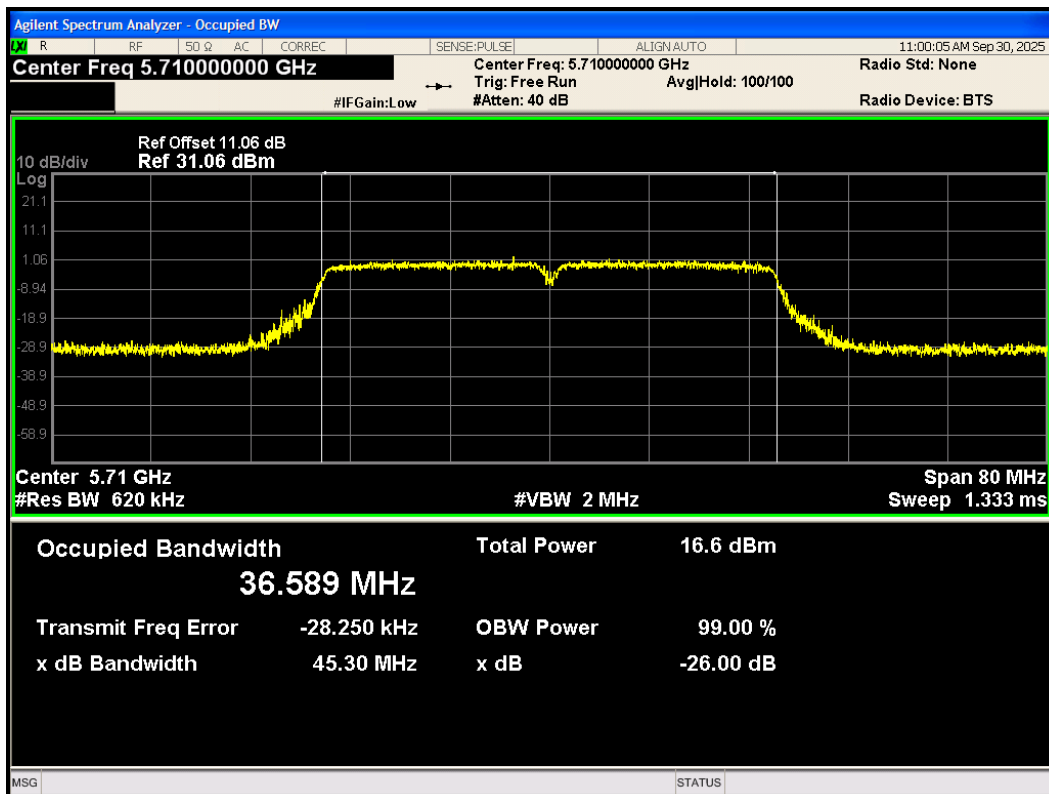
OBW 802.11ac(VHT40) 5550MHz



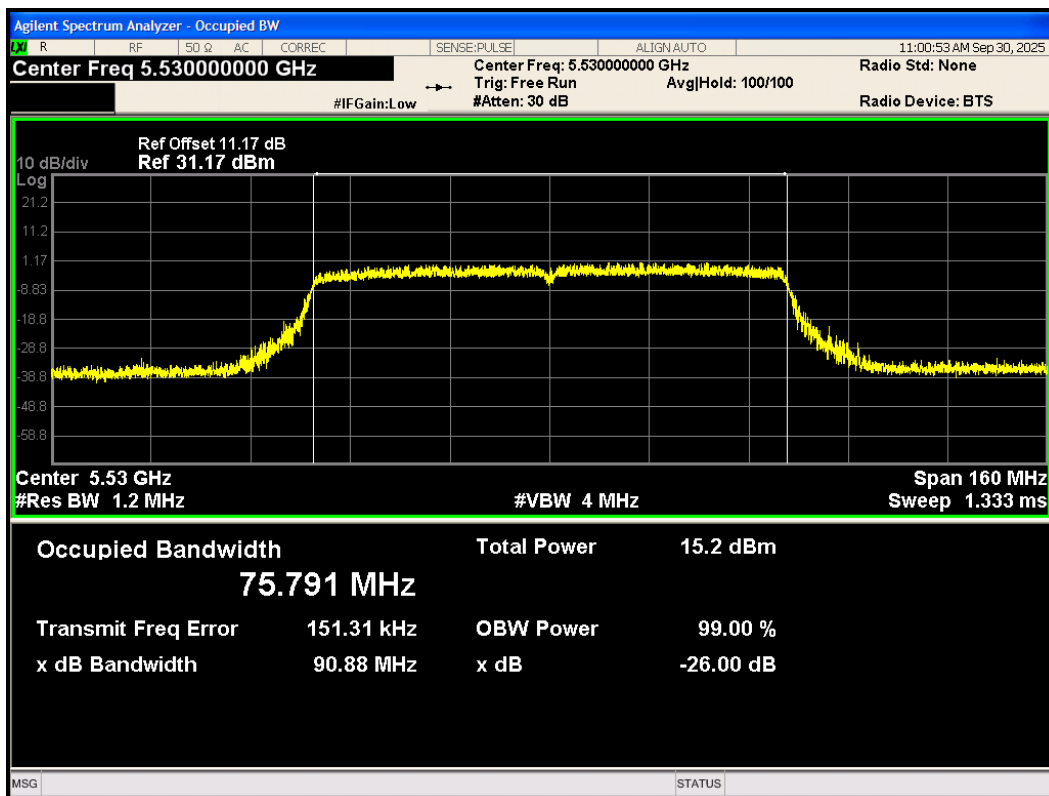
OBW 802.11ac(VHT40) 5670MHz



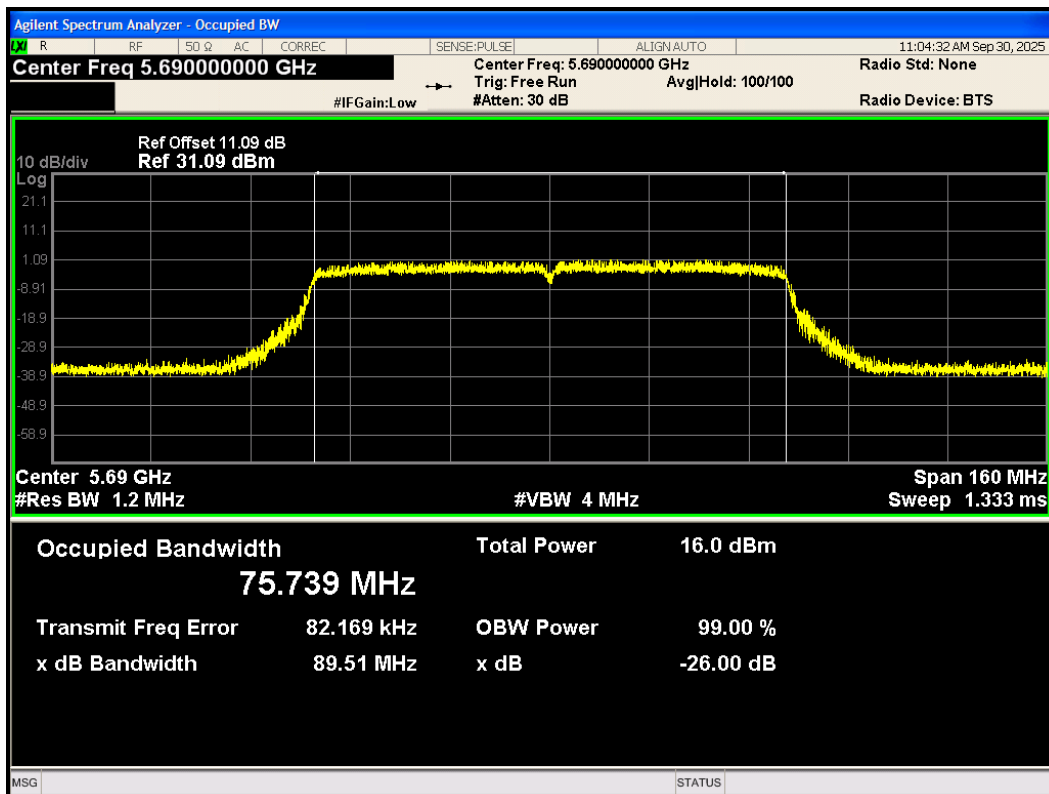
OBW 802.11ac(VHT40) 5710MHz



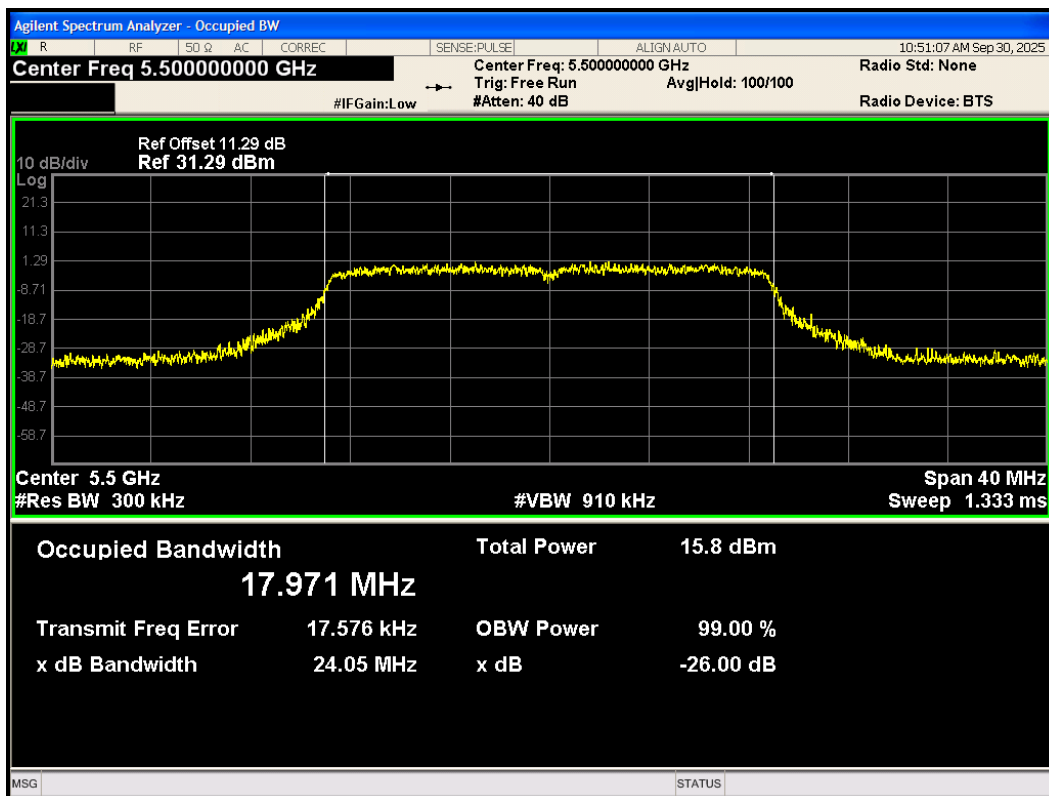
OBW 802.11ac(VHT80) 5530MHz



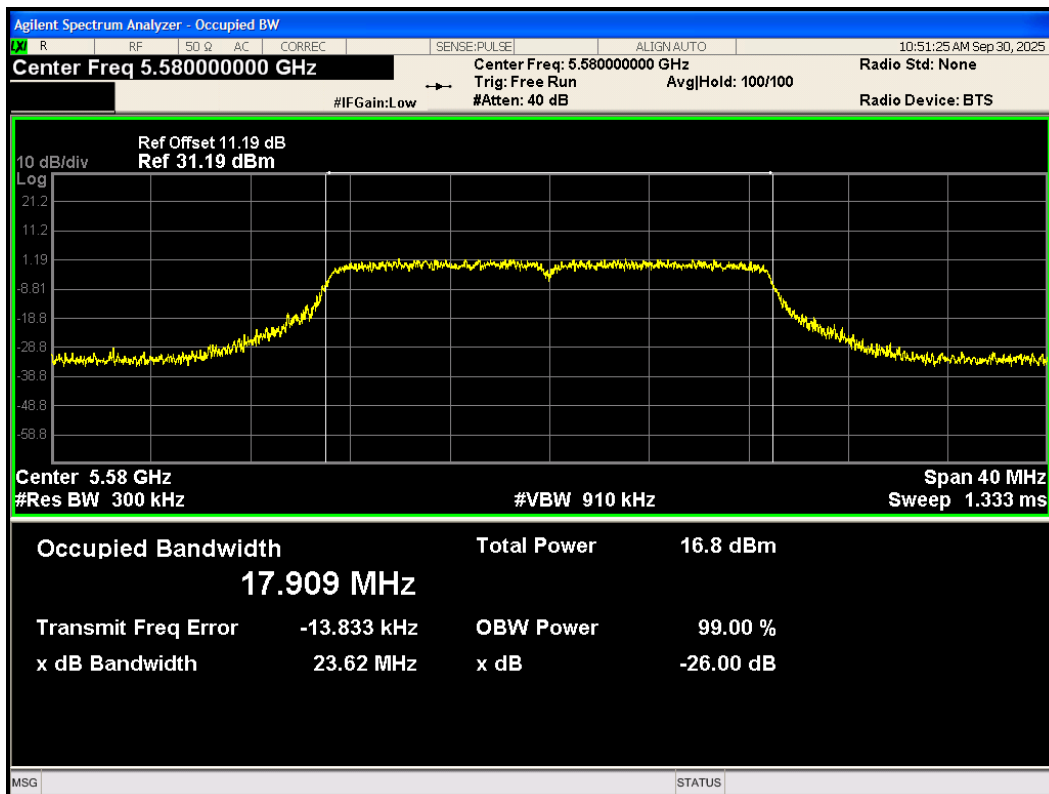
OBW 802.11ac(VHT80) 5690MHz



