RF TEST REPORT

Applicant	Shanghai Sunmi Technology Co., Ltd.
FCC ID	2AH25T5F1BN
Product	Portable Data Processing Terminal
Brand	SUNMI
Model	T5F1B
Report No.	EFTA26060321-IE-02-R4
Issue Date	August 4, 2026

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR 47 Part 15E**. 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	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: July 2, 2026 ~ July 29, 2026
Date of Sample Received: June 26, 2026

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.

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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.
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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	T5F1B	
SN	Conducted	VA11253T40486
	Radiated	SKU 1: VA11253T40837 SKU 2: VA47261GJ2834
Hardware Version	SM03_MB_V1.1	
Software Version	QSC625VPBCJ10R01A03_BA01BP01GLM03V01	
Power Supply	Battery / AC adapter	
Antenna Type	PIFA Antenna	
Antenna Connector	A permanently attached antenna (meet with the standard FCC Part 15.203 requirement)	
Antenna Gain	U-NII-1: 1.20 dBi U-NII-2A: 1.92 dBi U-NII-2C: 2.78 dBi U-NII-3: 1.76 dBi	
Operating Frequency Range(s)	U-NII-1: 5150MHz-5250MHz U-NII-2A: 5250MHz -5350MHz U-NII-2C: 5470MHz-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	U-NII-1: 18.90 dBm (0.078 W)	
	U-NII-2A: 18.78 dBm (0.076 W)	
	U-NII-2C: 19.25 dBm (0.084 W)	
	U-NII-3: 19.04 dBm (0.080 W)	
Operating temperature range	-10 ° C to 55 ° C	
Operating voltage range	6.6 VDC to 8.8 VDC	
Testing temperature range	-10 ° C to 55° C	

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Testing voltage range	6.6 VDC – 7.7 VDC – 8.8 VDC
State voltage	7.7 VDC
EUT Accessory	
Adapter	Manufacturer: Shenzhen Tianyin Electronics Co., Ltd. Model: TPA-141A050200UU01
Battery 1	Manufacturer: Guangdong Fenghua New Energy Co., Ltd. Model: FHPS DC 7.74V, 3000mAh
Battery 2	Manufacturer: Hunan Gaoyuan Battery Co., Ltd Model: GYPB DC 7.74V, 3000mAh

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.

The differences between variant and original is as below:

Description		FCC ID	HVIN	NFC	Scanner
Original (main test prototype)	SKU 1	2AH25T5F1BN	T5F1BNS	Y	Y
Variant	SKU 2	2AH25T5F1BN	T5F1BN	Y	N
The difference between the two EUT is only the Scanner. SKU 2 was tested based on the worst mode of SKU 1.					

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3. Applied Standards

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

Test standards:

FCC CFR 47 Part 15E Unlicensed National Information Infrastructure Devices

ANSI C63.10-2020+Cor.1-2023

Reference standard:

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

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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

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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
			120	5600MHz
			124	5620MHz
			128	5640MHz
			132	5660MHz
			136	5680MHz
			140	5700MHz
			144	5720MHz
		40 MHz	102	5510MHz
			110	5550MHz
			118	5590MHz
			126	5630MHz
			134	5670MHz
			142	5710MHz
		80 MHz	106	5530MHz
			122	5610MHz
			138	5690MHz

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	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				

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5. Test Case

5.1. Occupied Bandwidth

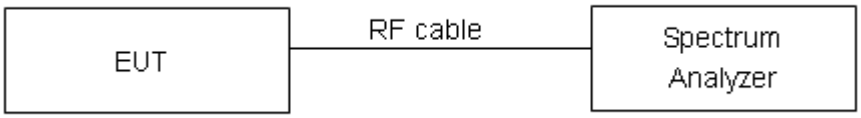
Ambient condition

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, Dector = 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 ⩾ 3 × RBW, Dector = 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.

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5.2. Average Power Output

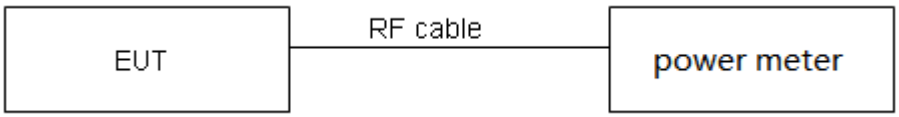
Ambient condition

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

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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 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 dB.

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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 that 10°C, and allow the temperature inside the chamber to stabilize.

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

2. Frequency stability when varying supply voltage

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

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

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

Limit

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

Measurement Uncertainty

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

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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.

For U-NII 1/2A/2C

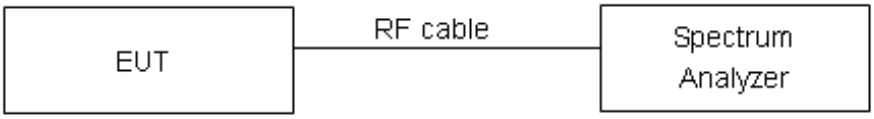
Set span to encompass the entire 99% OBW of the signal
RBW = 1MHz
VBW =3MHz
Number of points in sweep≥ 2 x span /RBW
Sweep time = auto
Detector = RMS

For U-NII 3

Set span to encompass the entire 99% OBW of the signal
RBW = 500kHz（510kHz if the SA can not set 500kHz，add 10 log（500 kHz/RBW）to the test result）
VBW =2MHz
Number of points in sweep≥ 2 x span /RBW
Sweep time = auto
Detector = RMS

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

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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 transmittingantennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Frequency Bands/GHz	Limits
5.15-5.25	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= 0.75dB.

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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

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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 / (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.

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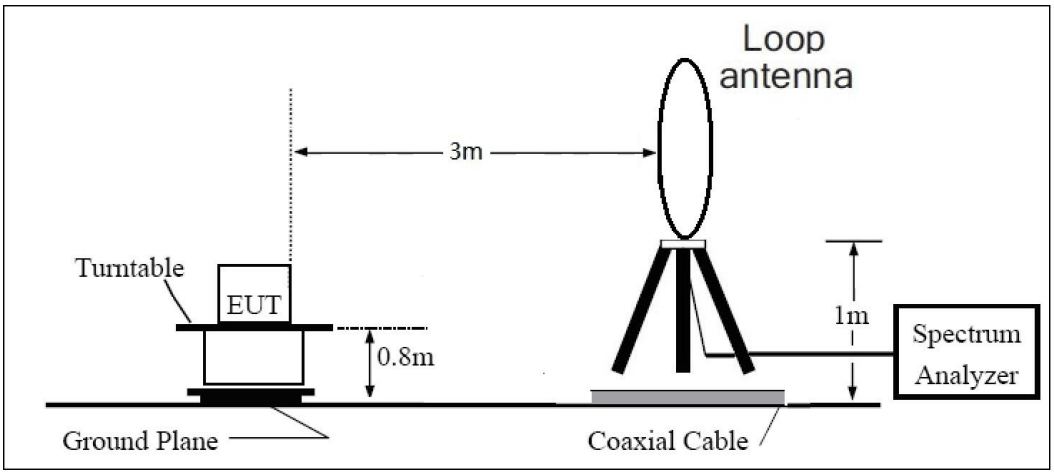
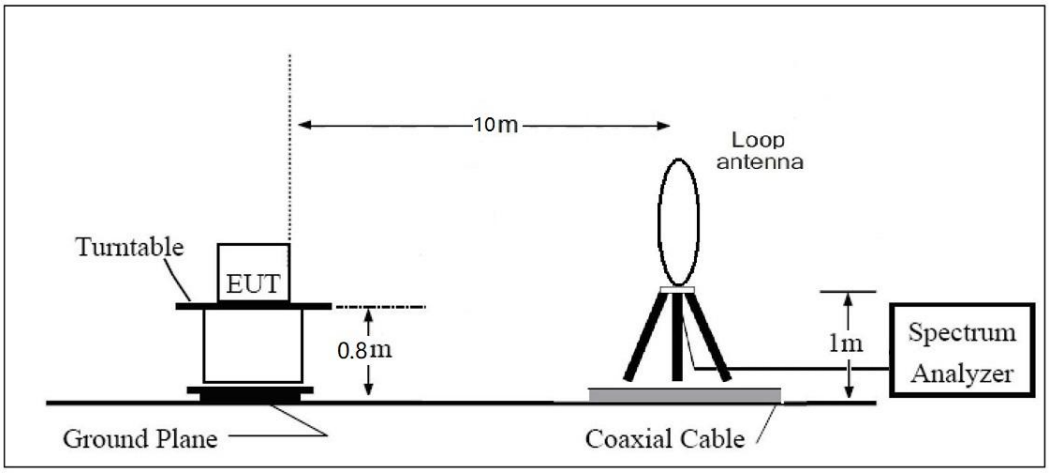
Test setup

9kHz~ 30MHz



Note: Area side:2.4mX3.6m

Distance 10m



Note: Area side: 21m x 12m

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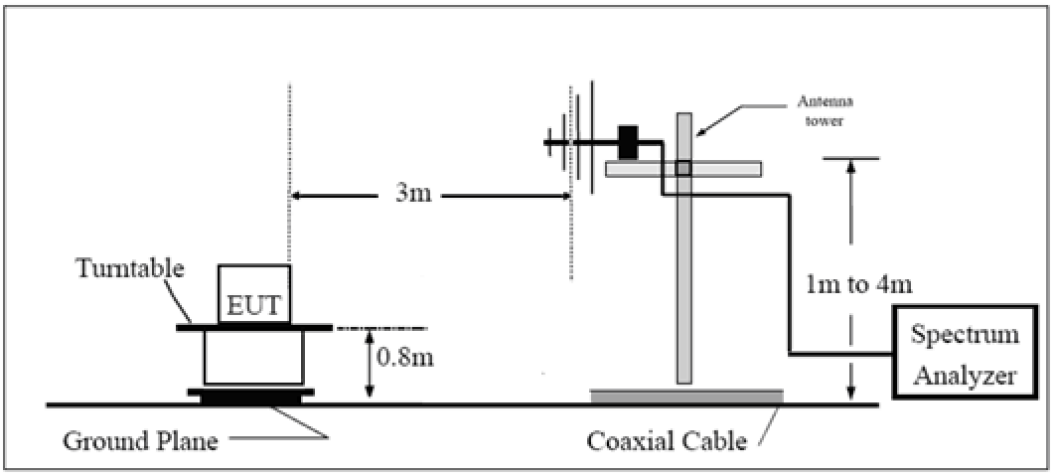
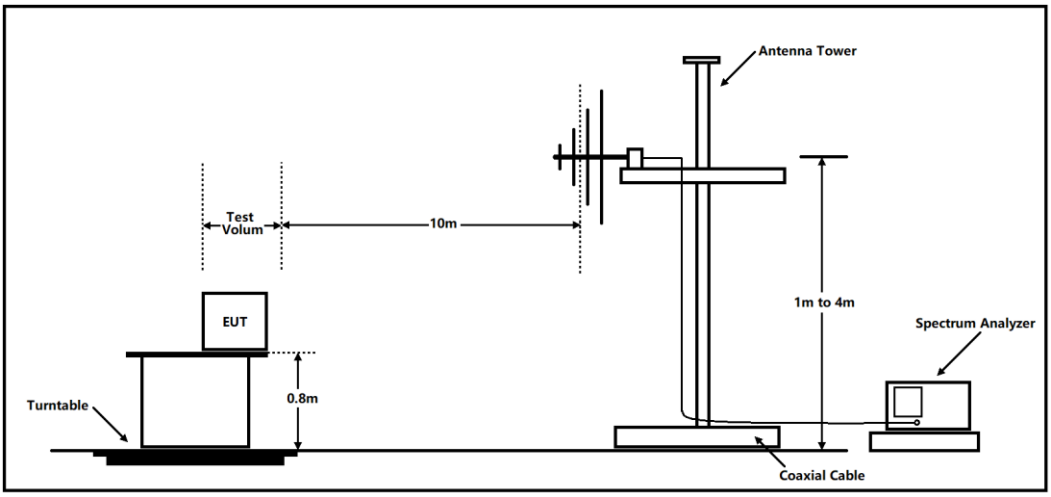
30MHz~ 1GHz



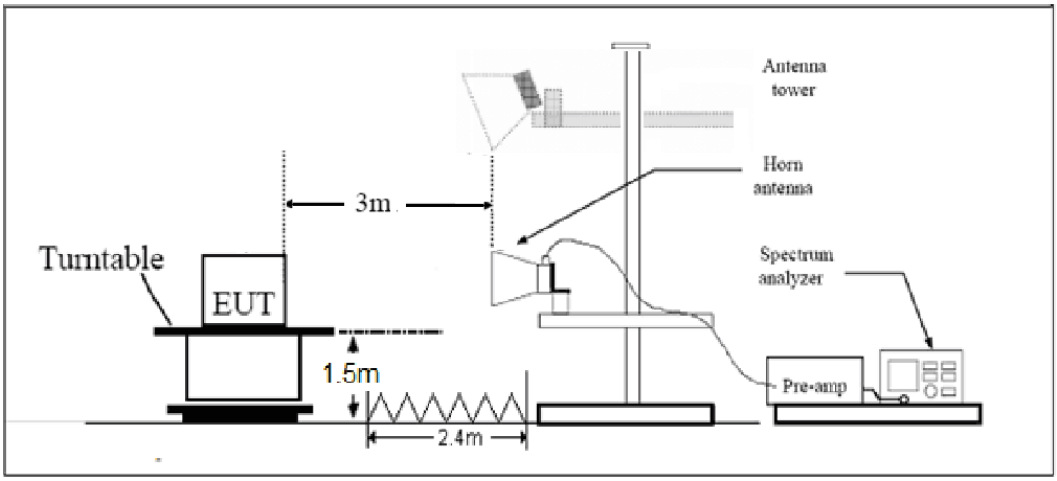
Note: Area side:2.4mX3.6m

Distance 10m



Note: Area side: 21m x 12m

Above 1GHz



Note: Area side:2.4mX3.6m

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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[dBμV/m] = EIRP[dBm] - 20 log(d[meters]) + 104.77, where E = field strength and

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

§2、E[dBμV/m] = EIRP[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

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MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]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

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5.6. Conducted Emission

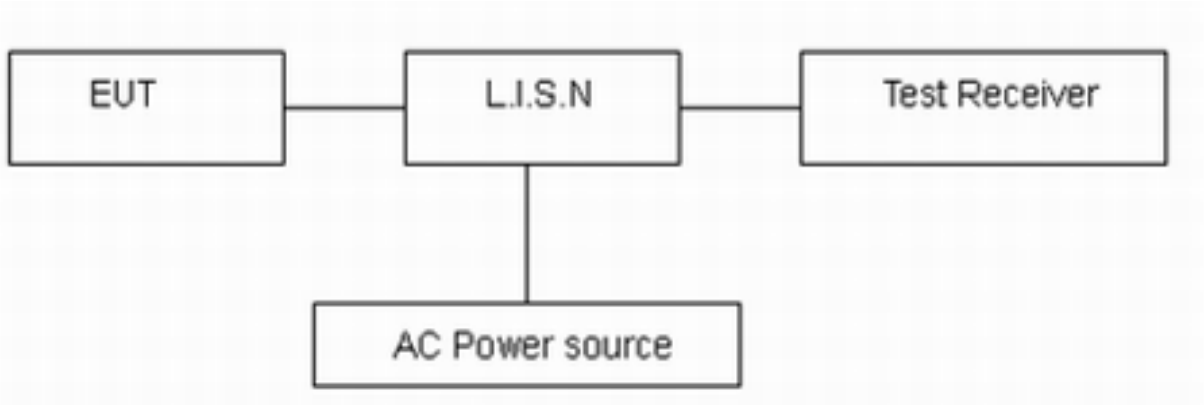
Ambient condition

Temperature	Relative humidity	Pressure
25°C	57%	101.3 kPa

Methods of Measurement

When the EUT is a tabletop system, the EUT is placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane; When the EUT is a floor standing equipment, the EUT is placed on the ground plane which has a 15cm non-conductive covering to insulate the EUT from the 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.