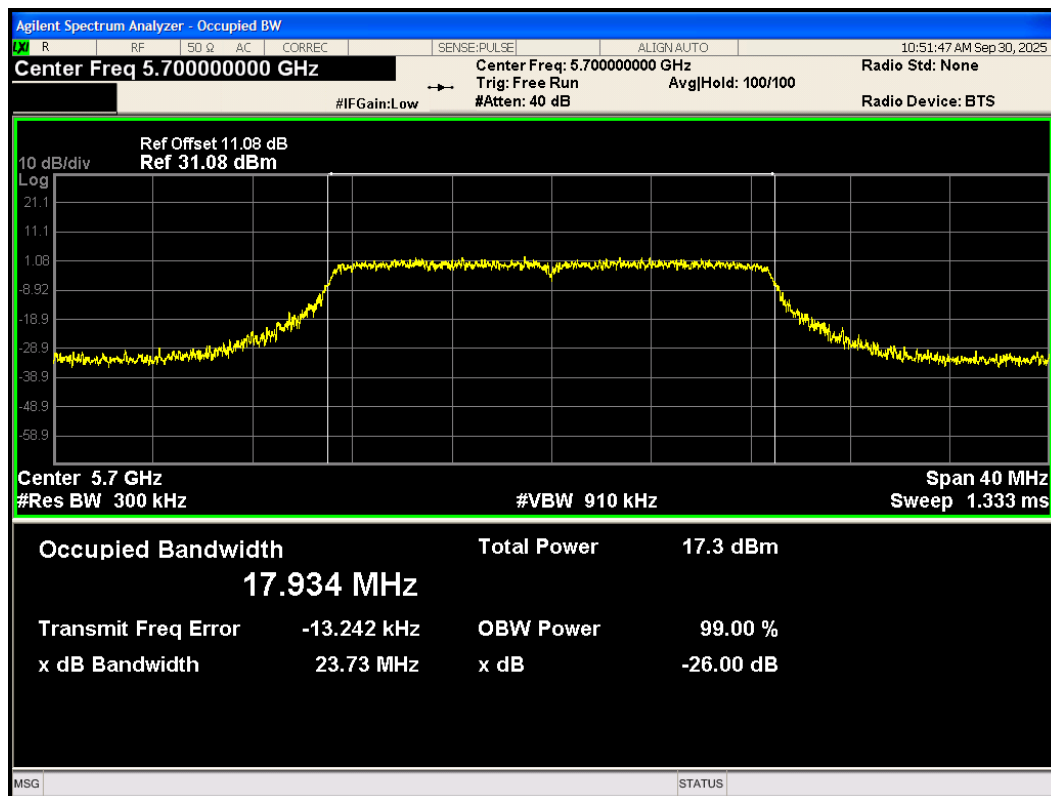
OBW 802.11n(HT20) 5500MHz



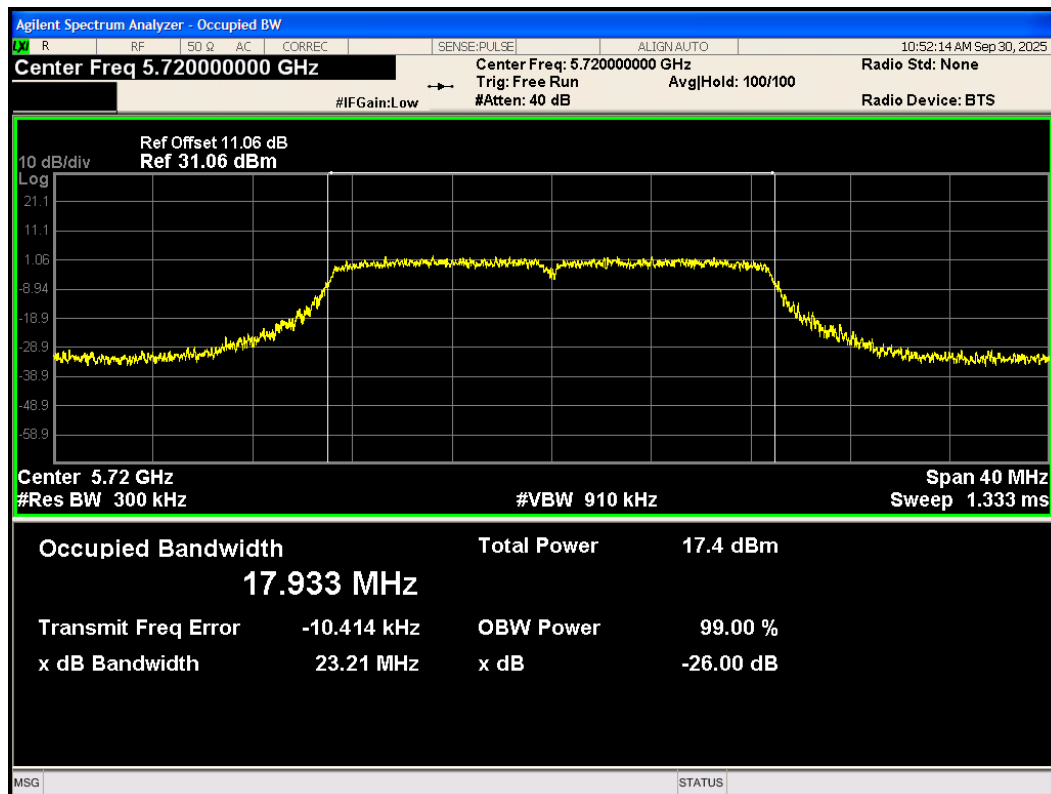
OBW 802.11n(HT20) 5580MHz



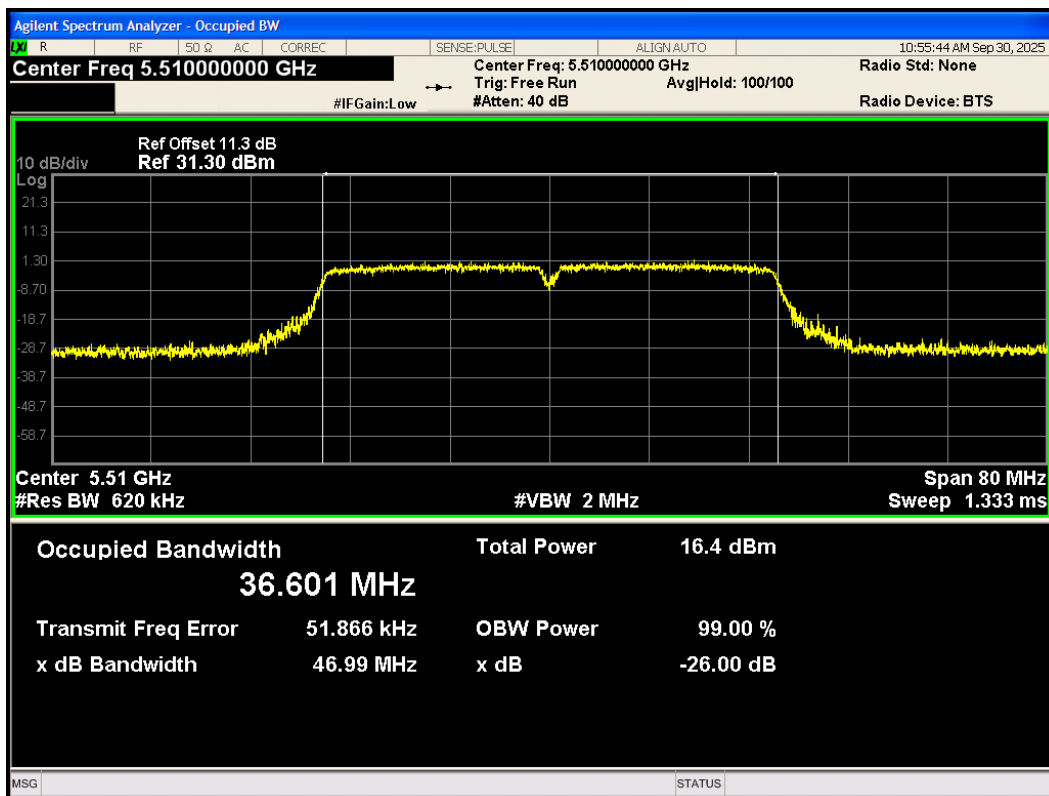
OBW 802.11n(HT20) 5700MHz



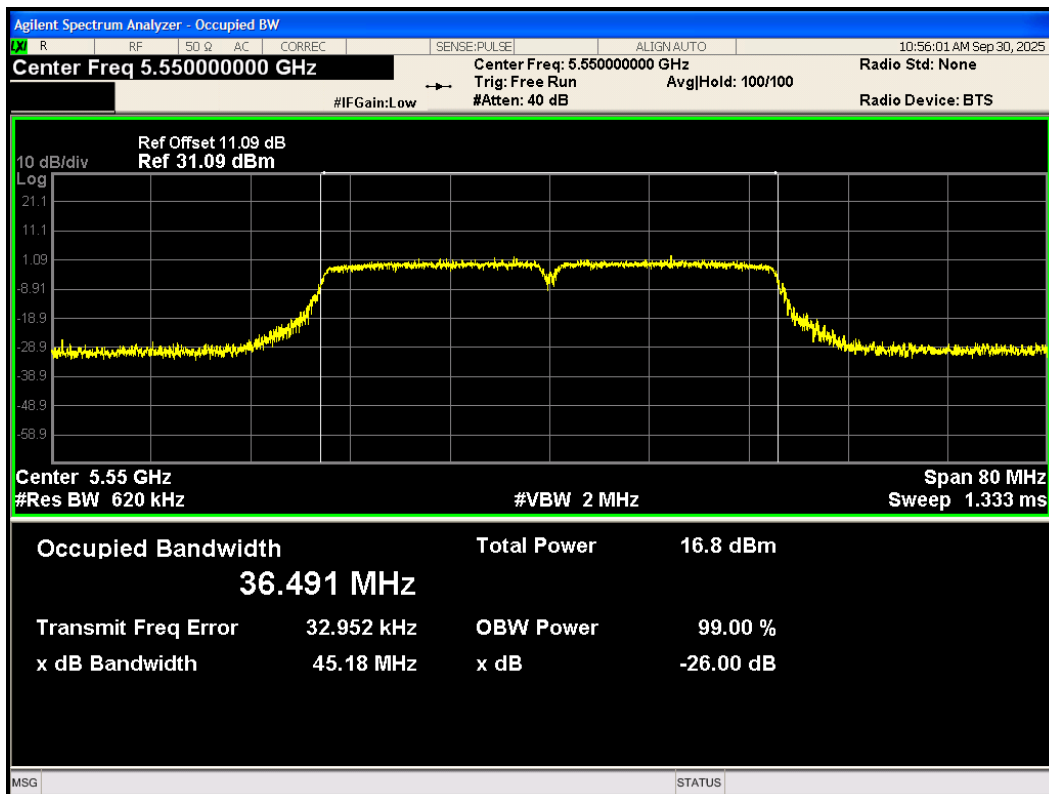
OBW 802.11n(HT20) 5720MHz



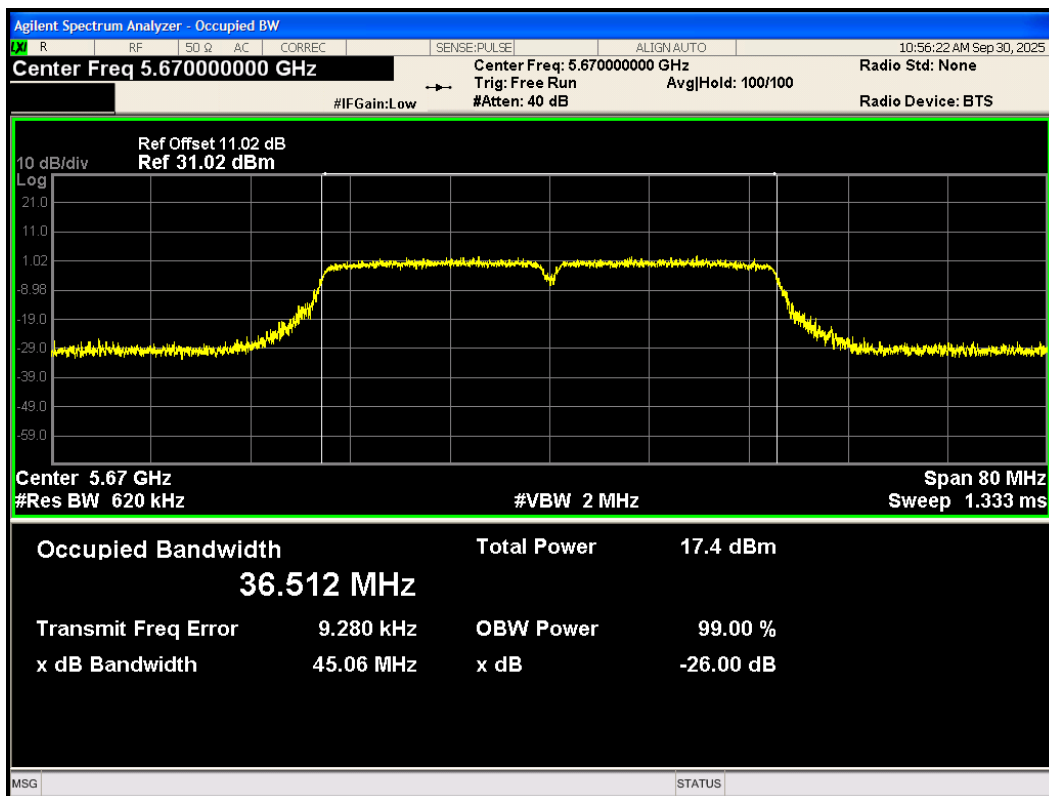