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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	16.608	22.324	Pass
802.11a	5200	16.633	22.874	Pass
802.11a	5240	16.622	23.415	Pass
802.11ac(VHT20)	5180	17.782	22.969	Pass
802.11ac(VHT20)	5200	17.813	23.525	Pass
802.11ac(VHT20)	5240	17.808	23.621	Pass
802.11ac(VHT40)	5190	36.224	41.599	Pass
802.11ac(VHT40)	5230	36.193	41.020	Pass
802.11ac(VHT80)	5210	75.818	84.150	Pass
802.11n(HT20)	5180	17.776	22.859	Pass
802.11n(HT20)	5200	17.815	23.473	Pass
802.11n(HT20)	5240	17.790	23.597	Pass
802.11n(HT40)	5190	36.295	41.218	Pass
802.11n(HT40)	5230	36.259	41.720	Pass

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U-NII-2A

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	5260	16.598	23.002	Pass
802.11a	5300	16.623	22.653	Pass
802.11a	5320	16.605	22.111	Pass
802.11ac(VHT20)	5260	17.847	23.414	Pass
802.11ac(VHT20)	5300	17.803	22.800	Pass
802.11ac(VHT20)	5320	17.820	22.799	Pass
802.11ac(VHT40)	5270	36.244	41.005	Pass
802.11ac(VHT40)	5310	36.251	41.133	Pass
802.11ac(VHT80)	5290	75.775	84.294	Pass
802.11n(HT20)	5260	17.800	22.877	Pass
802.11n(HT20)	5300	17.824	22.716	Pass
802.11n(HT20)	5320	17.800	24.165	Pass
802.11n(HT40)	5270	36.252	41.084	Pass
802.11n(HT40)	5310	36.284	41.442	Pass

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U-NII-2C

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
802.11a	5500	16.605	21.508	Pass
802.11a	5600	16.602	22.934	Pass
802.11a	5700	16.641	22.580	Pass
802.11a	5720	16.581	21.503	Pass
802.11ac(VHT20)	5500	17.794	22.354	Pass
802.11ac(VHT20)	5600	17.828	22.400	Pass
802.11ac(VHT20)	5700	17.795	22.828	Pass
802.11ac(VHT20)	5720	17.805	22.830	Pass
802.11ac(VHT40)	5510	36.230	41.364	Pass
802.11ac(VHT40)	5590	36.276	41.561	Pass
802.11ac(VHT40)	5670	36.322	50.651	Pass
802.11ac(VHT40)	5710	36.294	46.029	Pass
802.11ac(VHT80)	5610	75.856	84.665	Pass
802.11ac(VHT80)	5690	75.958	105.081	Pass
802.11n(HT20)	5500	17.790	22.759	Pass
802.11n(HT20)	5600	17.782	22.752	Pass
802.11n(HT20)	5700	17.781	22.866	Pass
802.11n(HT20)	5720	17.769	23.153	Pass
802.11n(HT40)	5510	36.223	41.714	Pass
802.11n(HT40)	5590	36.239	41.524	Pass
802.11n(HT40)	5670	36.328	41.873	Pass
802.11n(HT40)	5710	36.366	41.789	Pass

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U-NII-3

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11a	5720	16.657	12.610	500	Pass
802.11a	5745	16.576	15.291	500	Pass
802.11a	5785	16.635	13.794	500	Pass
802.11a	5825	16.662	16.027	500	Pass
802.11ac(VHT20)	5720	17.792	16.552	500	Pass
802.11ac(VHT20)	5745	17.774	16.880	500	Pass
802.11ac(VHT20)	5785	17.781	16.761	500	Pass
802.11ac(VHT20)	5825	17.820	16.767	500	Pass
802.11ac(VHT40)	5710	36.242	35.728	500	Pass
802.11ac(VHT40)	5755	36.307	35.645	500	Pass
802.11ac(VHT40)	5795	36.270	35.114	500	Pass
802.11ac(VHT80)	5690	75.733	75.124	500	Pass
802.11ac(VHT80)	5775	75.800	75.119	500	Pass
802.11n(HT20)	5720	17.776	16.284	500	Pass
802.11n(HT20)	5745	17.771	14.142	500	Pass
802.11n(HT20)	5785	17.789	15.629	500	Pass
802.11n(HT20)	5825	17.832	13.879	500	Pass
802.11n(HT40)	5710	36.307	35.294	500	Pass
802.11n(HT40)	5755	36.297	35.694	500	Pass
802.11n(HT40)	5795	36.299	35.115	500	Pass

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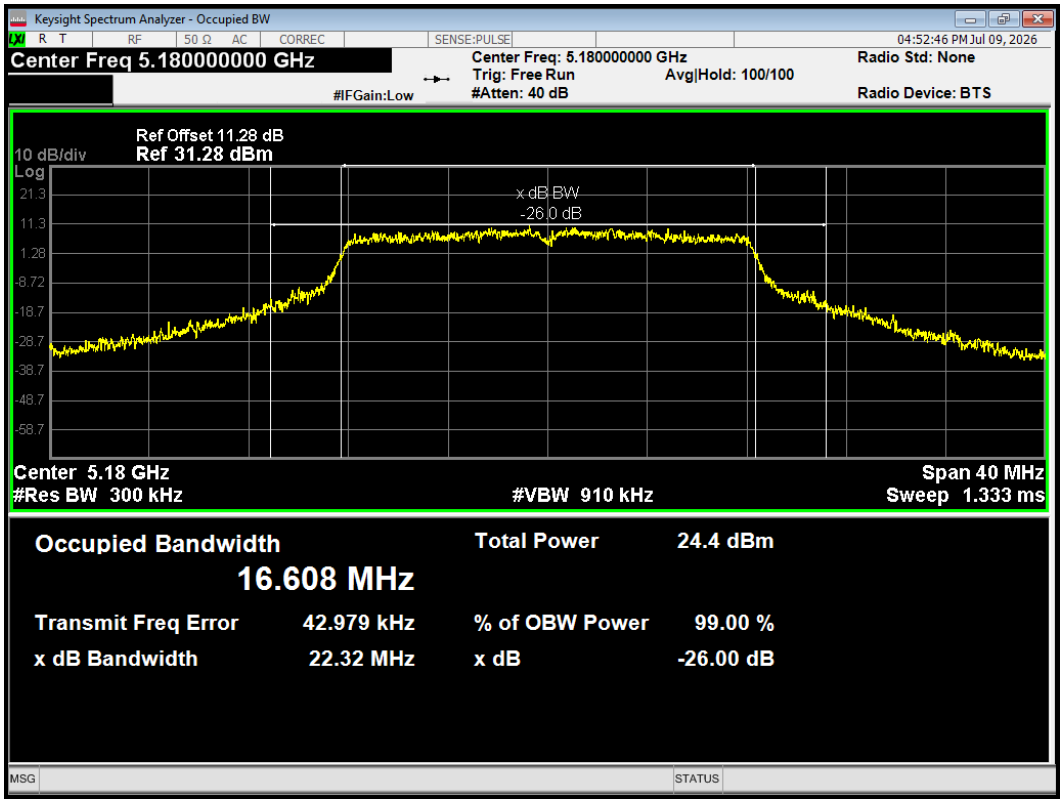
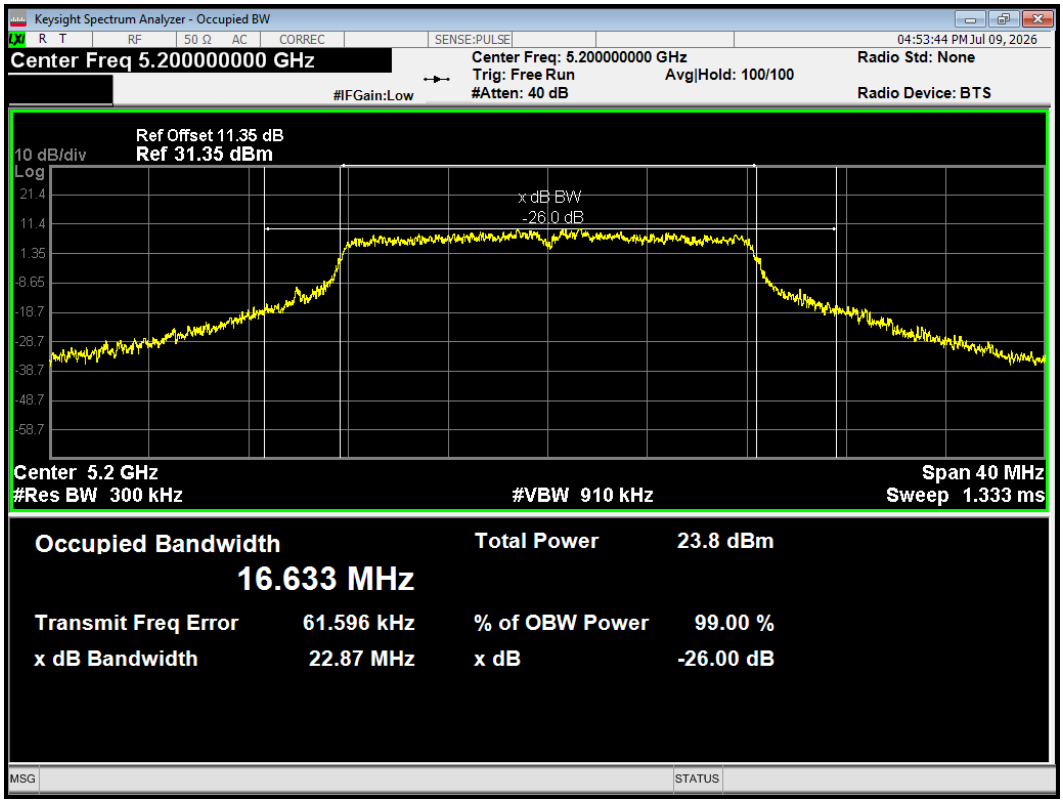
99% bandwidth

U-NII-1

OBW 802.11a 5180MHz



OBW 802.11a 5200MHz



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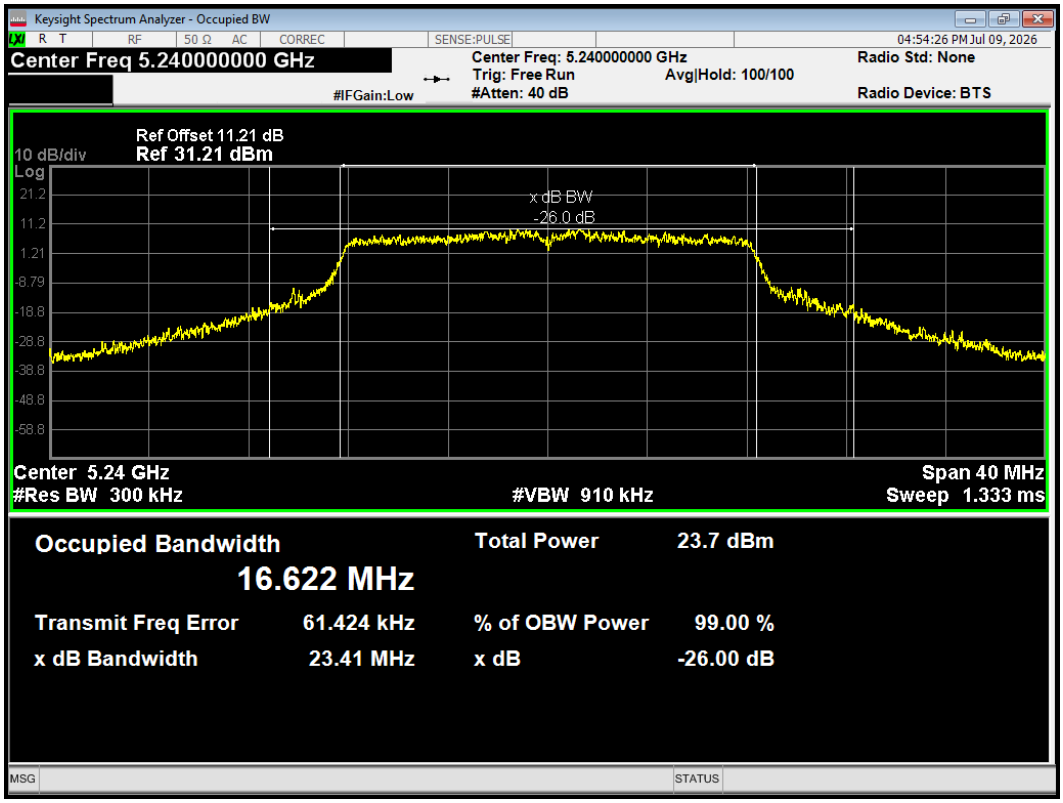
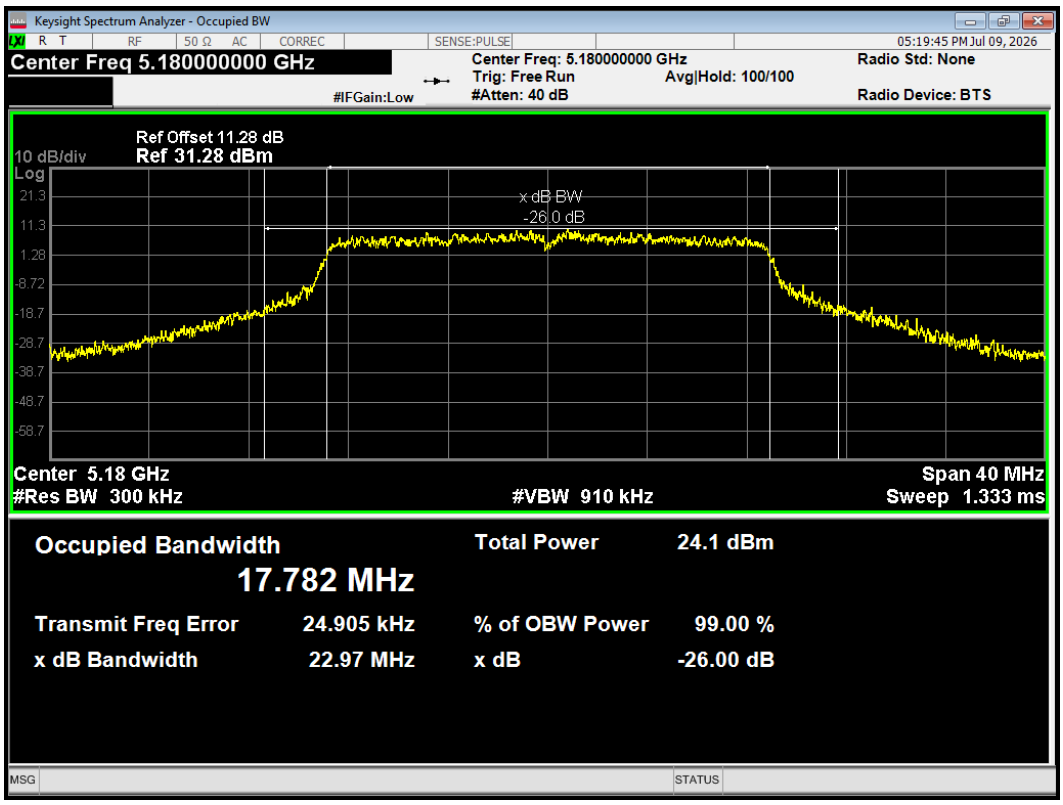
OBW 802.11a 5240MHz



OBW 802.11ac(VHT20) 5180MHz



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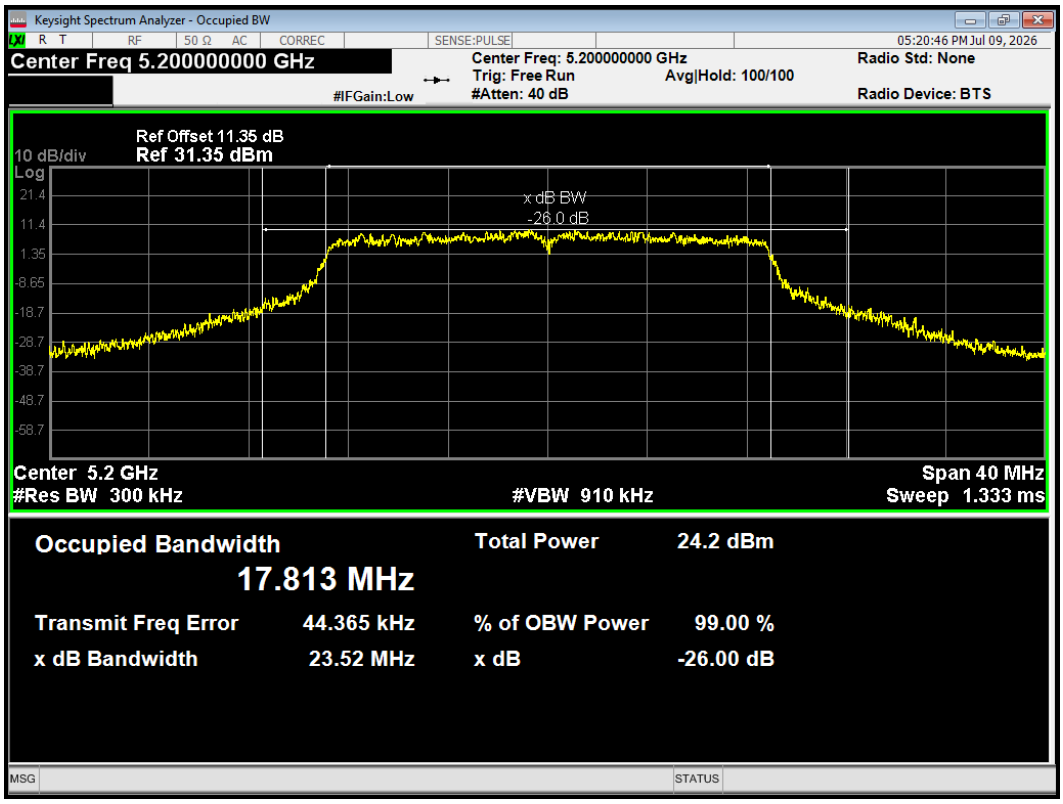
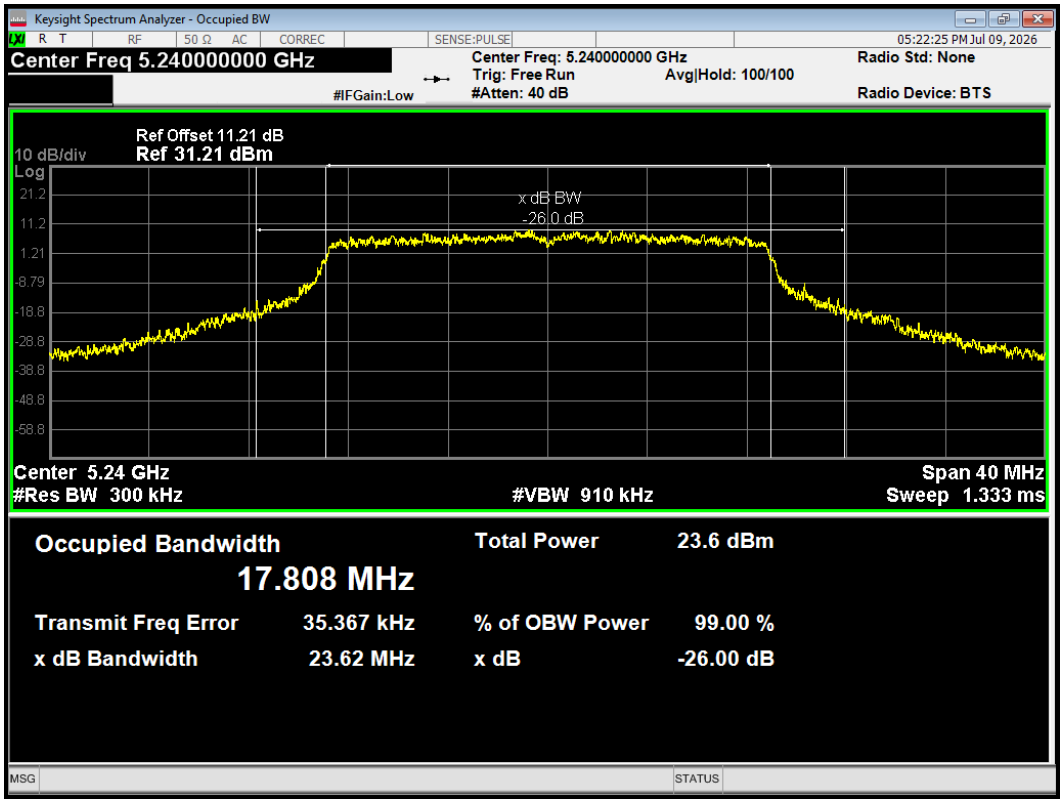
OBW 802.11ac(VHT20) 5200MHz



OBW 802.11ac(VHT20) 5240MHz



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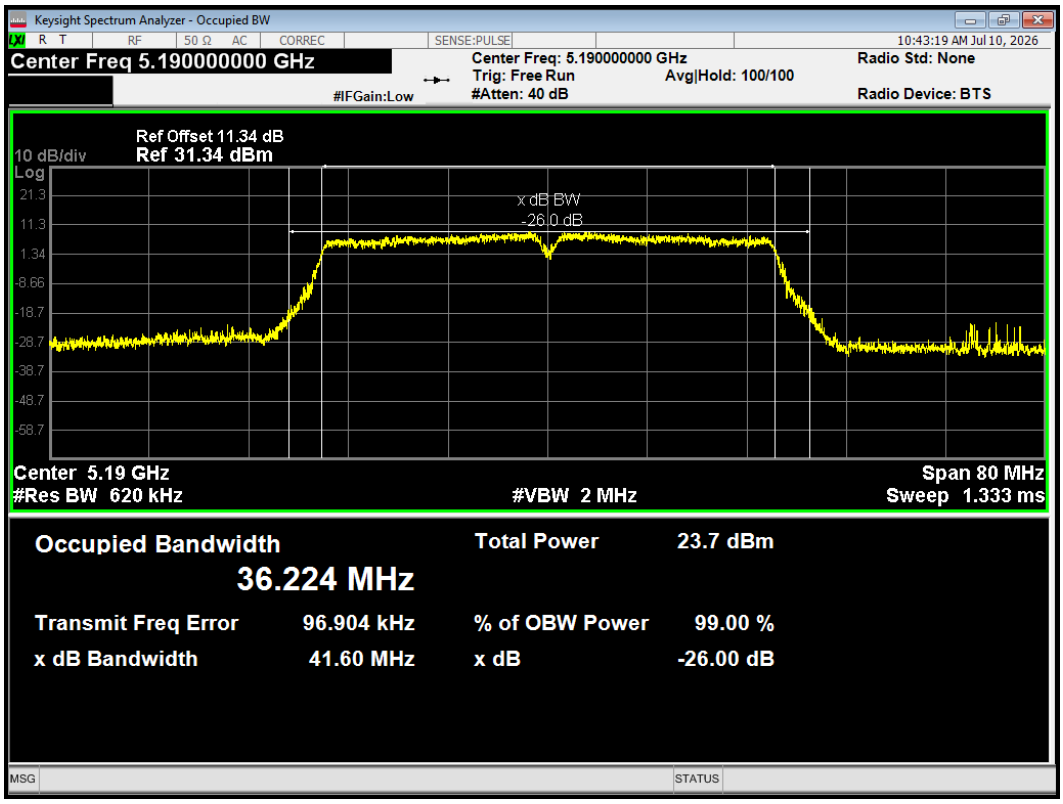
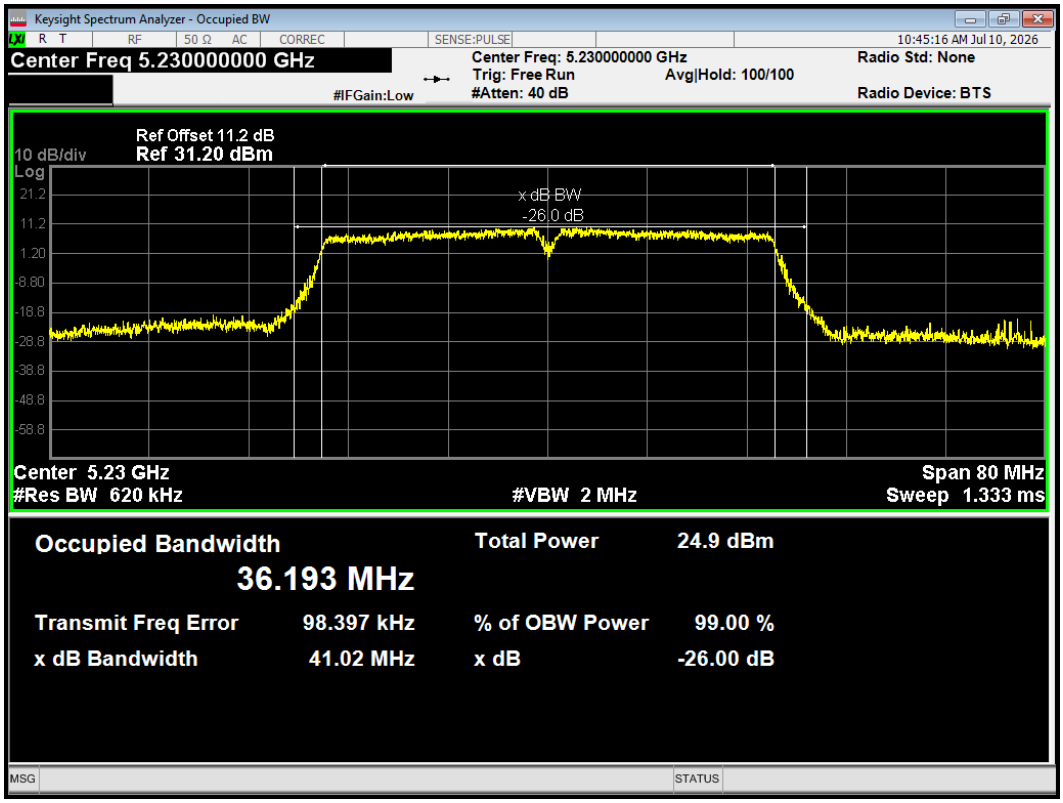
OBW 802.11ac(VHT40) 5190MHz



OBW 802.11ac(VHT40) 5230MHz



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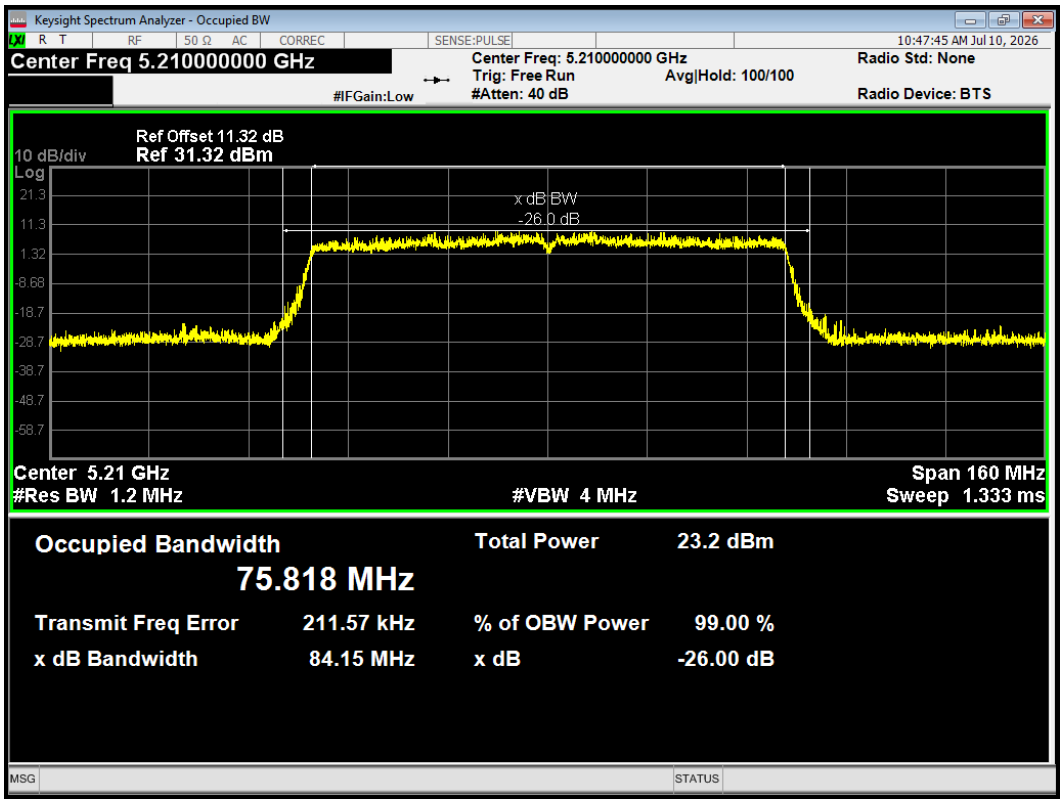
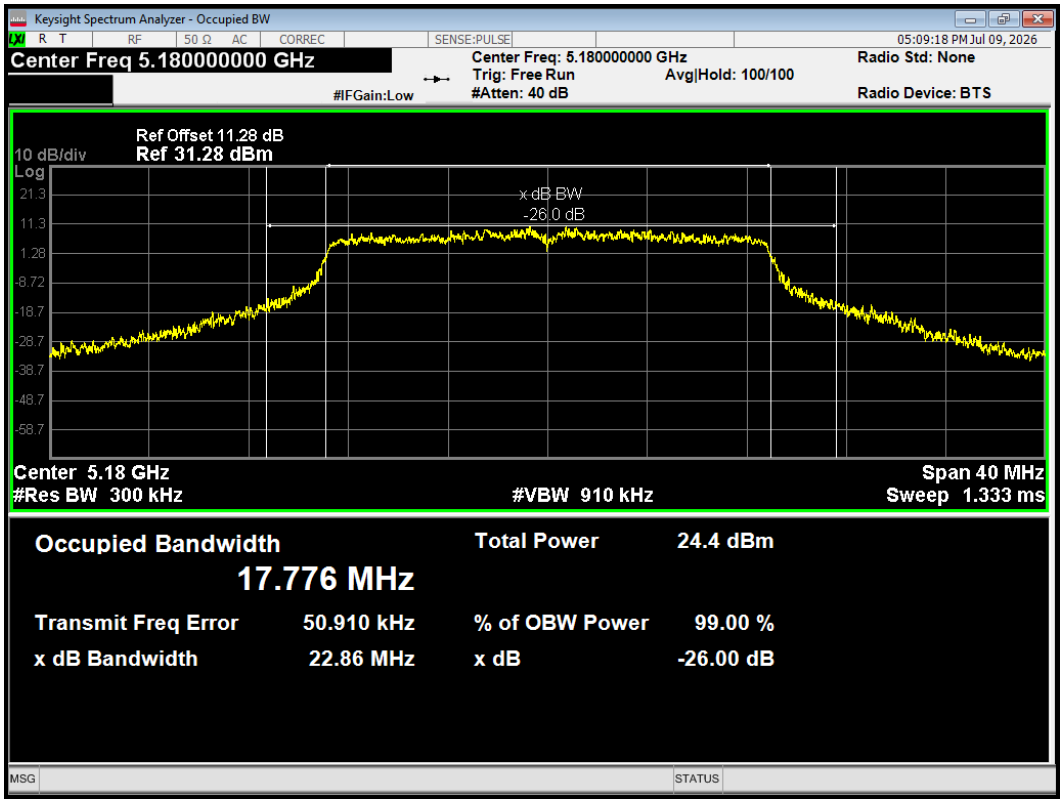
OBW 802.11ac(VHT80) 5210MHz