OBW 802.11n(HT40) 5510MHz



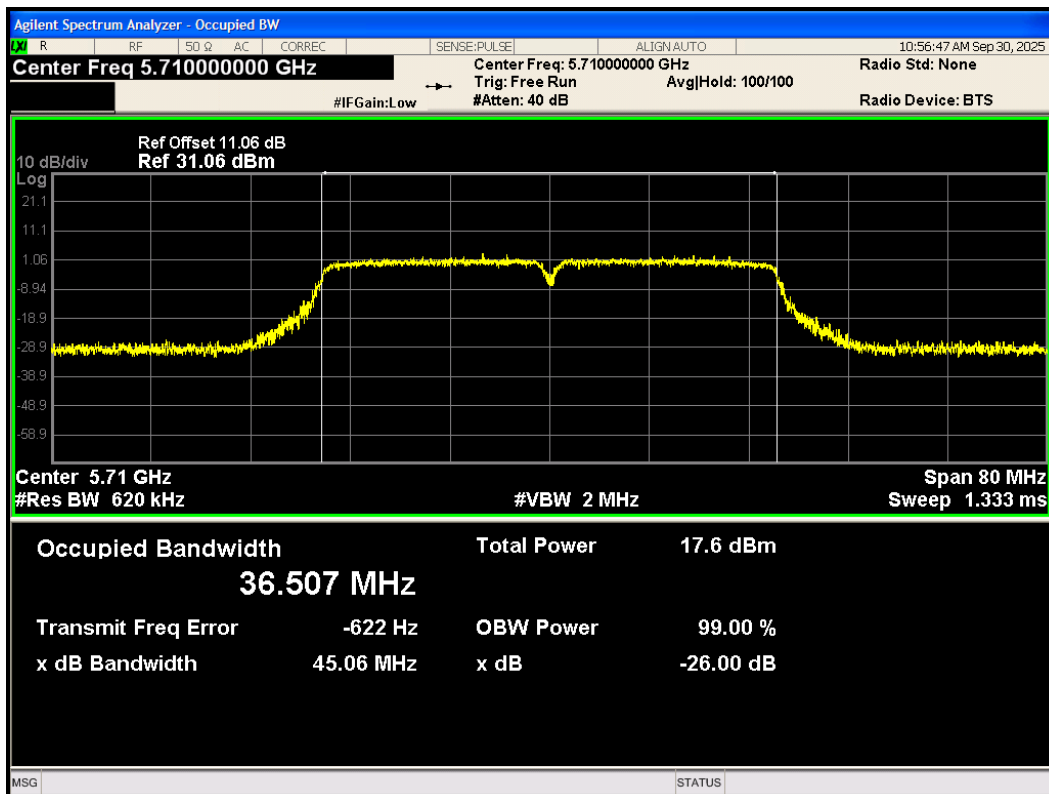
OBW 802.11n(HT40) 5550MHz



OBW 802.11n(HT40) 5670MHz

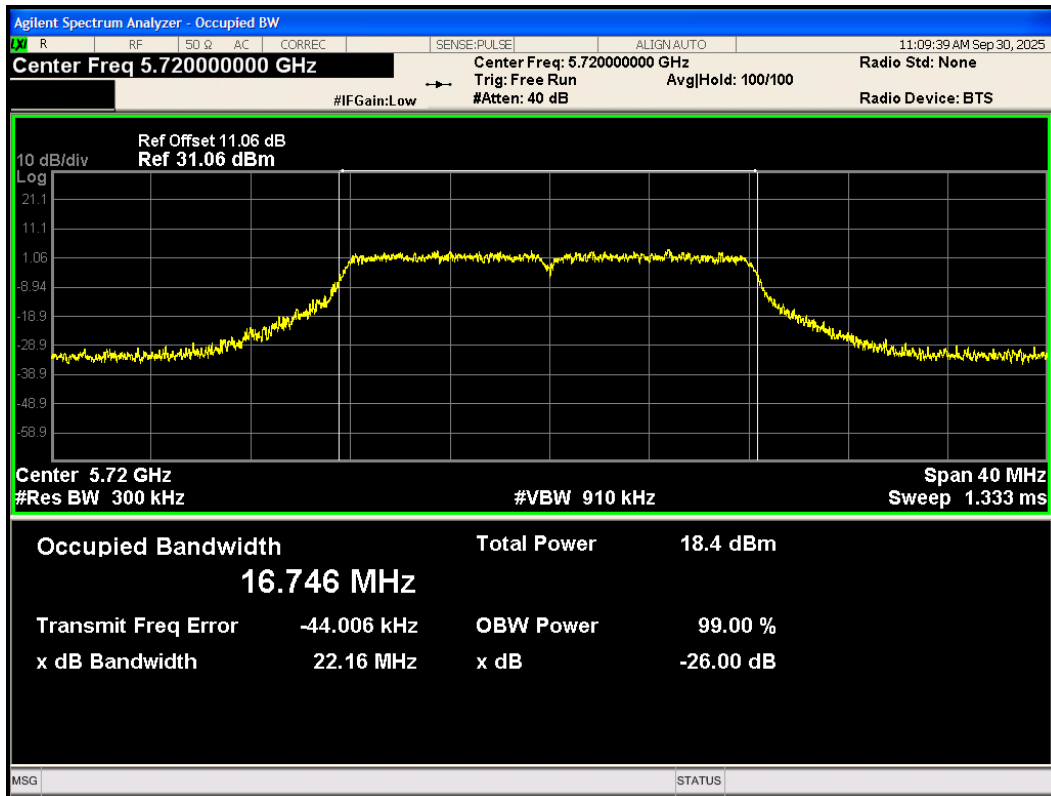


OBW 802.11n(HT40) 5710MHz

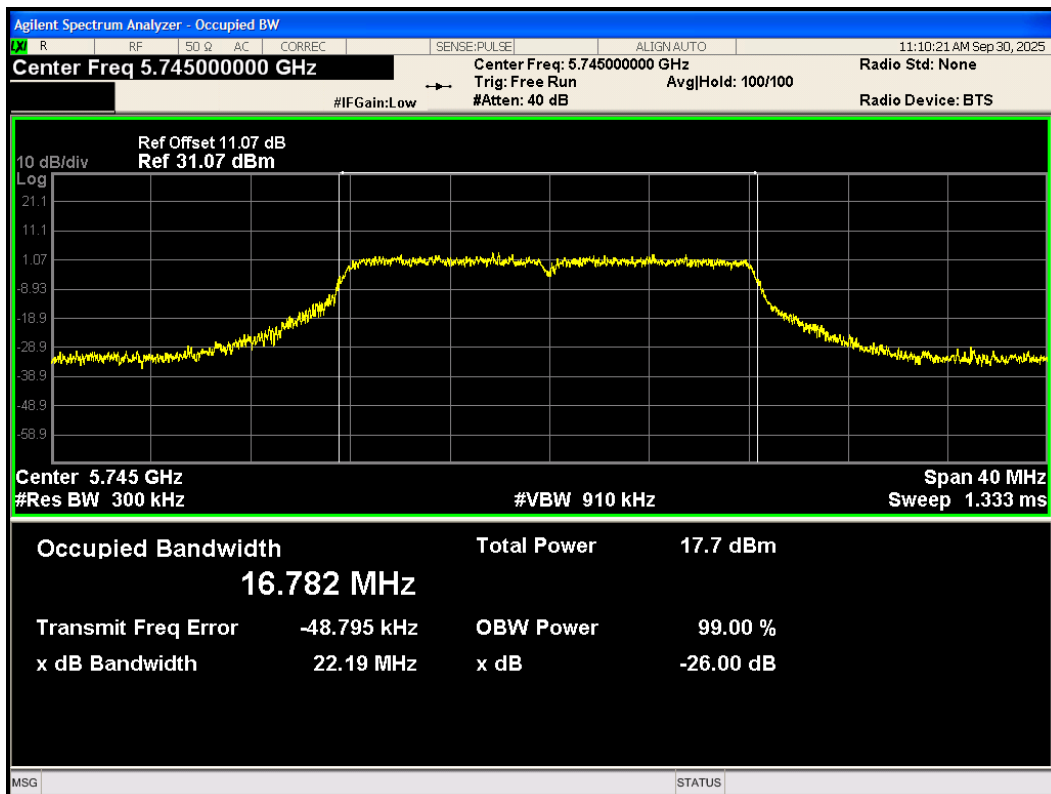


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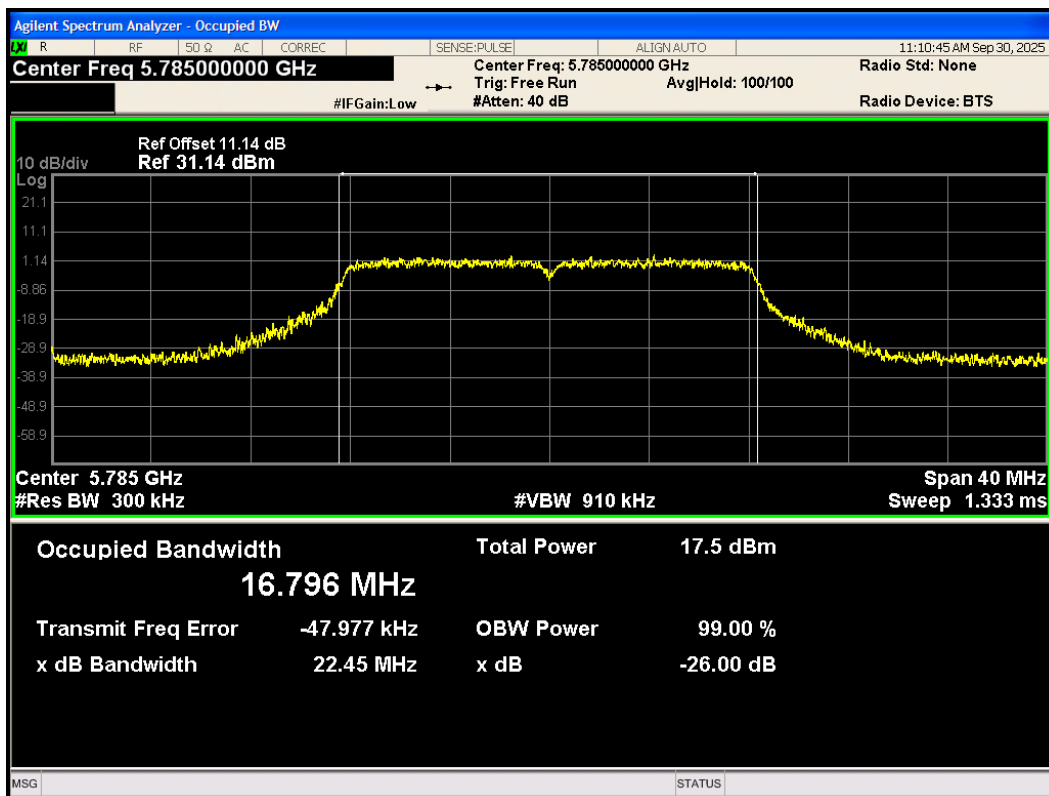
OBW 802.11a 5720MHz