OBW 802.11n(HT20) 5180MHz



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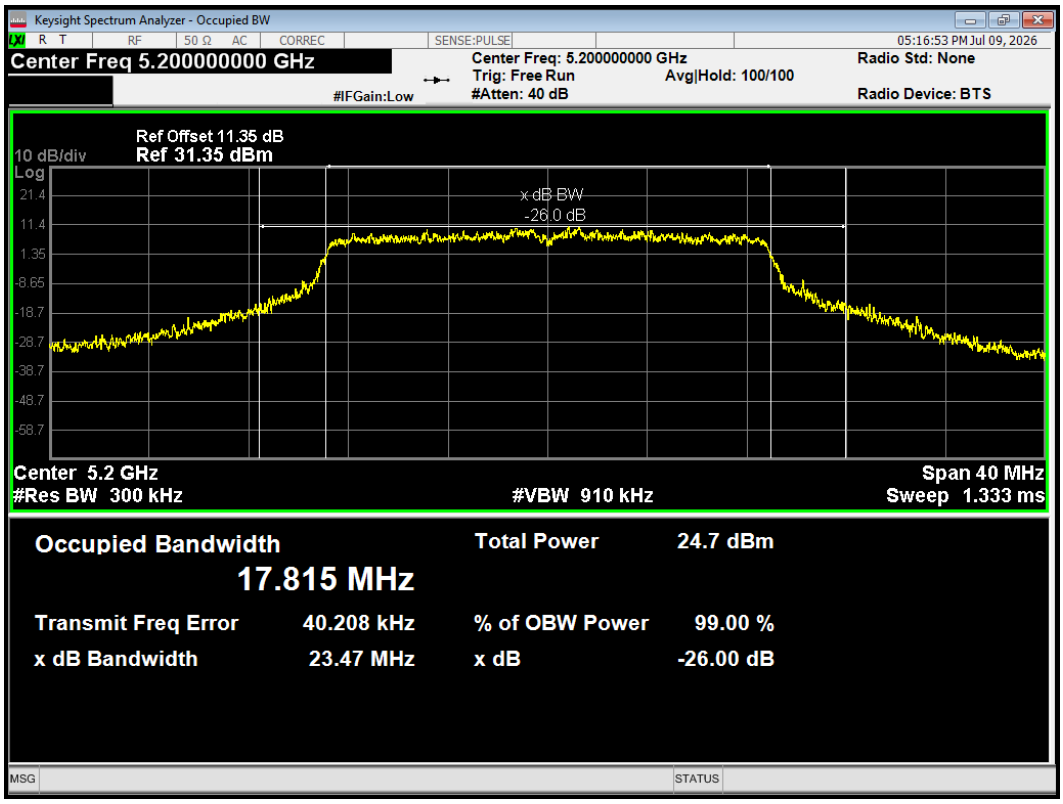
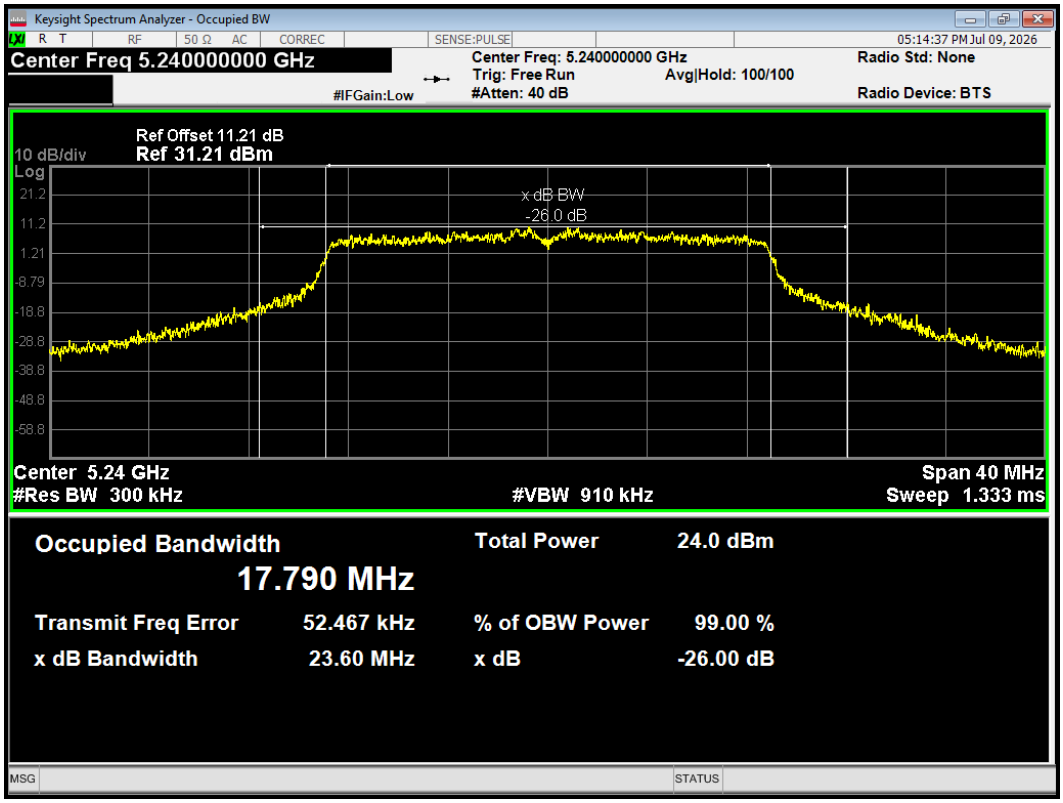
OBW 802.11n(HT20) 5200MHz



OBW 802.11n(HT20) 5240MHz



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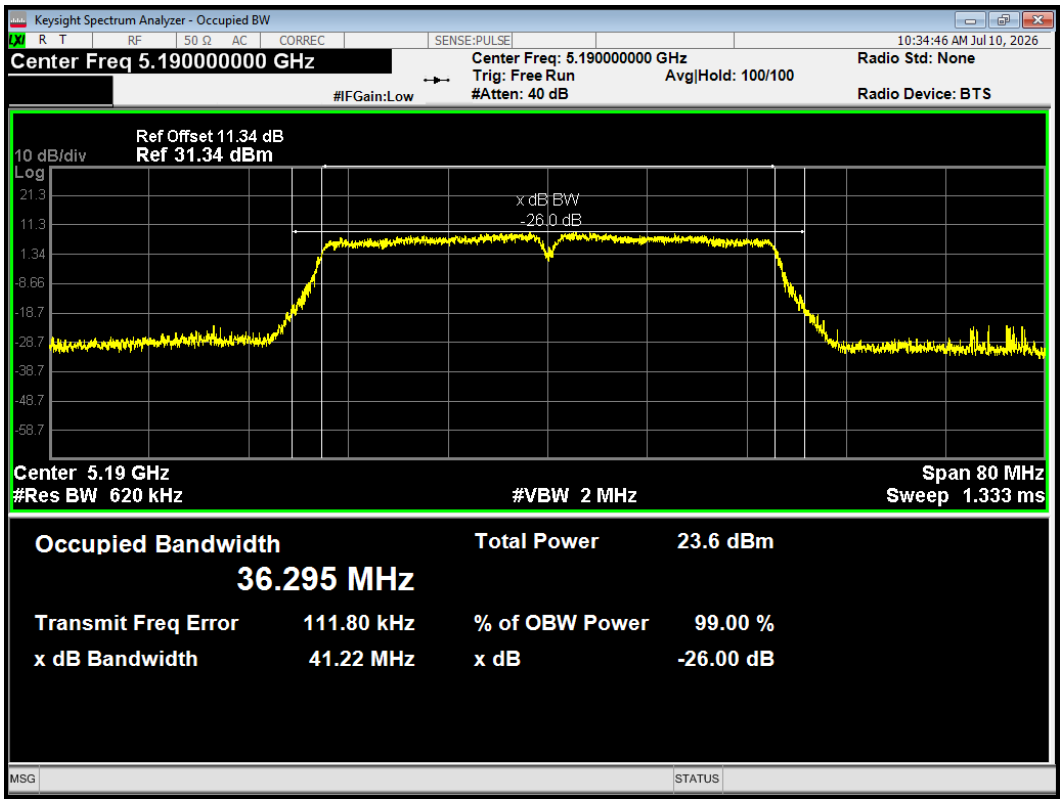
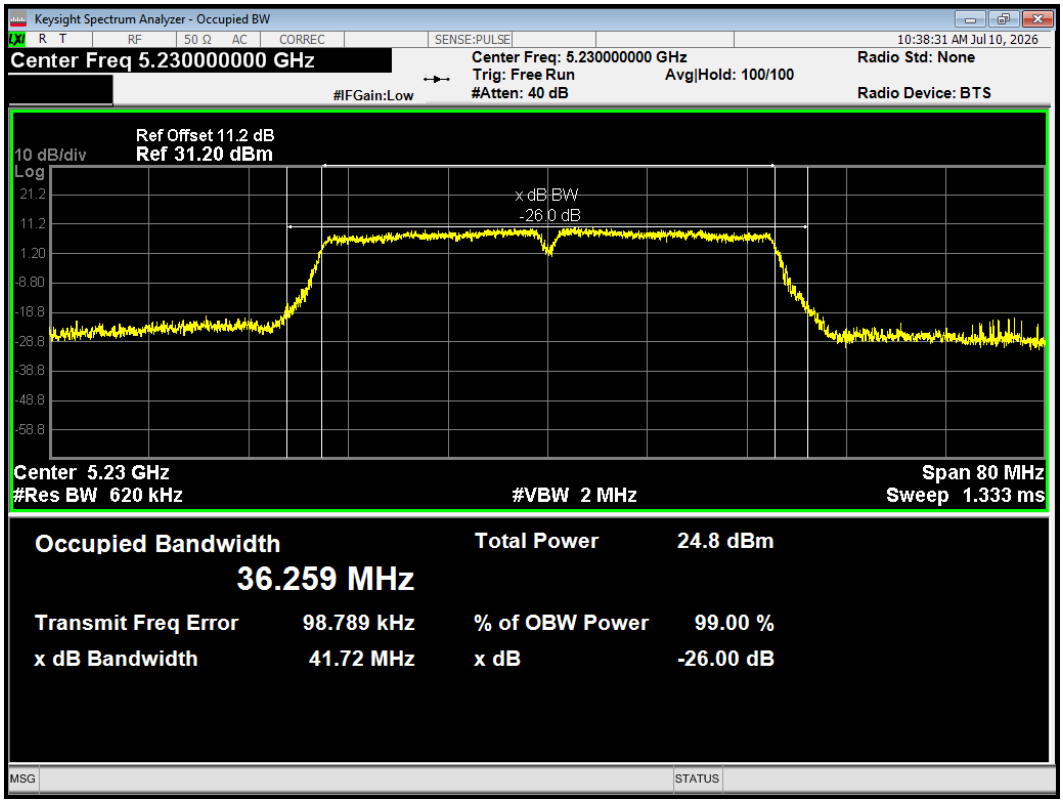
OBW 802.11n(HT40) 5190MHz



OBW 802.11n(HT40) 5230MHz



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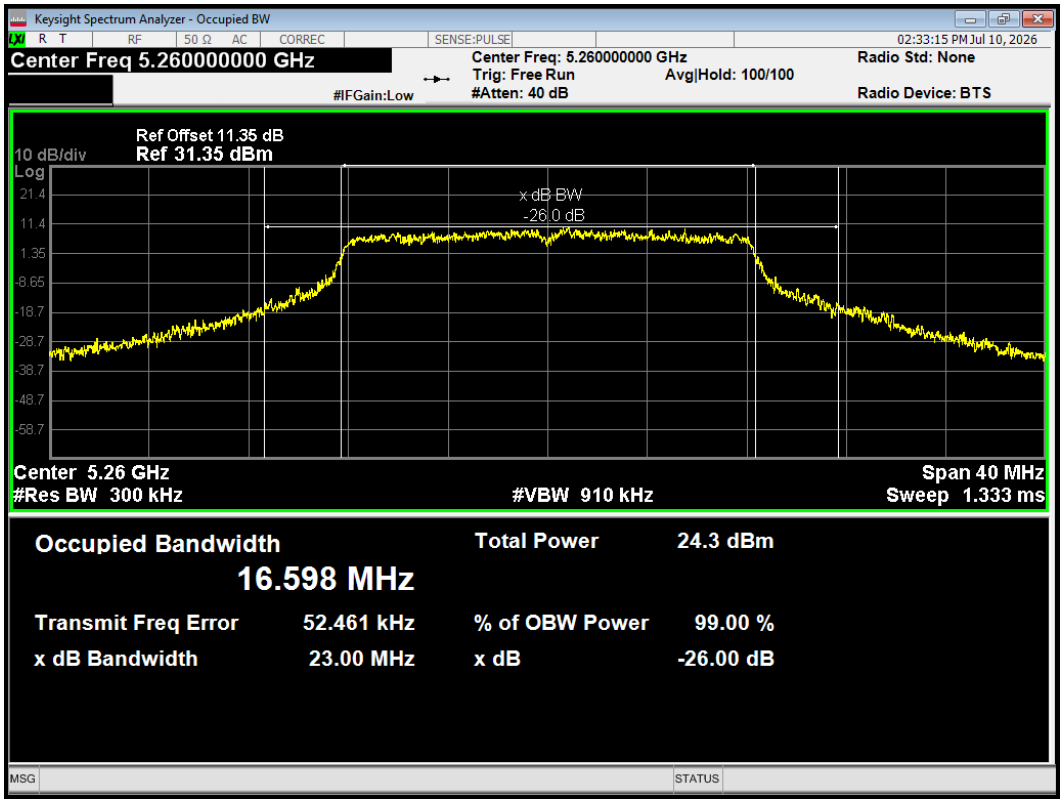
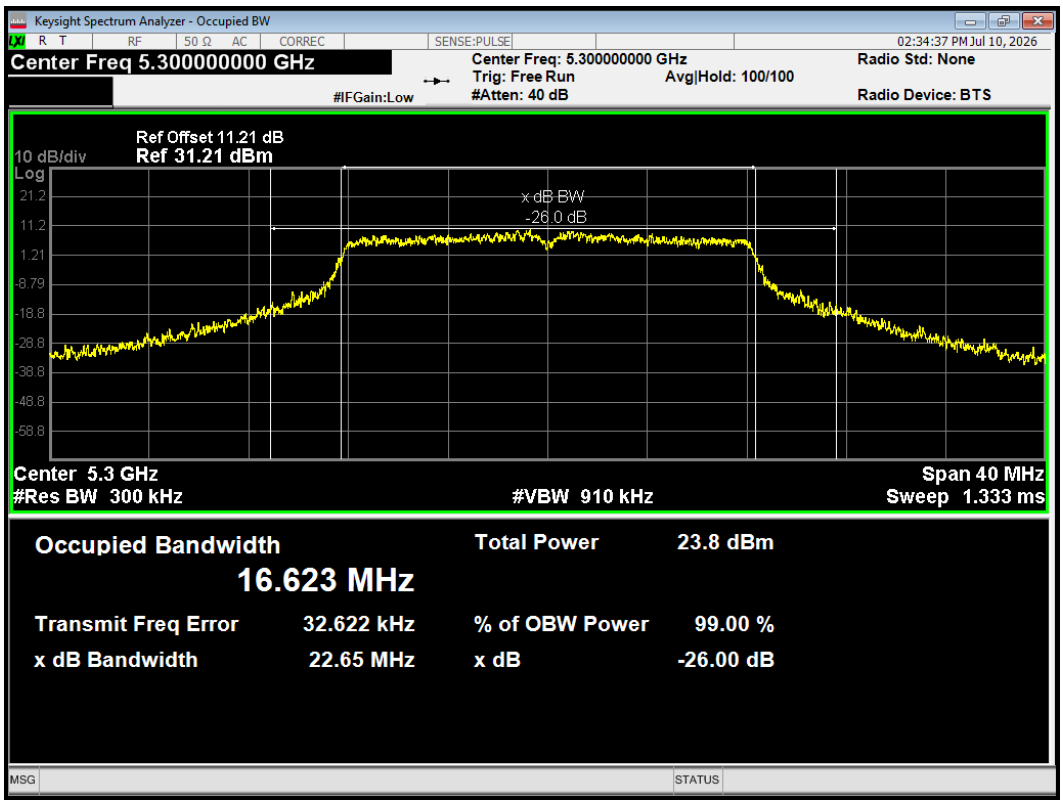
U-NII-2A