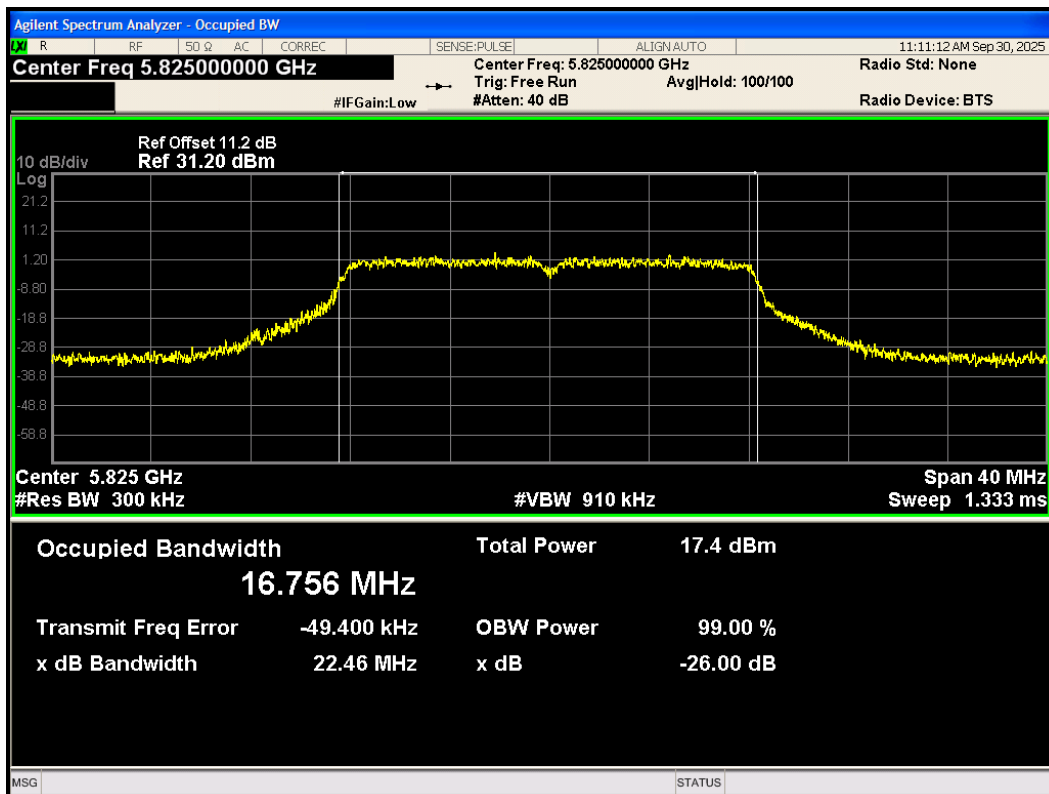
OBW 802.11a 5745MHz



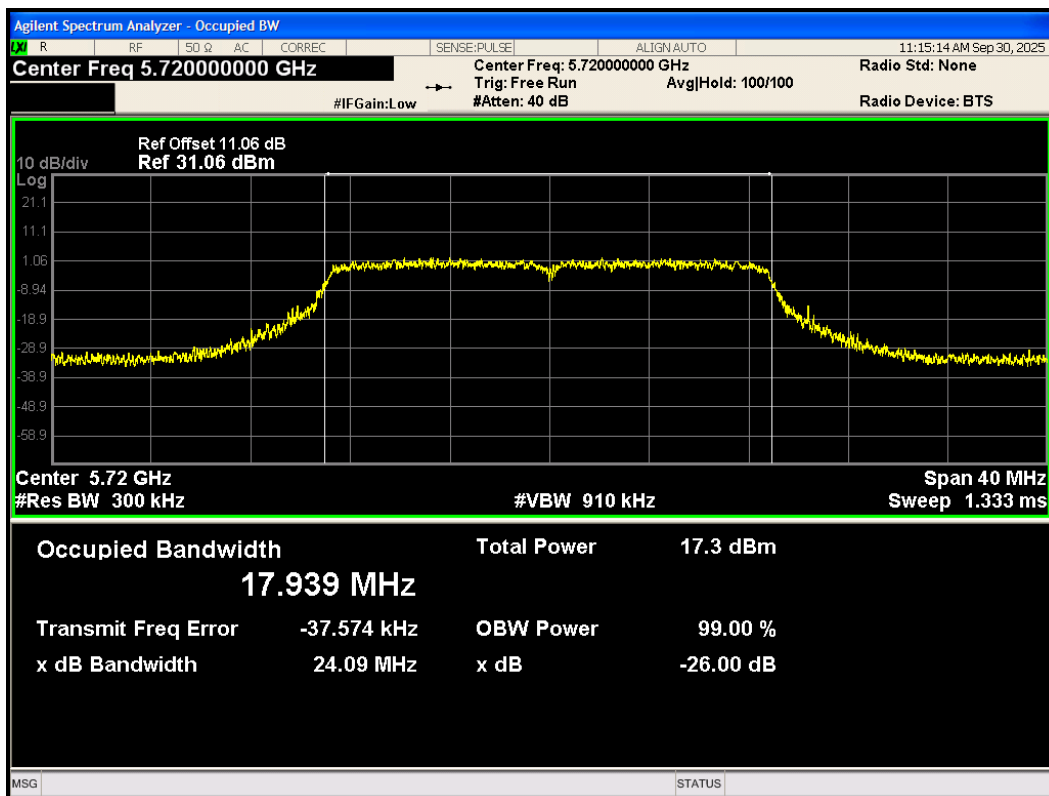
OBW 802.11a 5785MHz



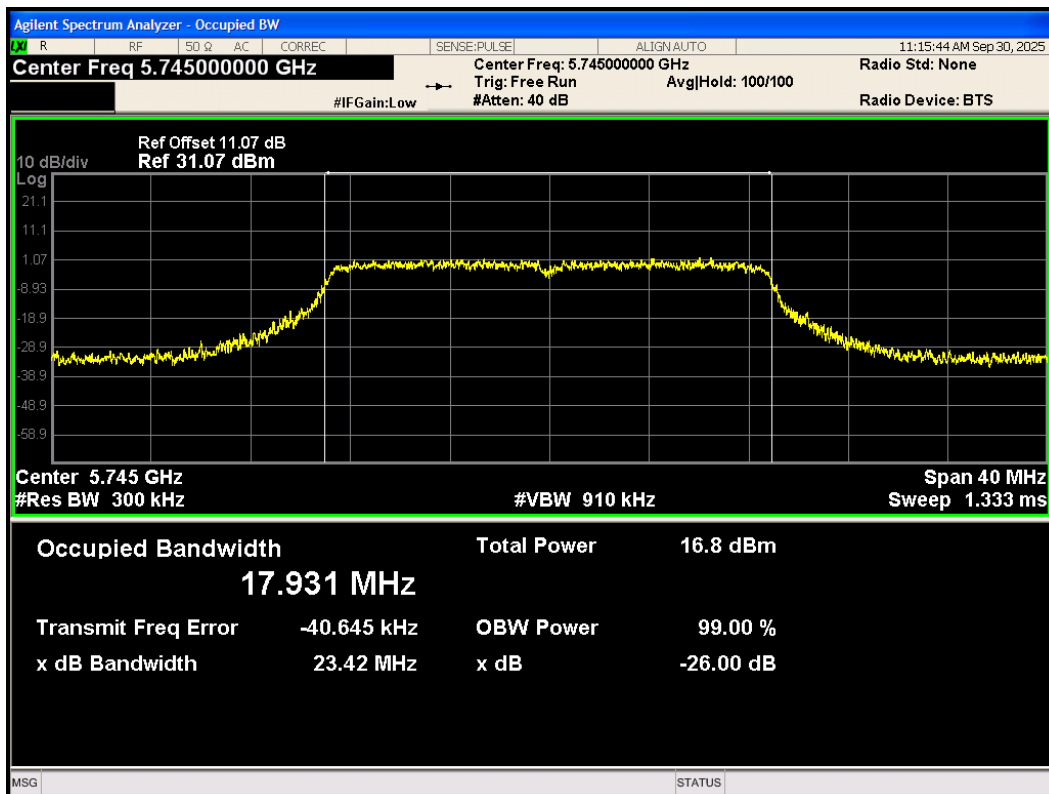
OBW 802.11a 5825MHz



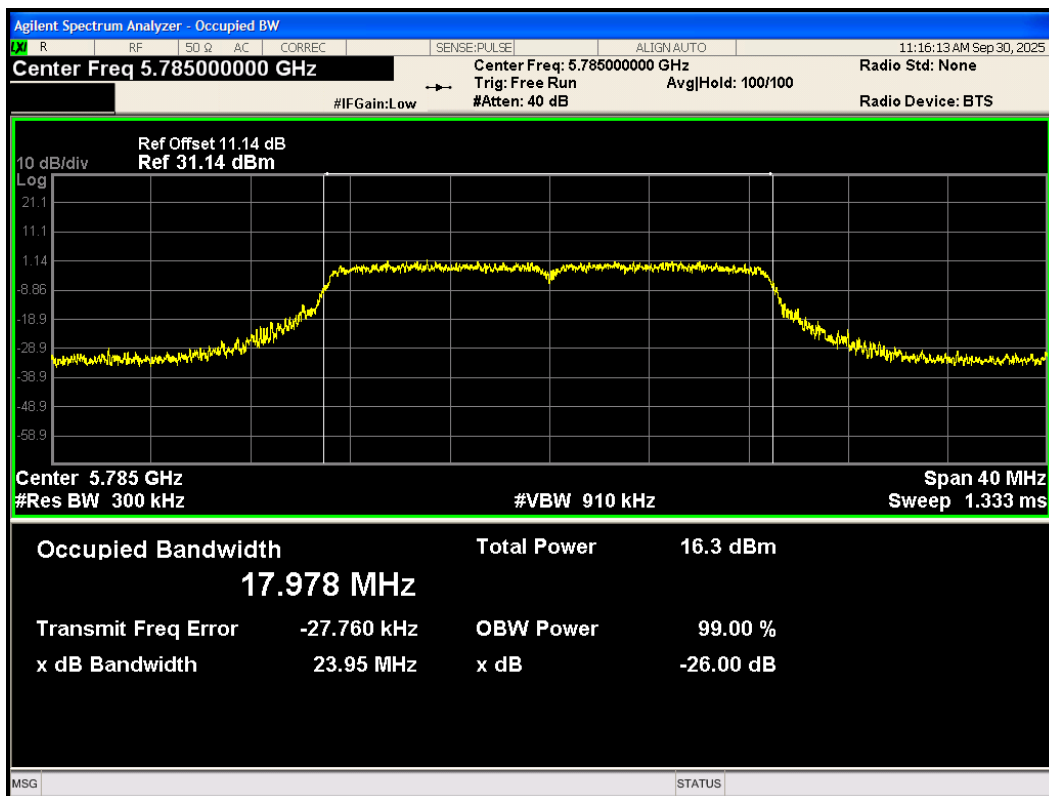
OBW 802.11ac(VHT20) 5720MHz



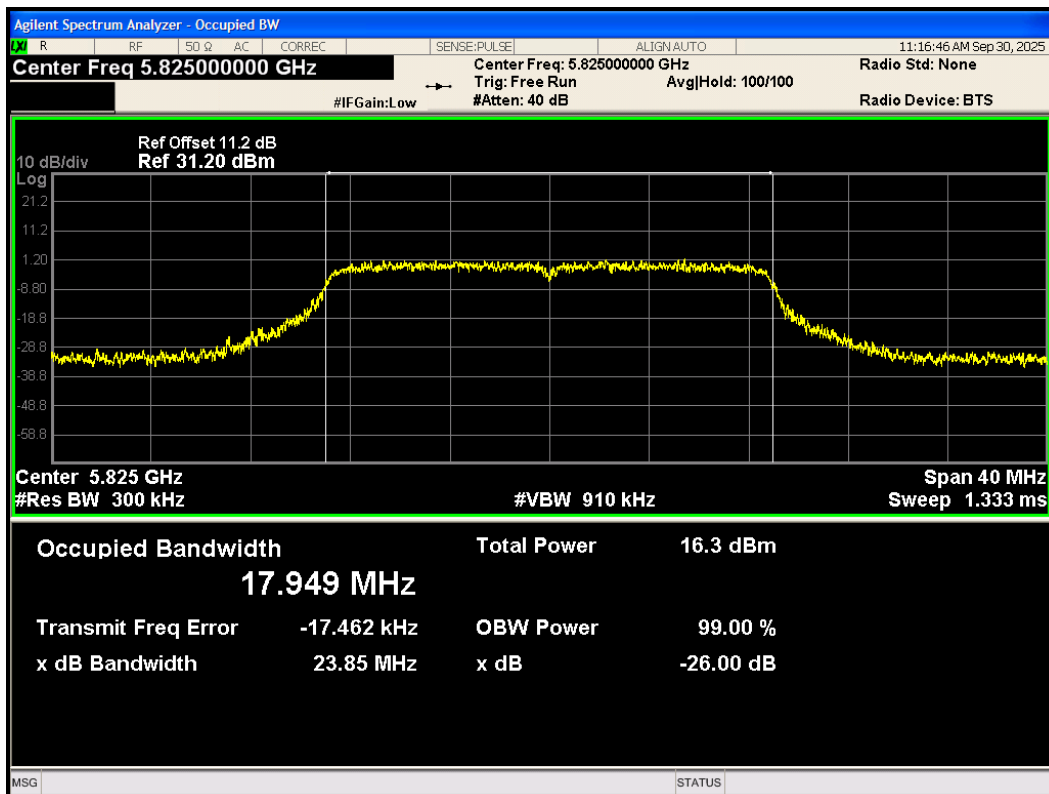
OBW 802.11ac(VHT20) 5745MHz



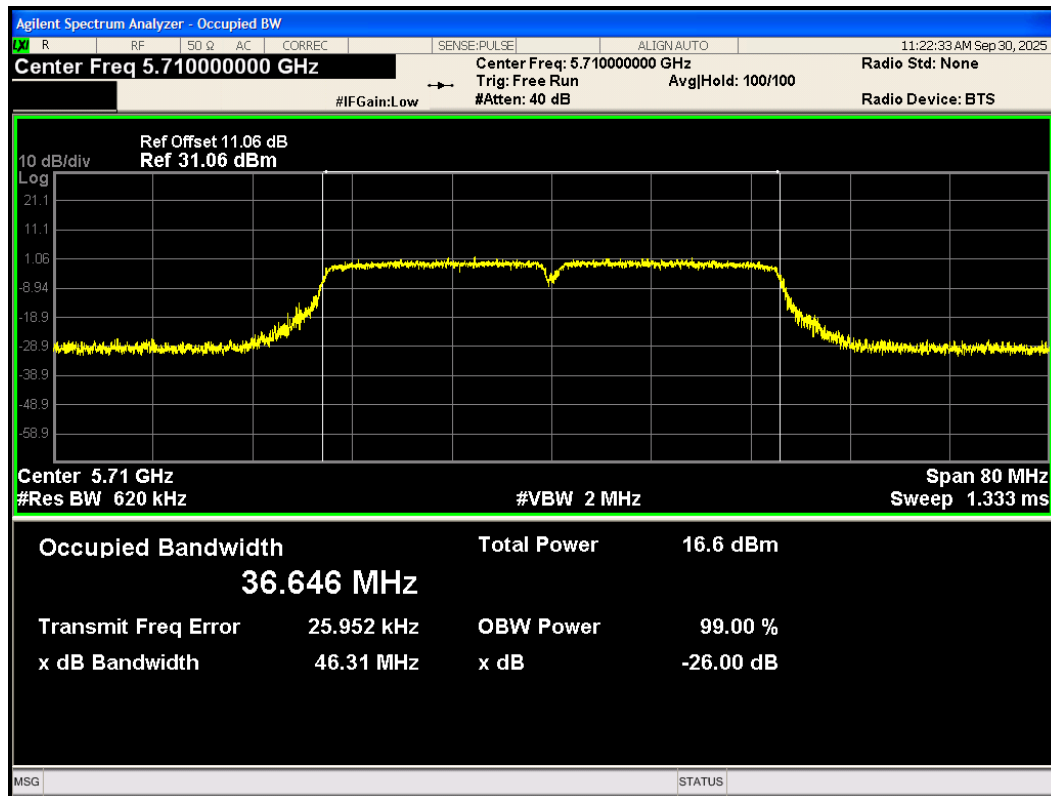
OBW 802.11ac(VHT20) 5785MHz



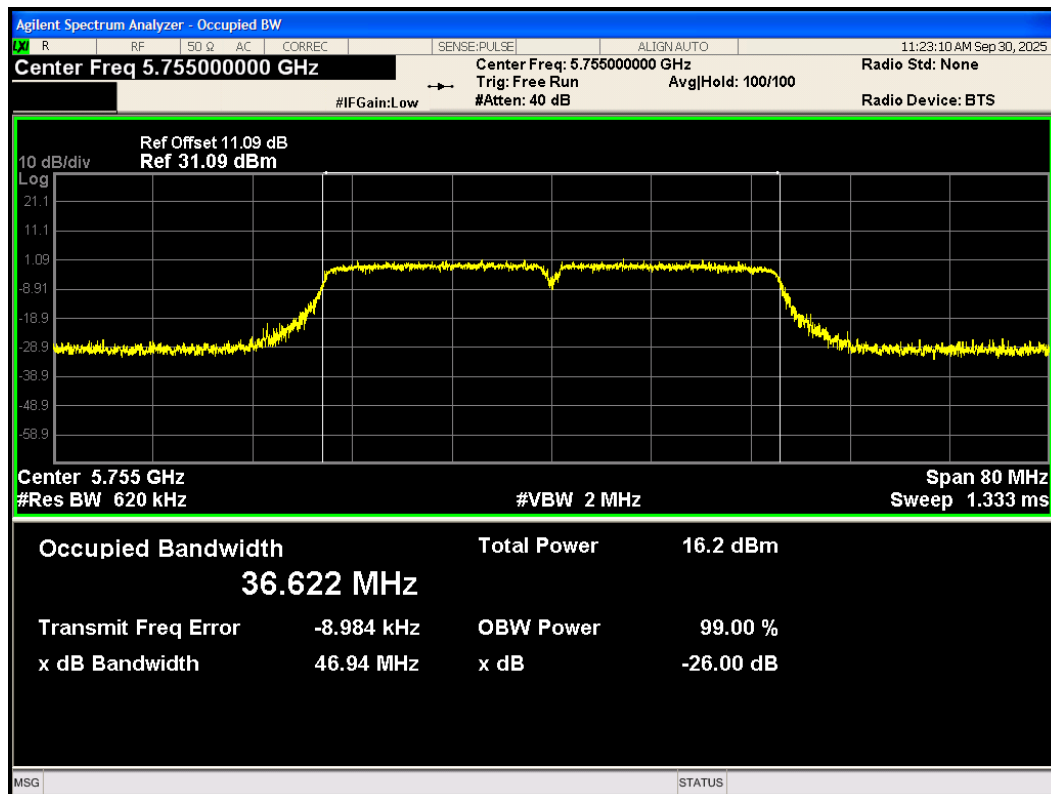
OBW 802.11ac(VHT20) 5825MHz



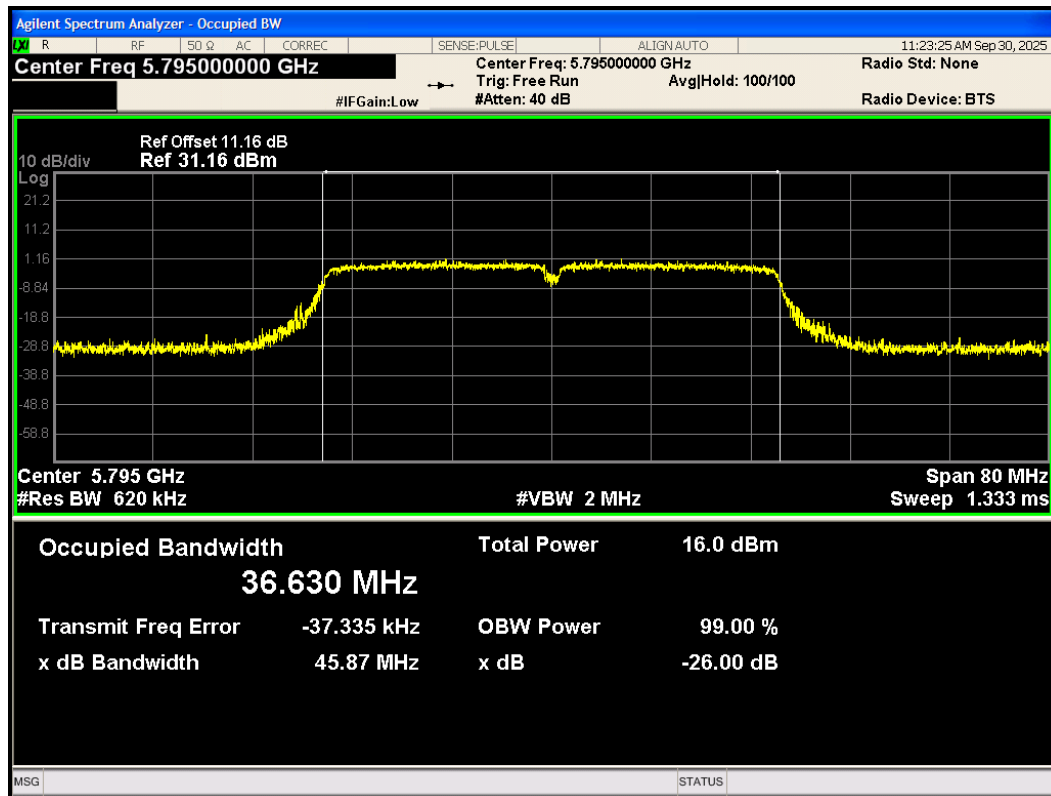
OBW 802.11ac(VHT40) 5710MHz



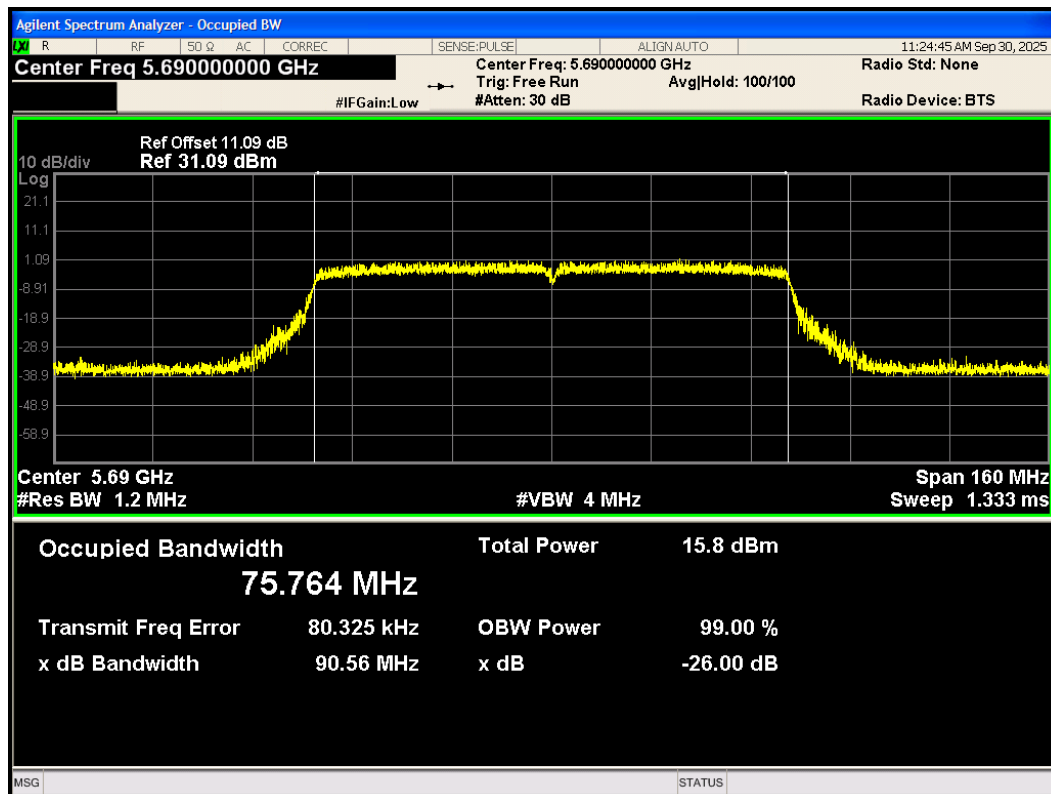
OBW 802.11ac(VHT40) 5755MHz