OBW 802.11a 5260MHz



OBW 802.11a 5300MHz



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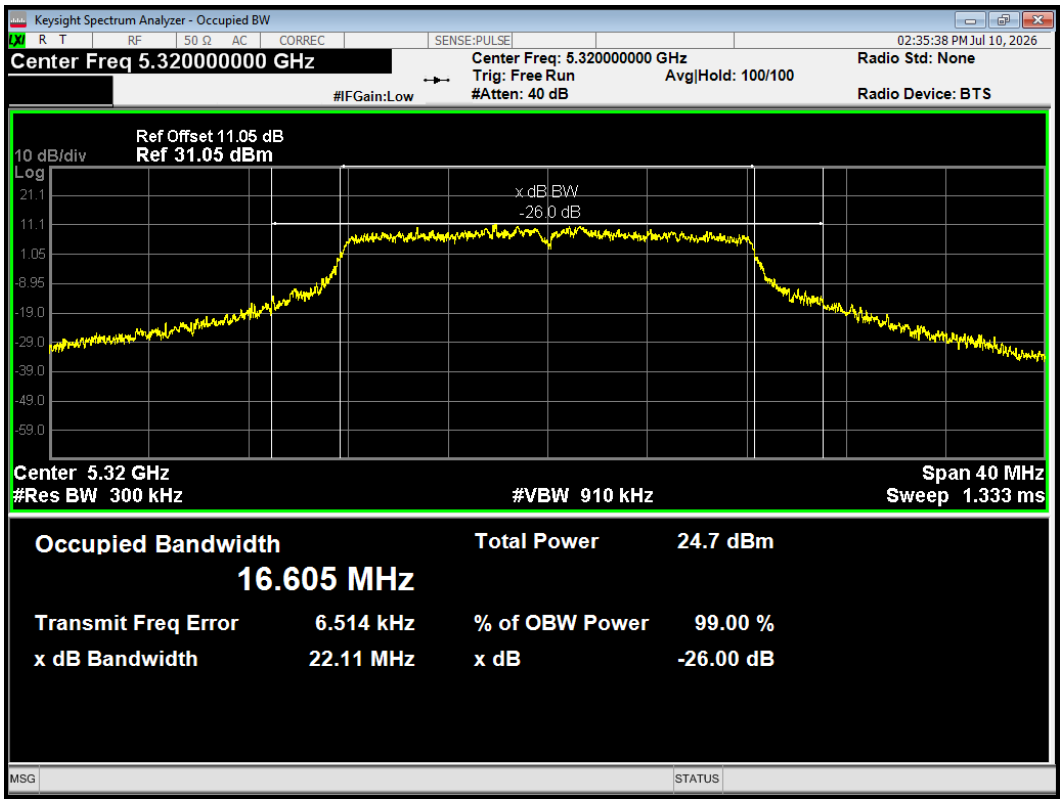
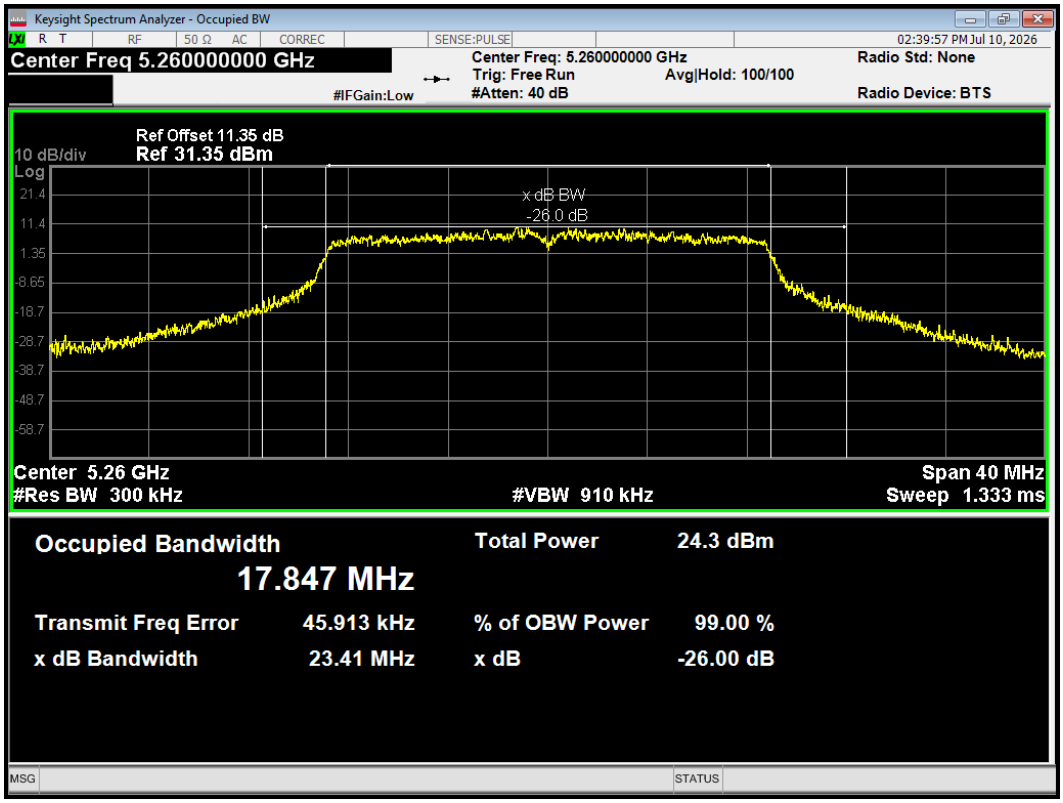
OBW 802.11a 5320MHz



OBW 802.11ac(VHT20) 5260MHz



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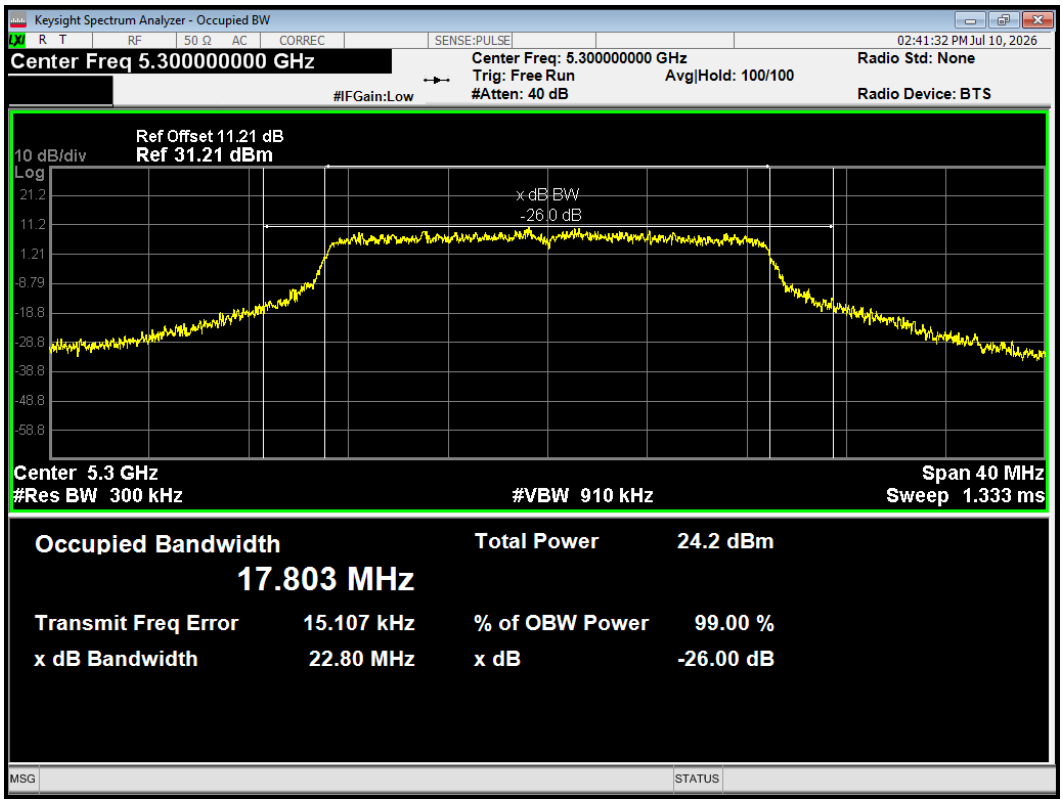
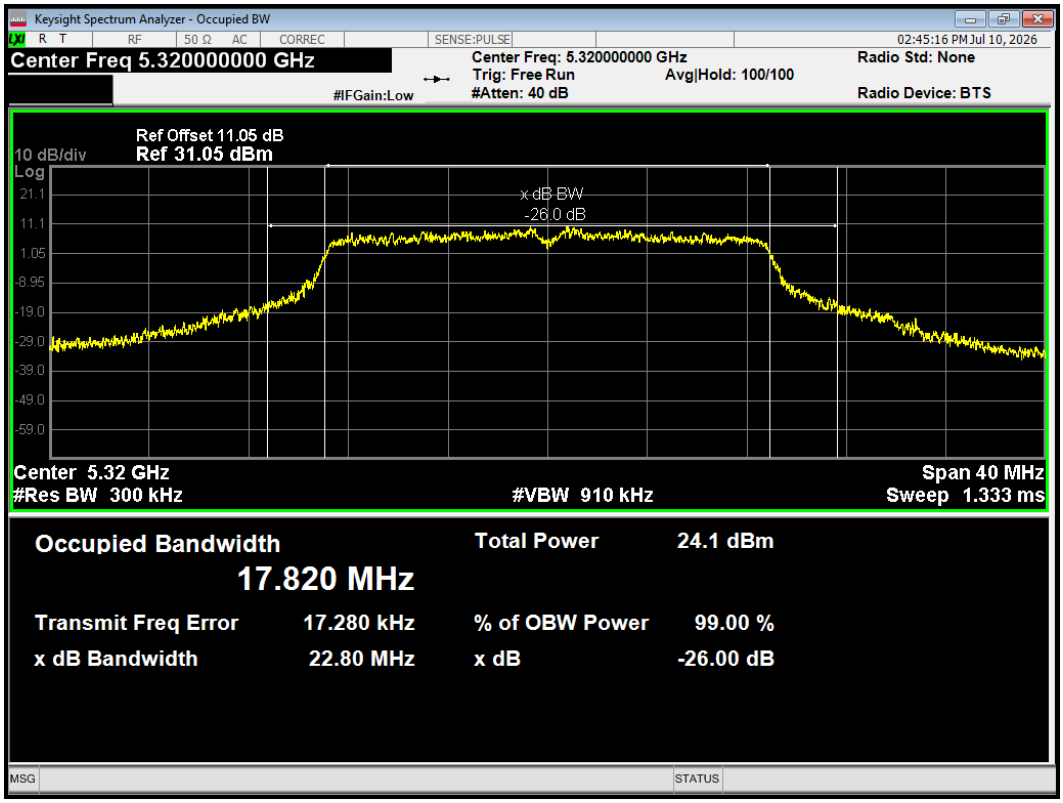
OBW 802.11ac(VHT20) 5300MHz



OBW 802.11ac(VHT20) 5320MHz



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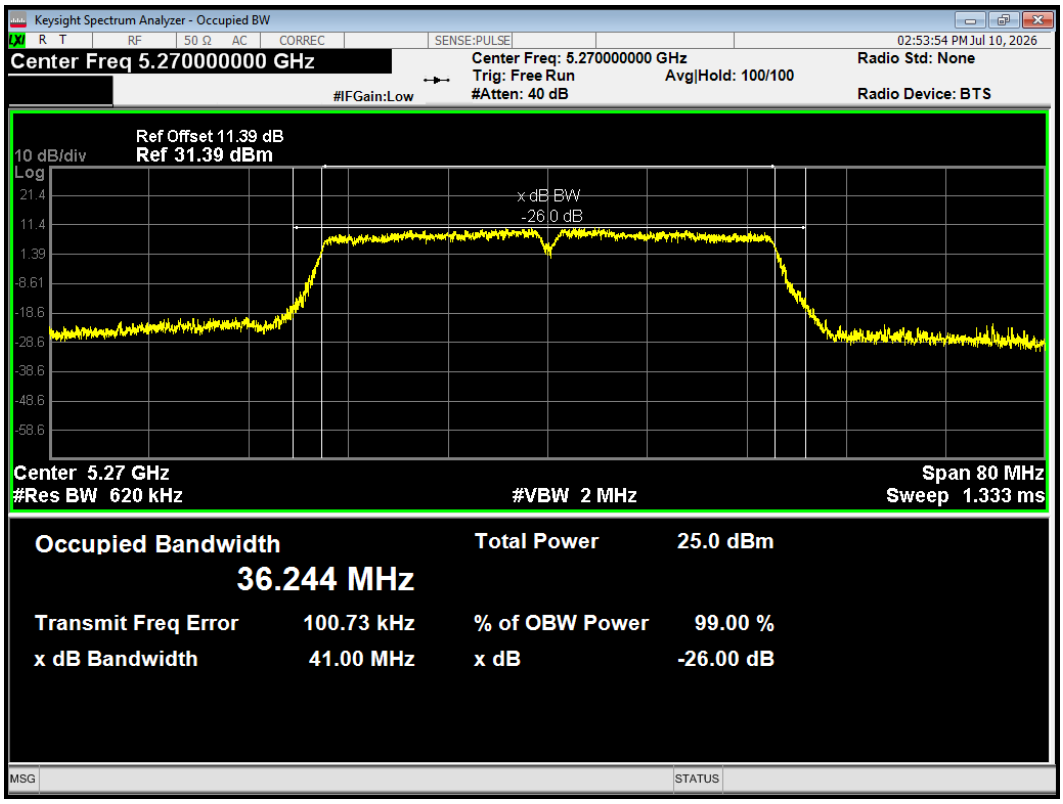
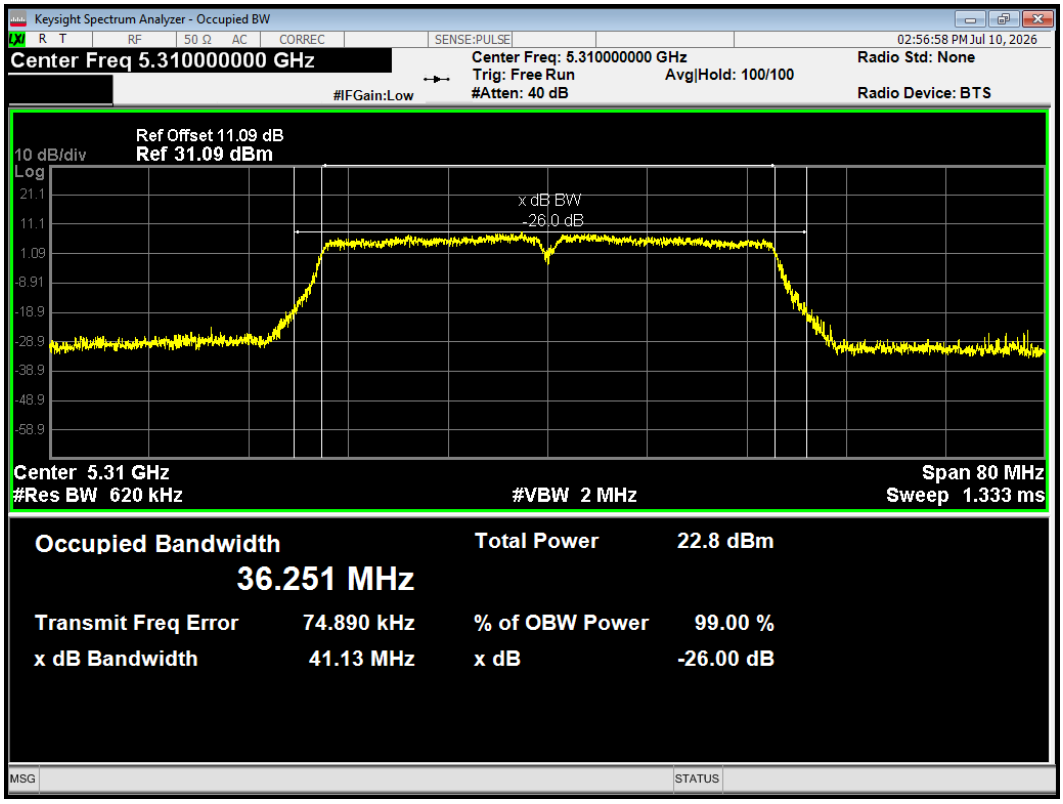
OBW 802.11ac(VHT40) 5270MHz



OBW 802.11ac(VHT40) 5310MHz



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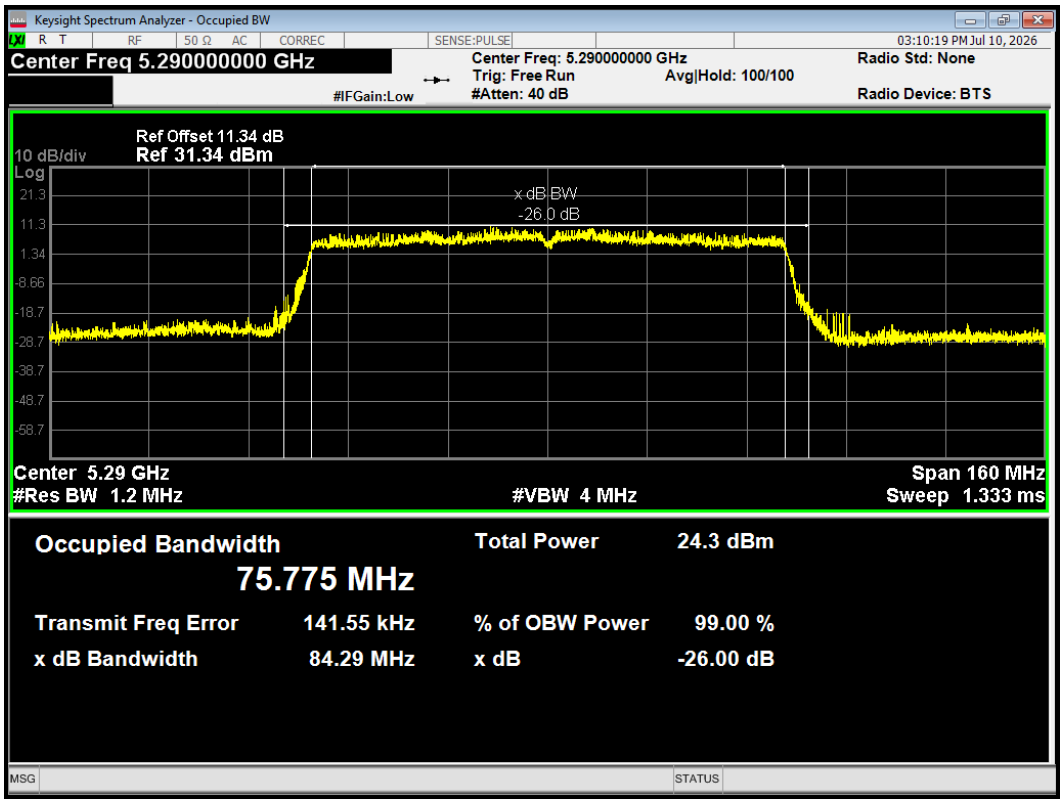
OBW 802.11ac(VHT80) 5290MHz