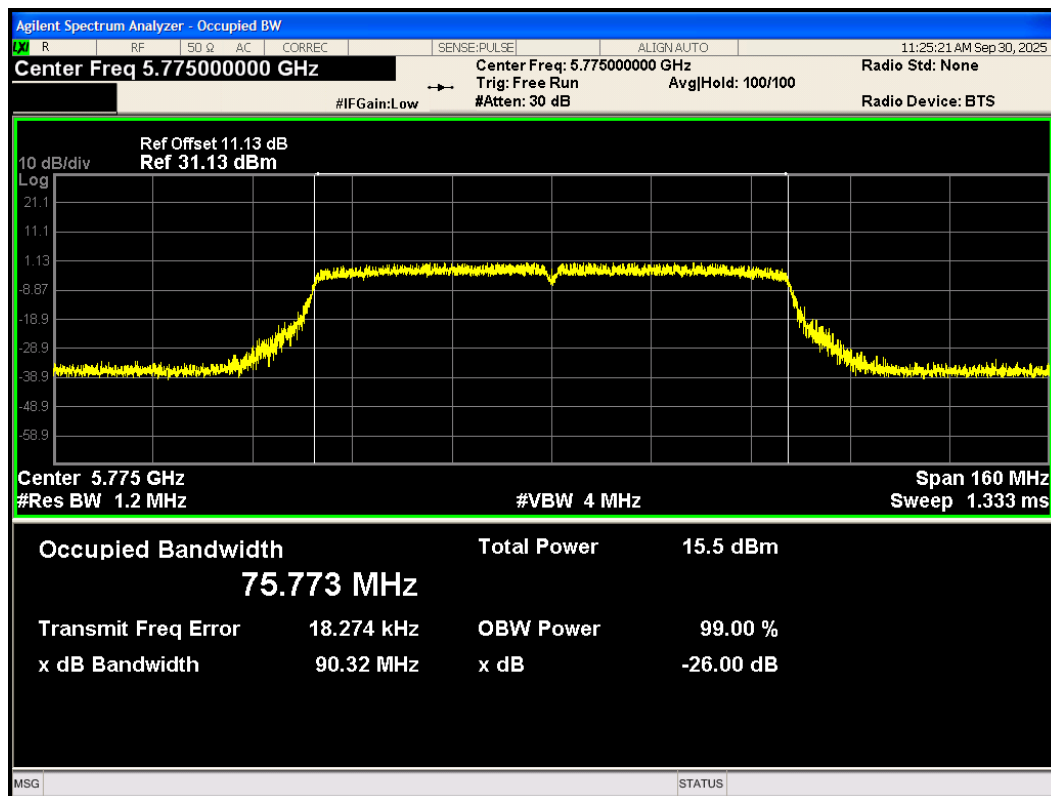
OBW 802.11ac(VHT40) 5795MHz



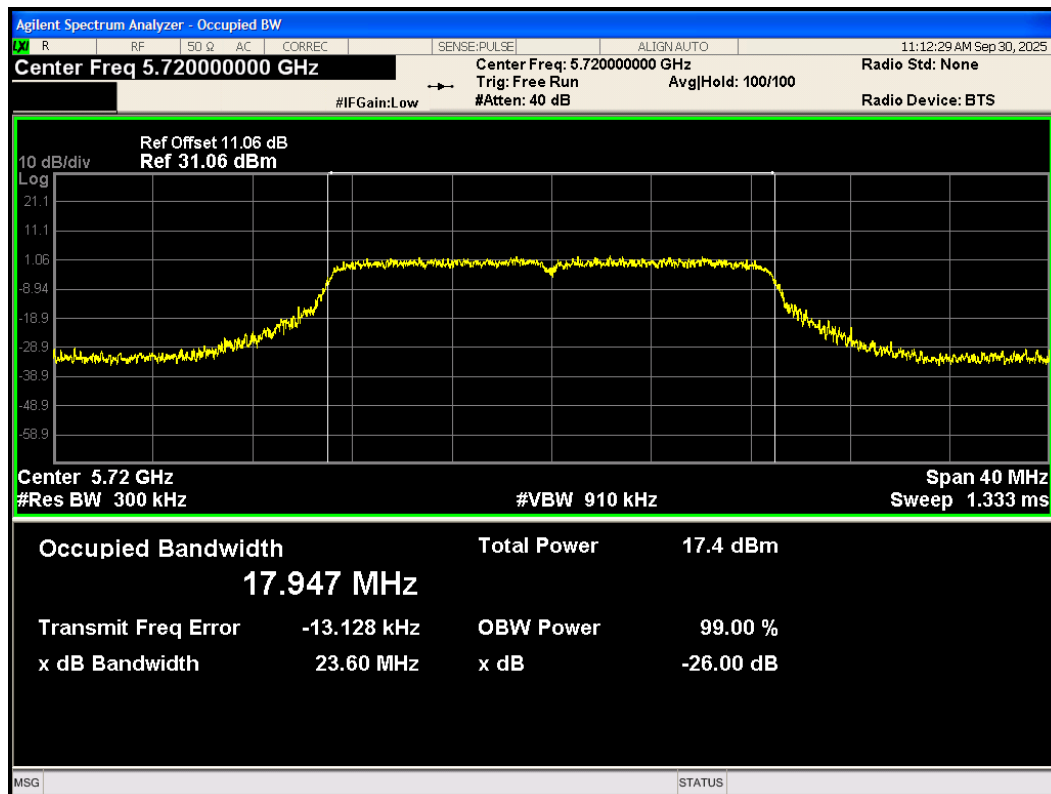
OBW 802.11ac(VHT80) 5690MHz



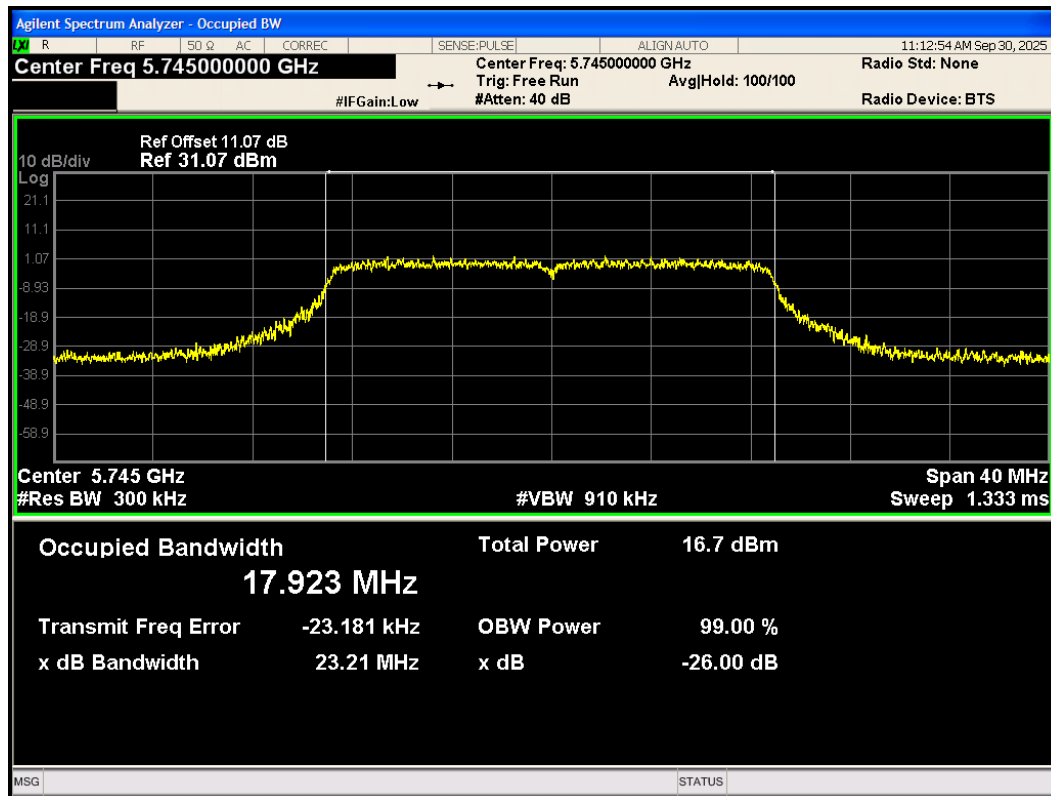
OBW 802.11ac(VHT80) 5775MHz



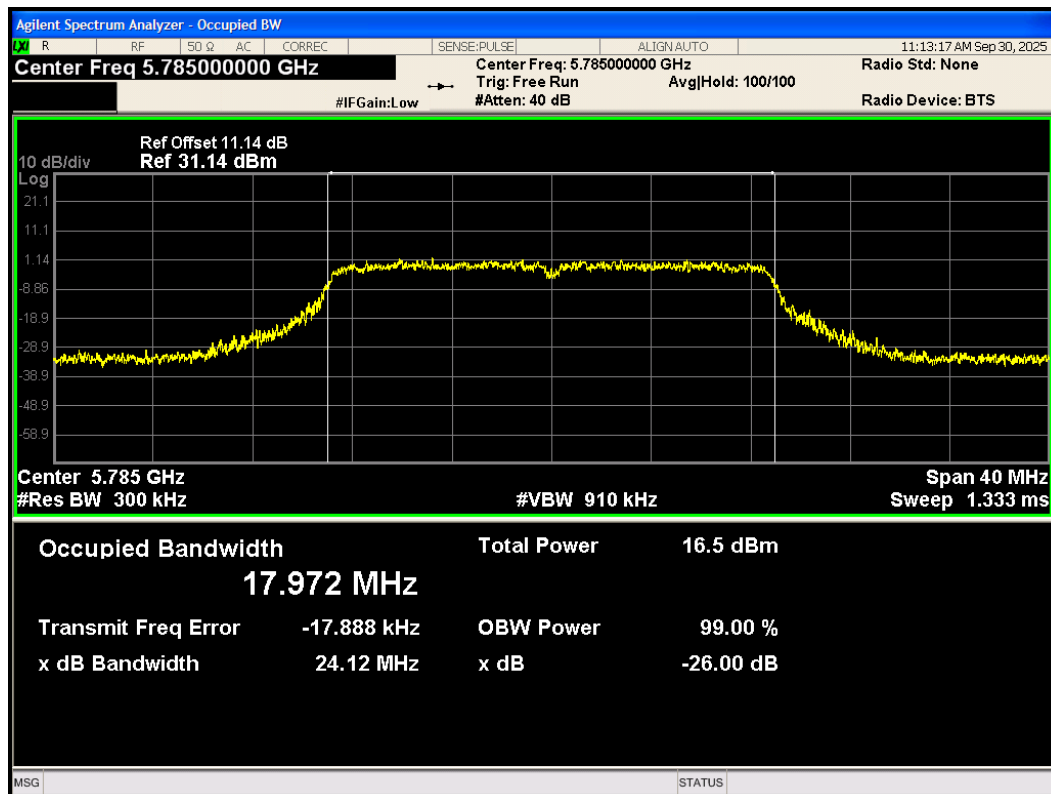
OBW 802.11n(HT20) 5720MHz



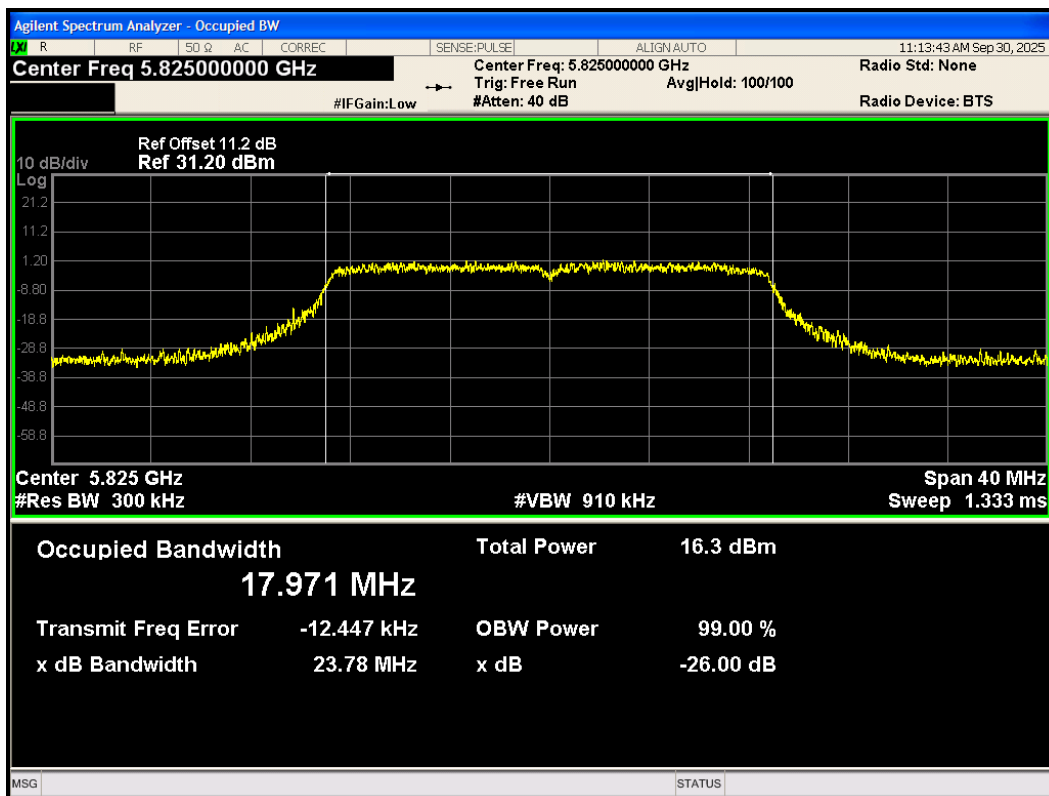
OBW 802.11n(HT20) 5745MHz



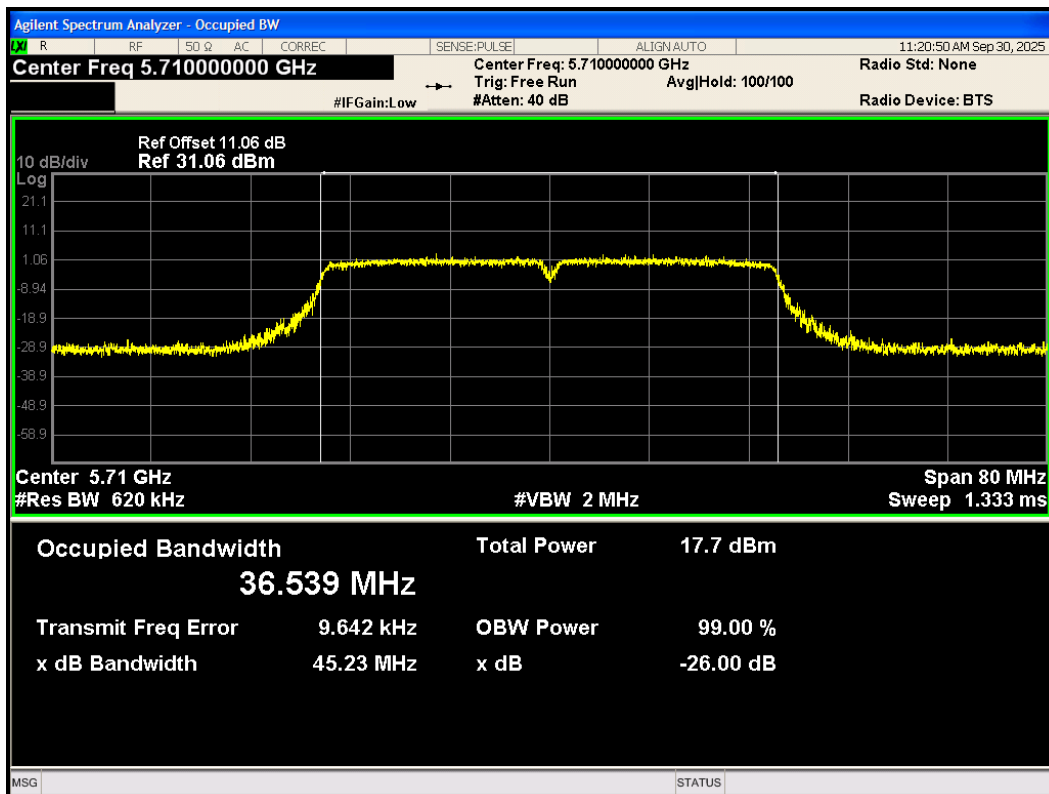
OBW 802.11n(HT20) 5785MHz



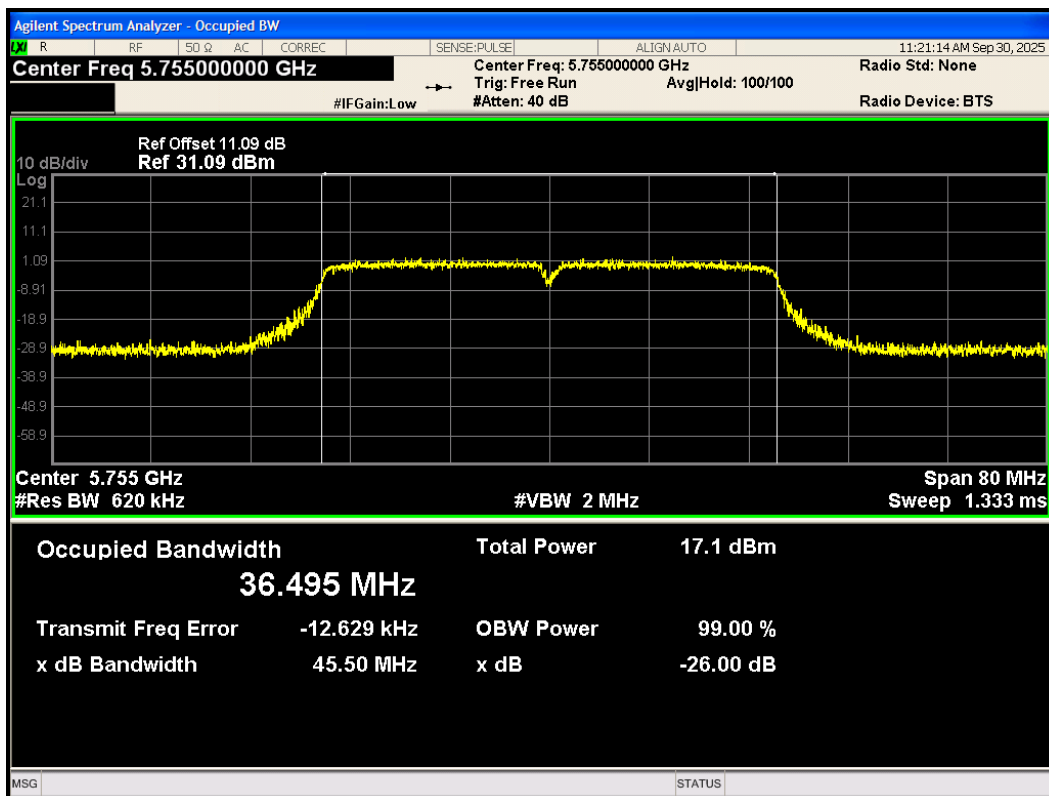
OBW 802.11n(HT20) 5825MHz



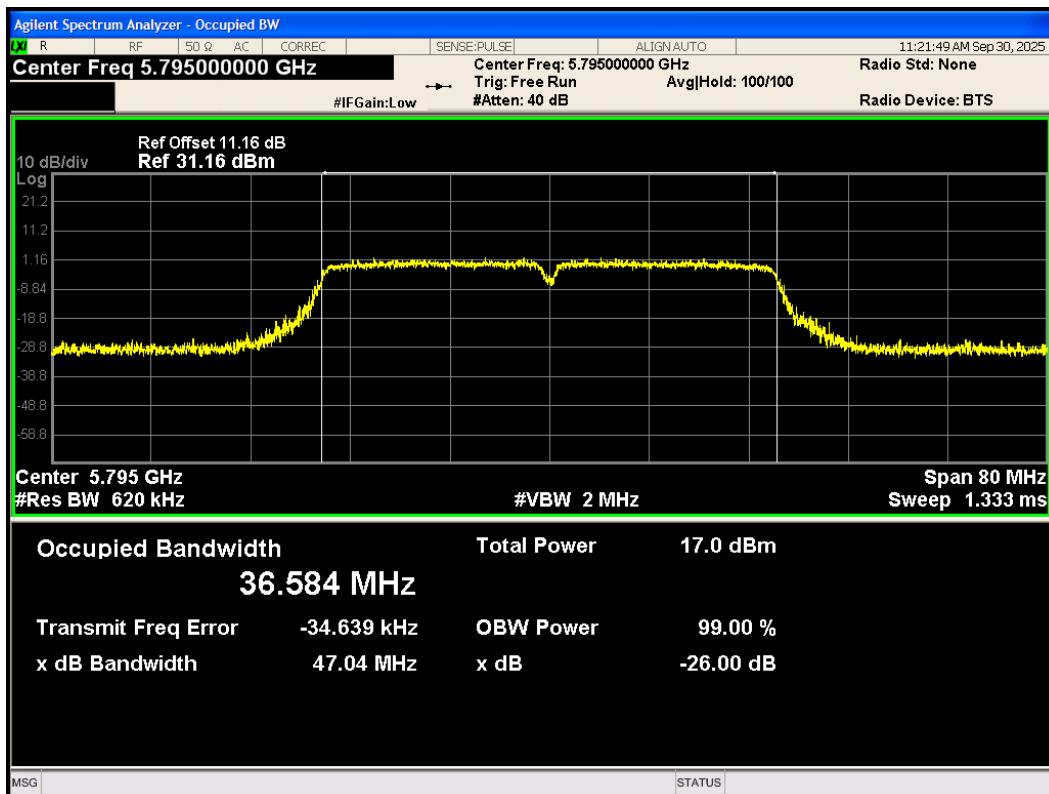
OBW 802.11n(HT40) 5710MHz



OBW 802.11n(HT40) 5755MHz



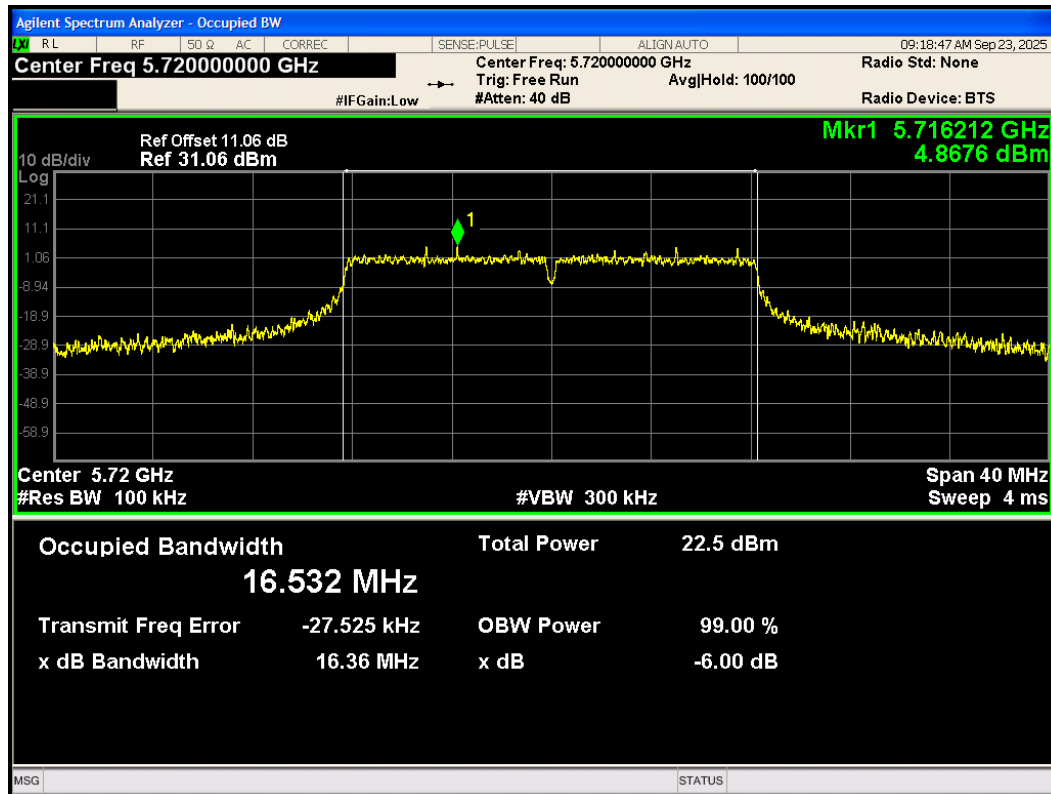