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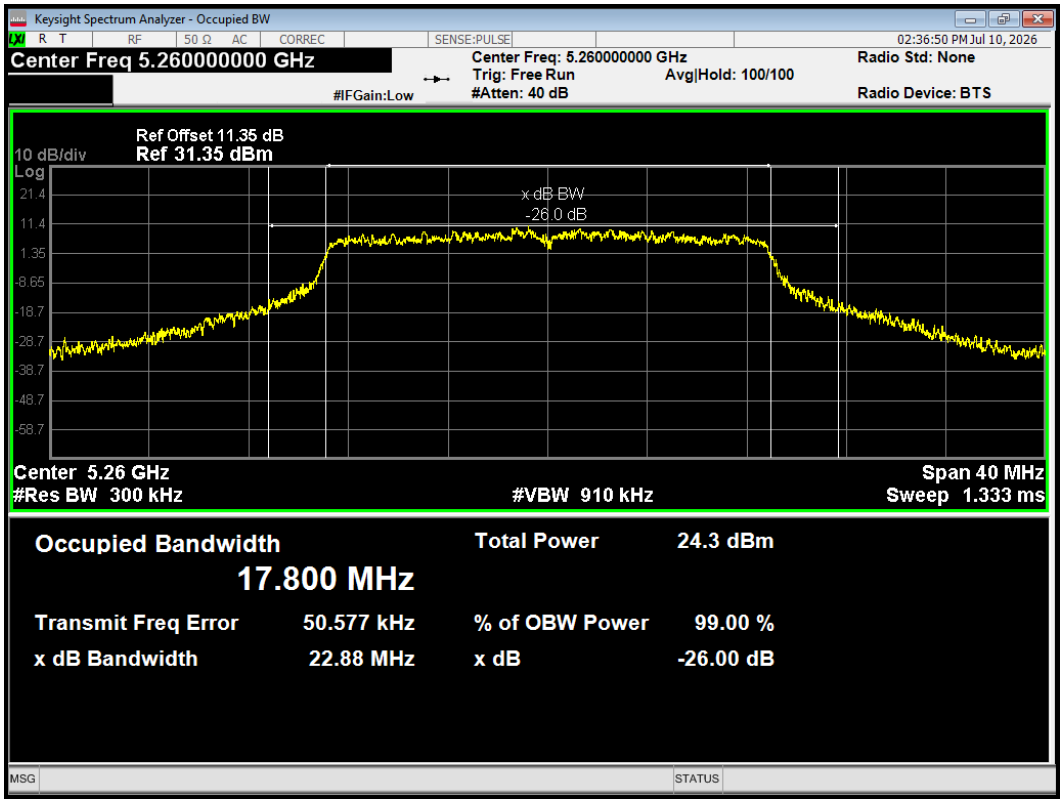

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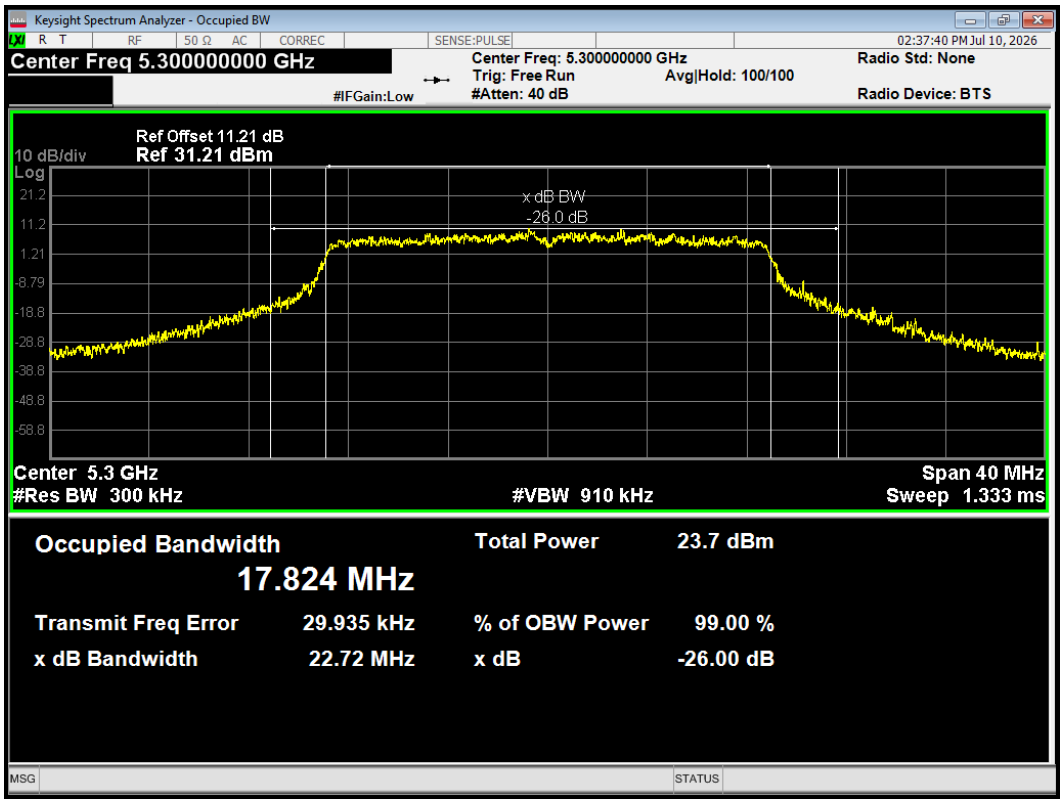
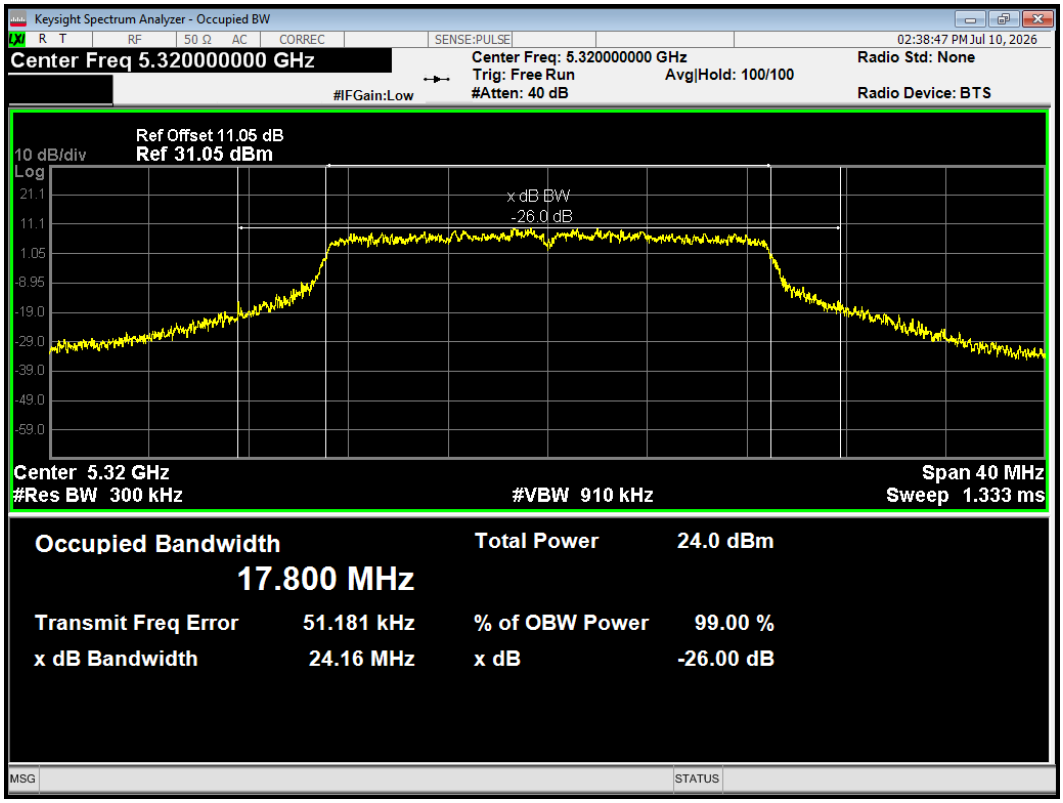
OBW 802.11n(HT20) 5300MHz



OBW 802.11n(HT20) 5320MHz



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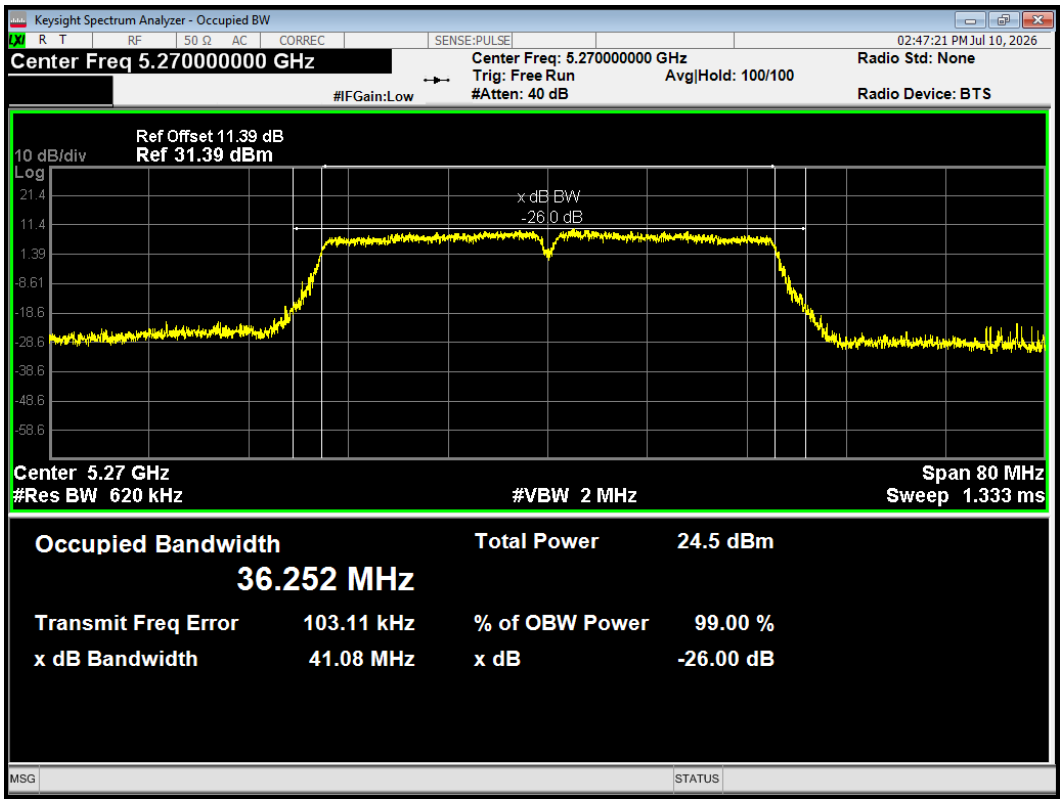
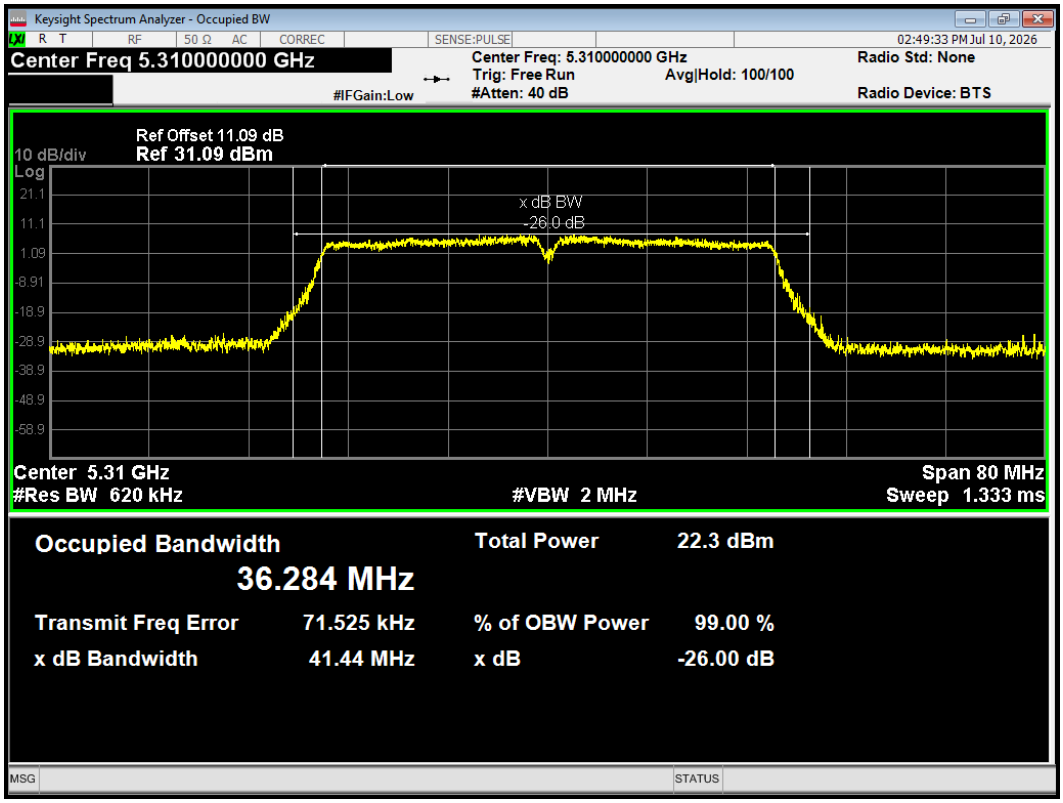
OBW 802.11n(HT40) 5270MHz