OBW 802.11n(HT40) 5795MHz



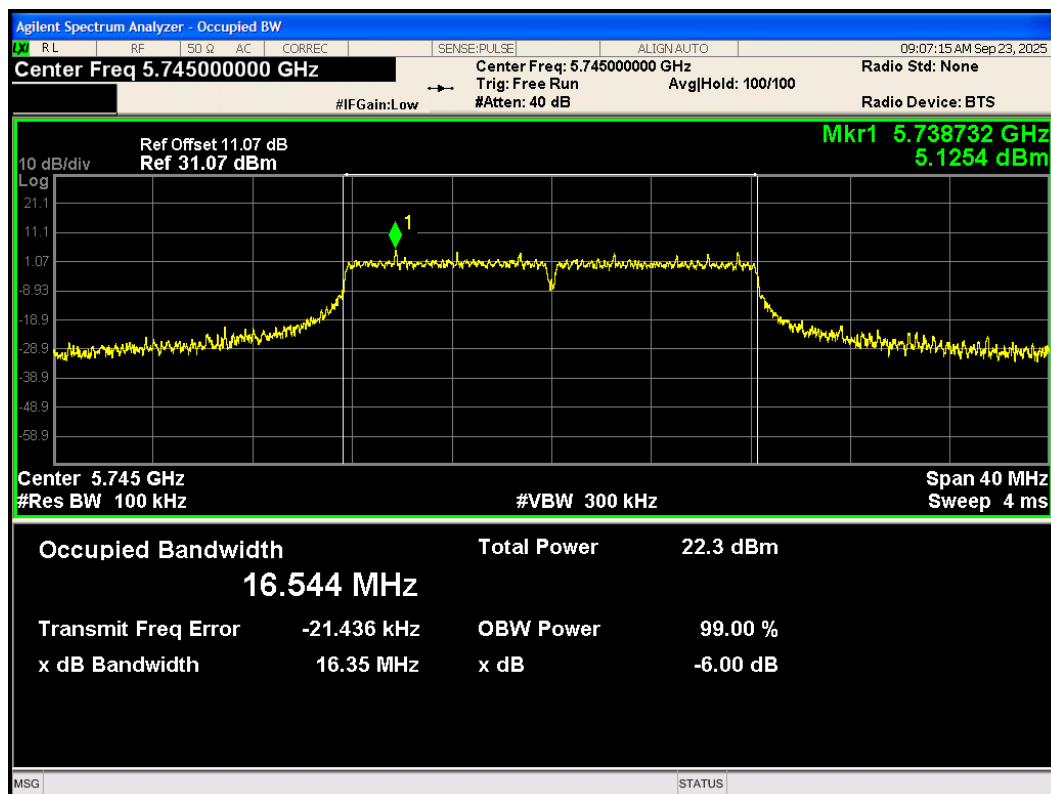
Minimum 6 dB bandwidth

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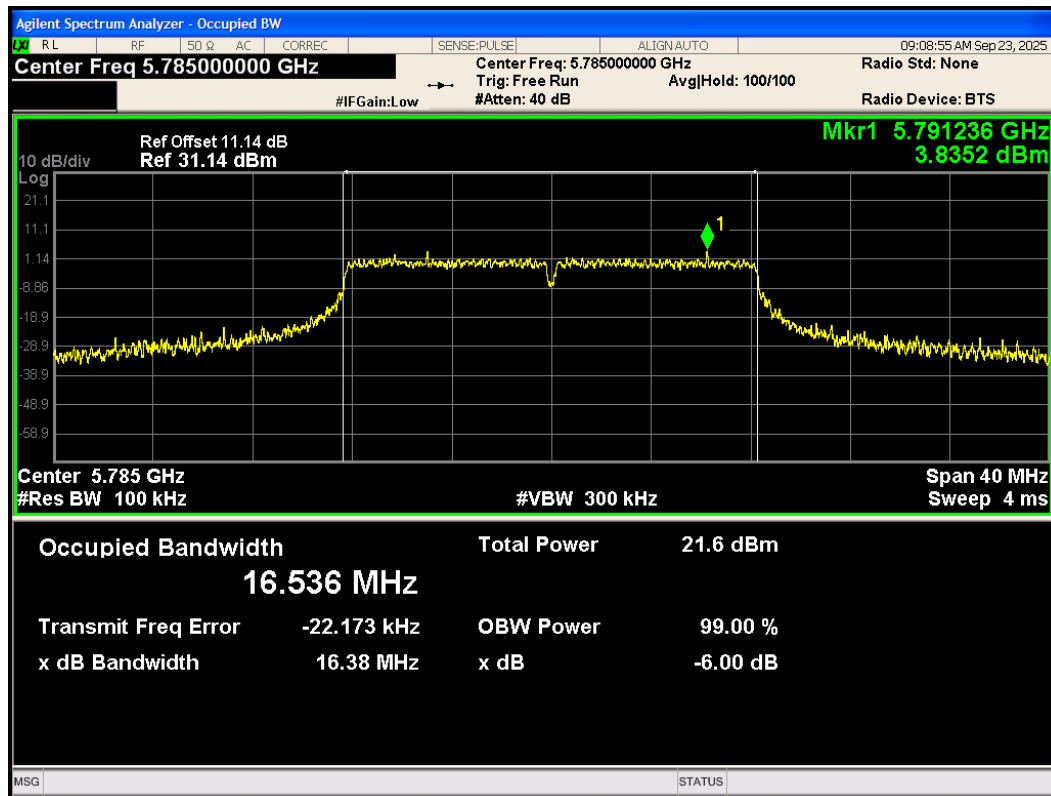
-6dB Bandwidth 802.11a 5720MHz



-6dB Bandwidth 802.11a 5745MHz



-6dB Bandwidth 802.11a 5785MHz



-6dB Bandwidth 802.11a 5825MHz