OBW 802.11n(HT40) 5310MHz



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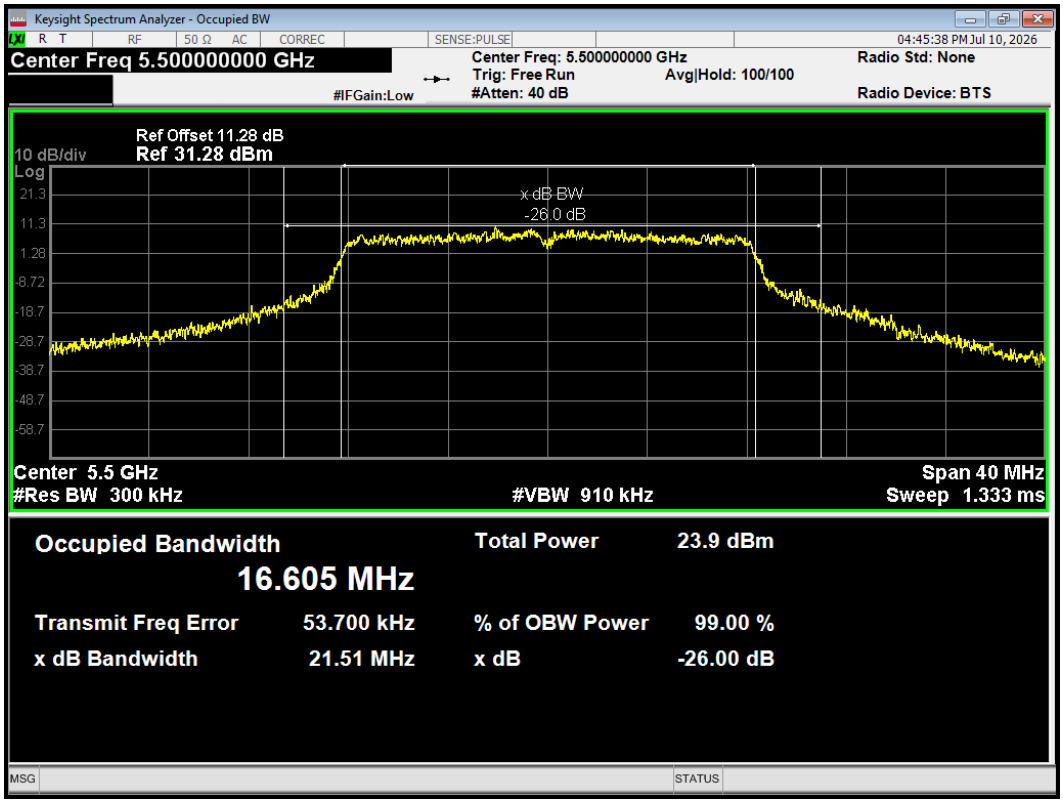
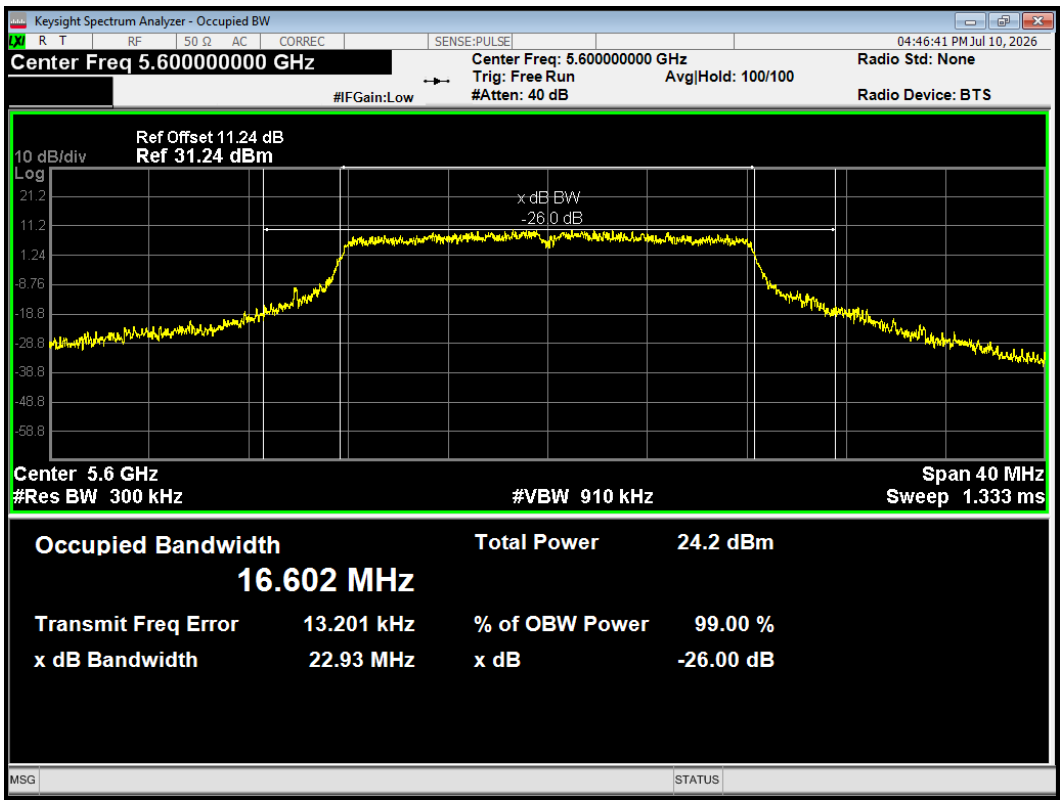
U-NII-2C

OBW 802.11a 5500MHz



OBW 802.11a 5600MHz



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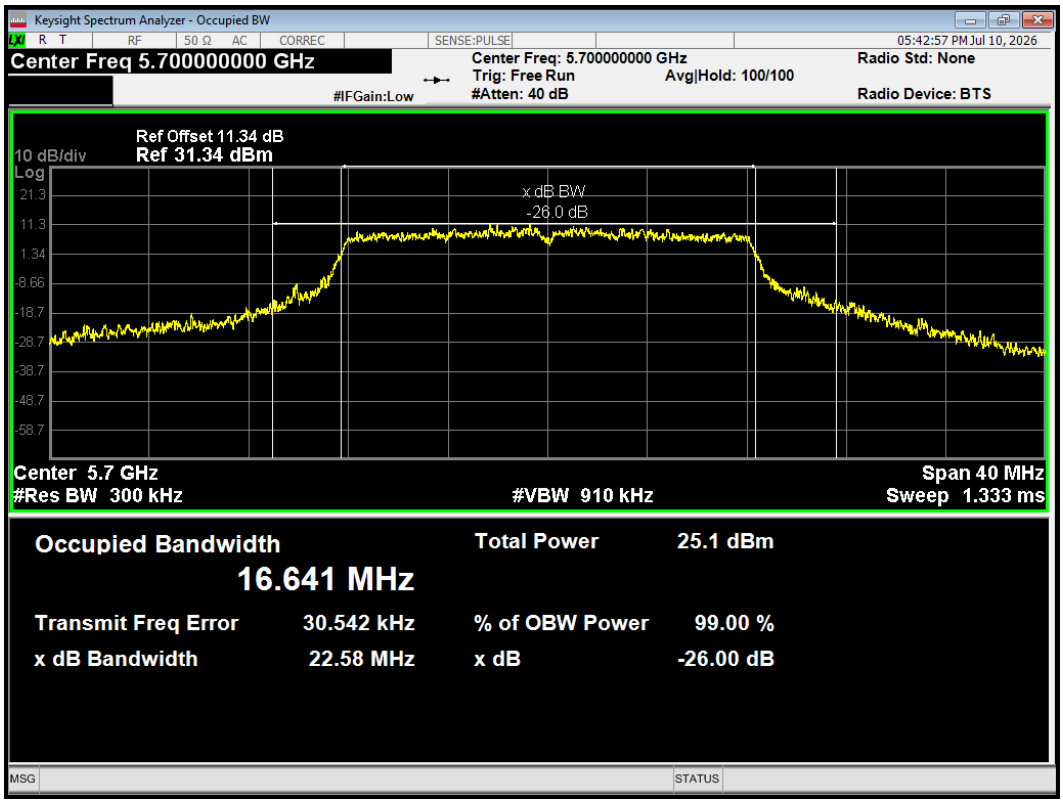
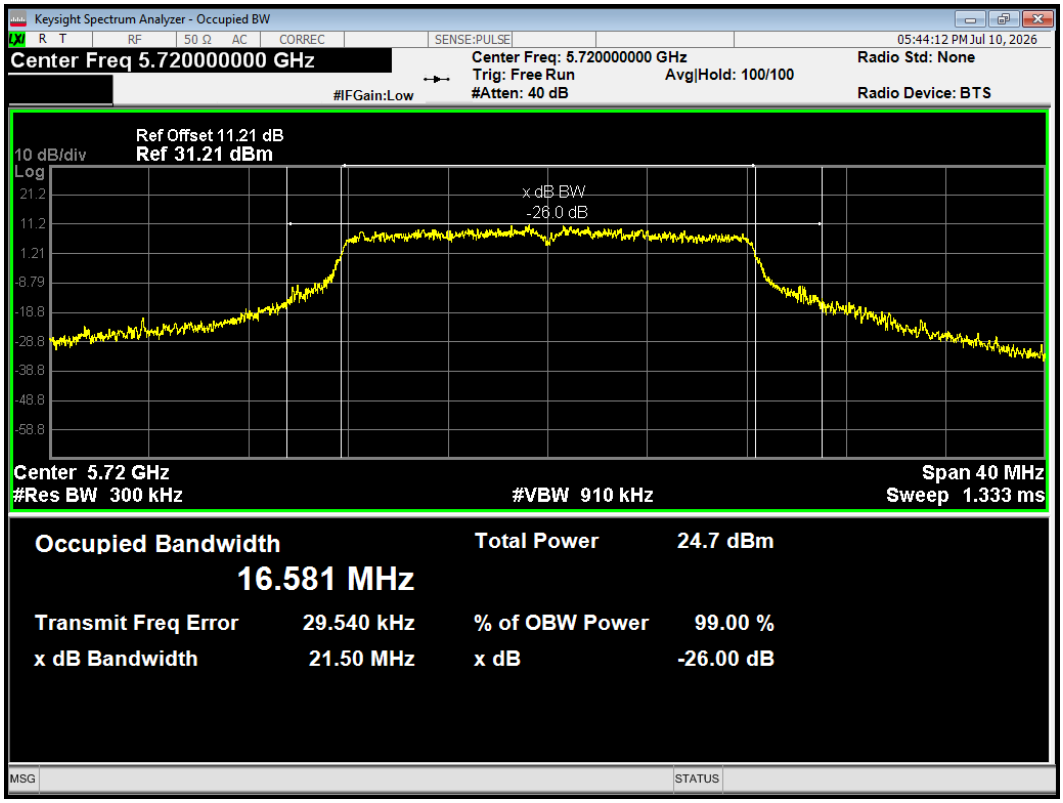
OBW 802.11a 5700MHz



OBW 802.11a 5720MHz



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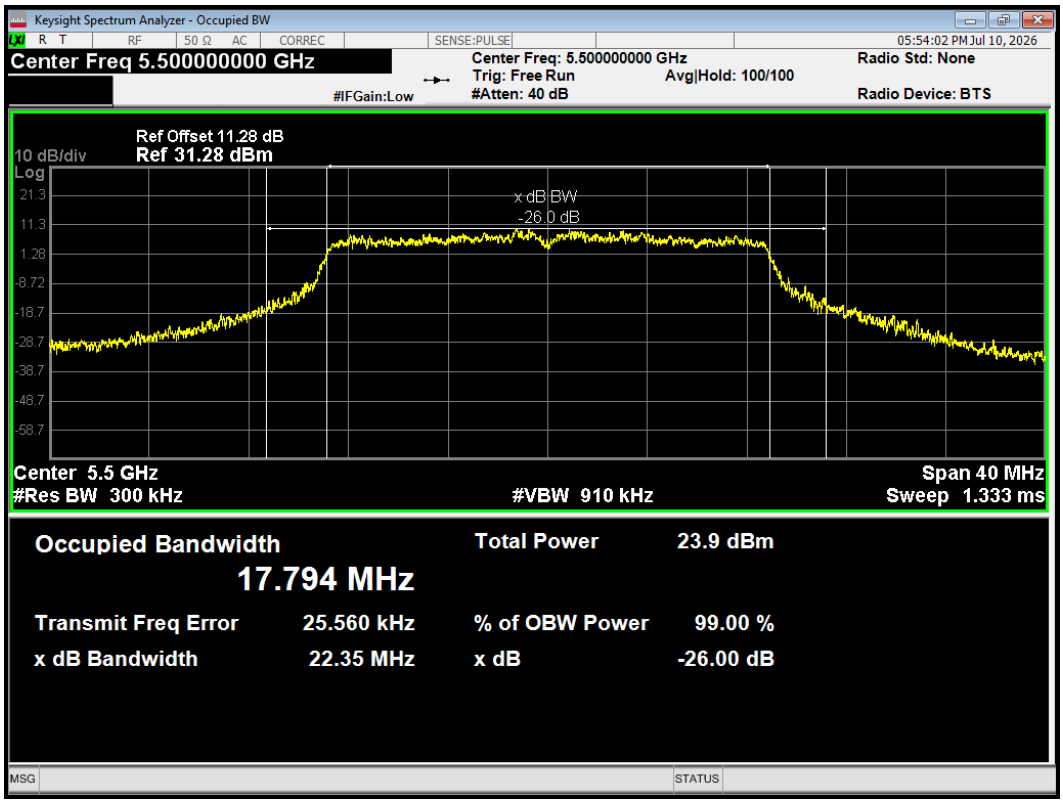
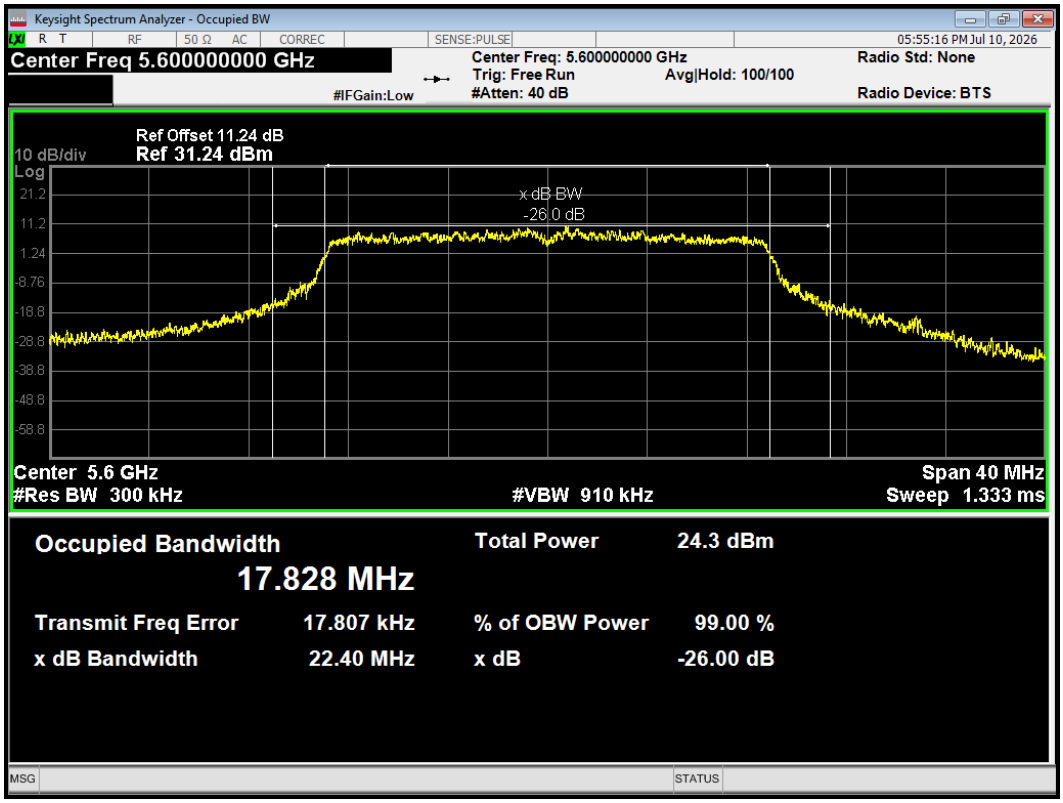
OBW 802.11ac(VHT20) 5500MHz



OBW 802.11ac(VHT20) 5600MHz



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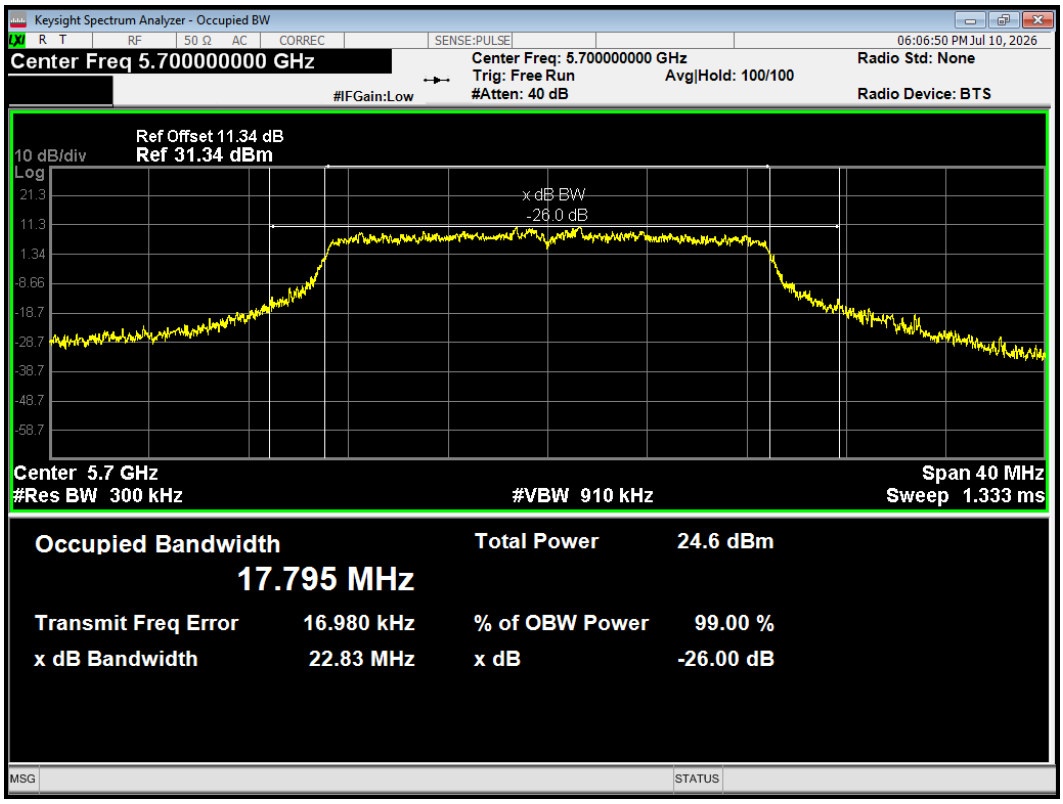
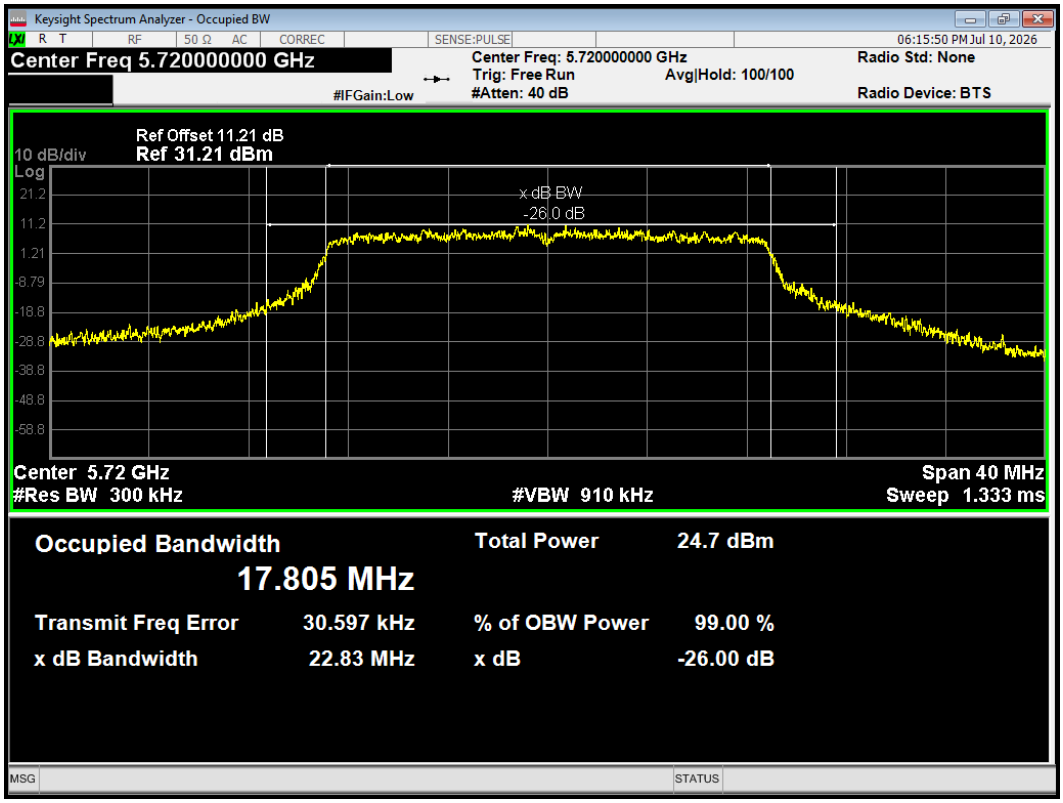
OBW 802.11ac(VHT20) 5700MHz



OBW 802.11ac(VHT20) 5720MHz



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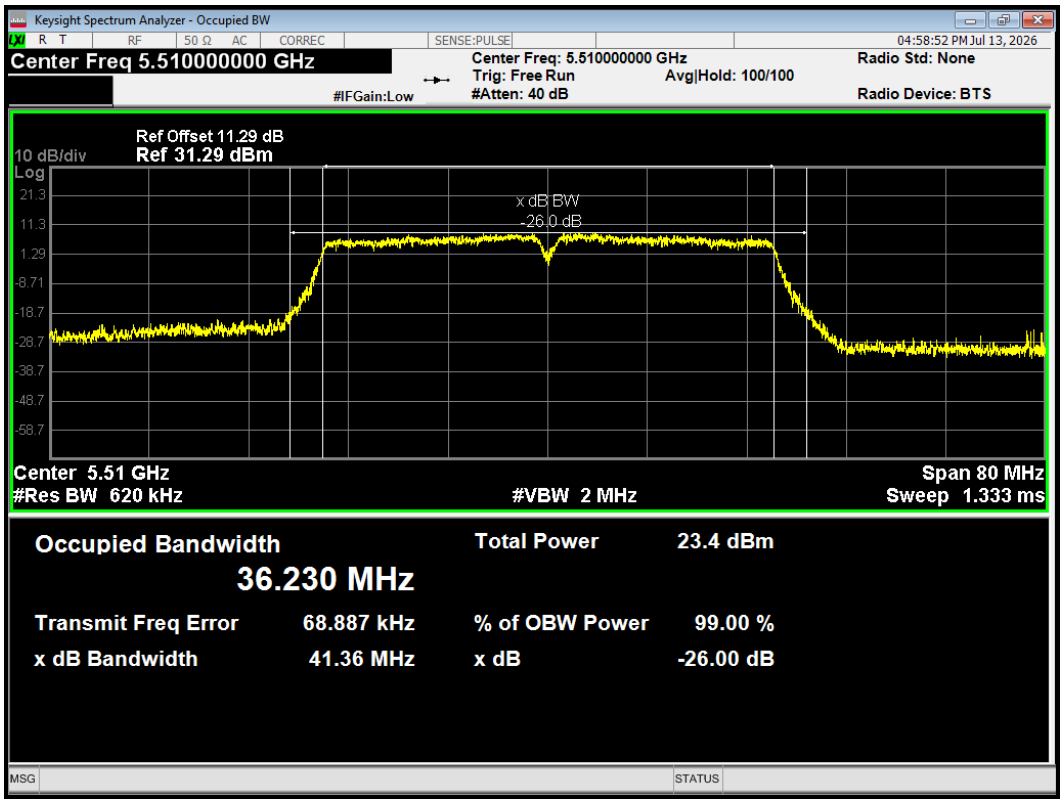
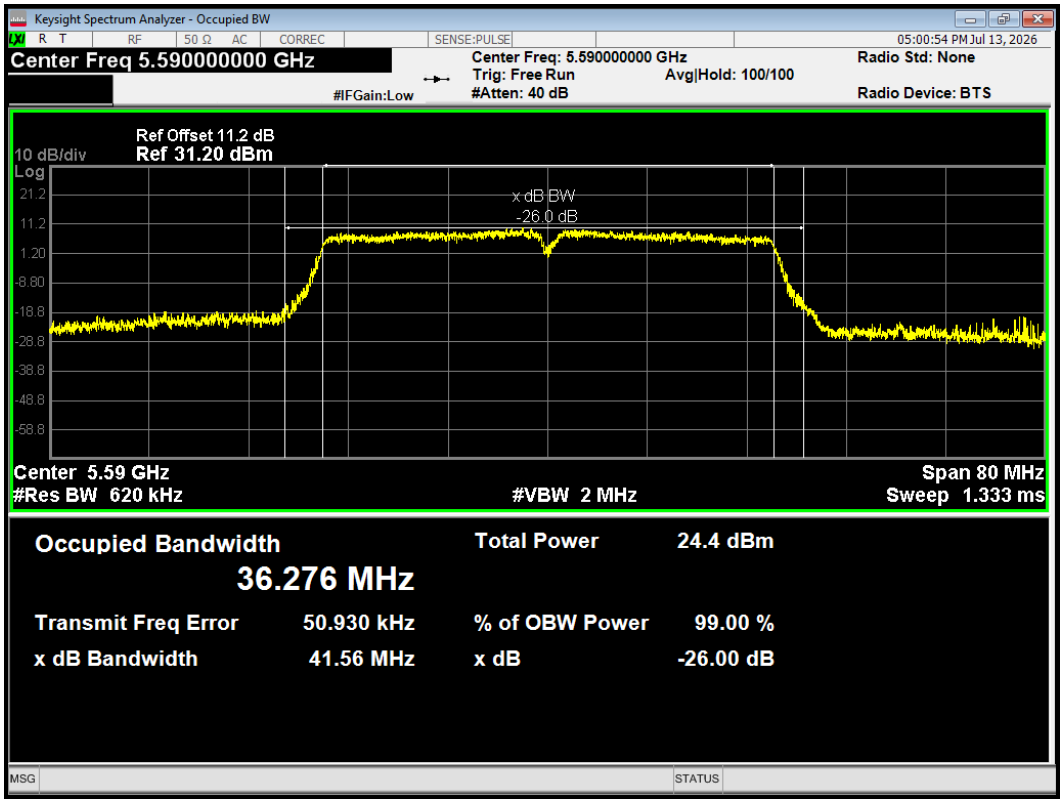
OBW 802.11ac(VHT40) 5510MHz



OBW 802.11ac(VHT40) 5590MHz



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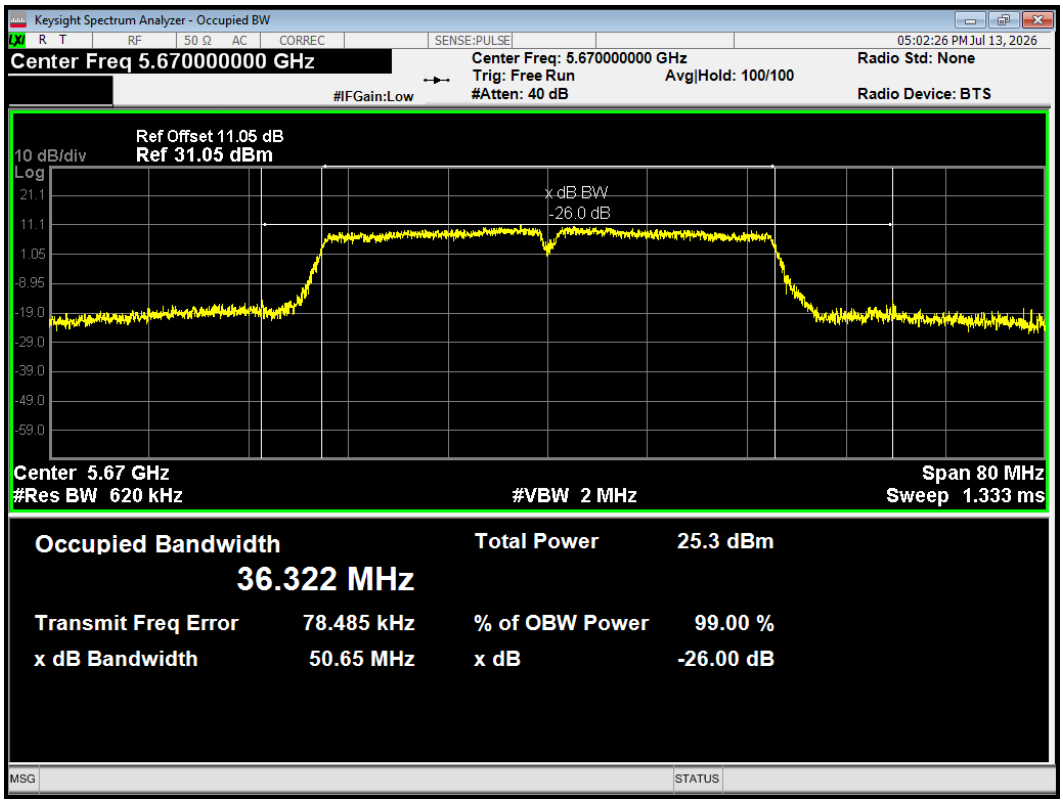
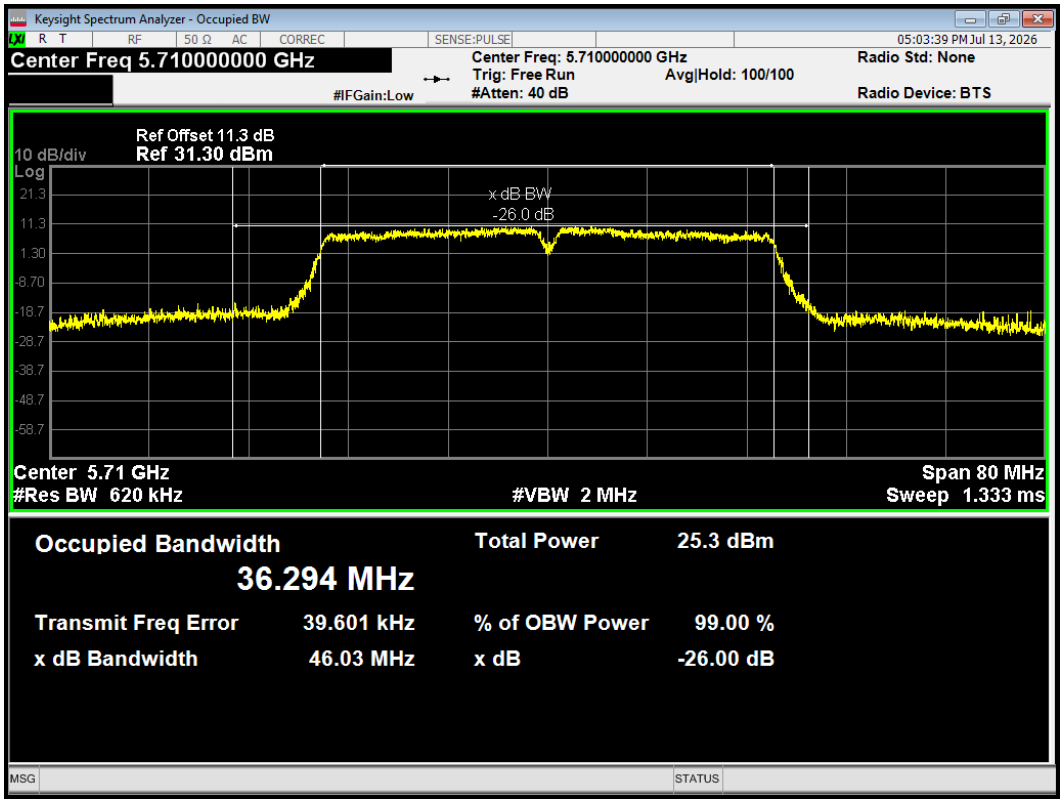
OBW 802.11ac(VHT40) 5670MHz



OBW 802.11ac(VHT40) 5710MHz



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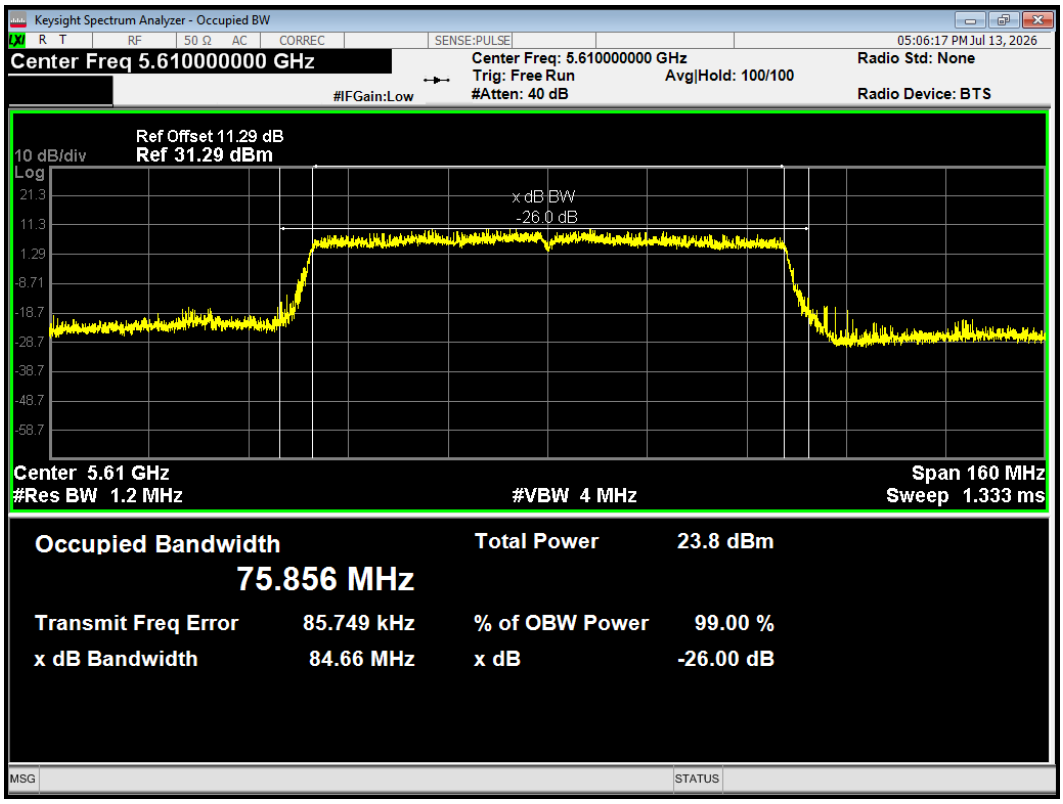
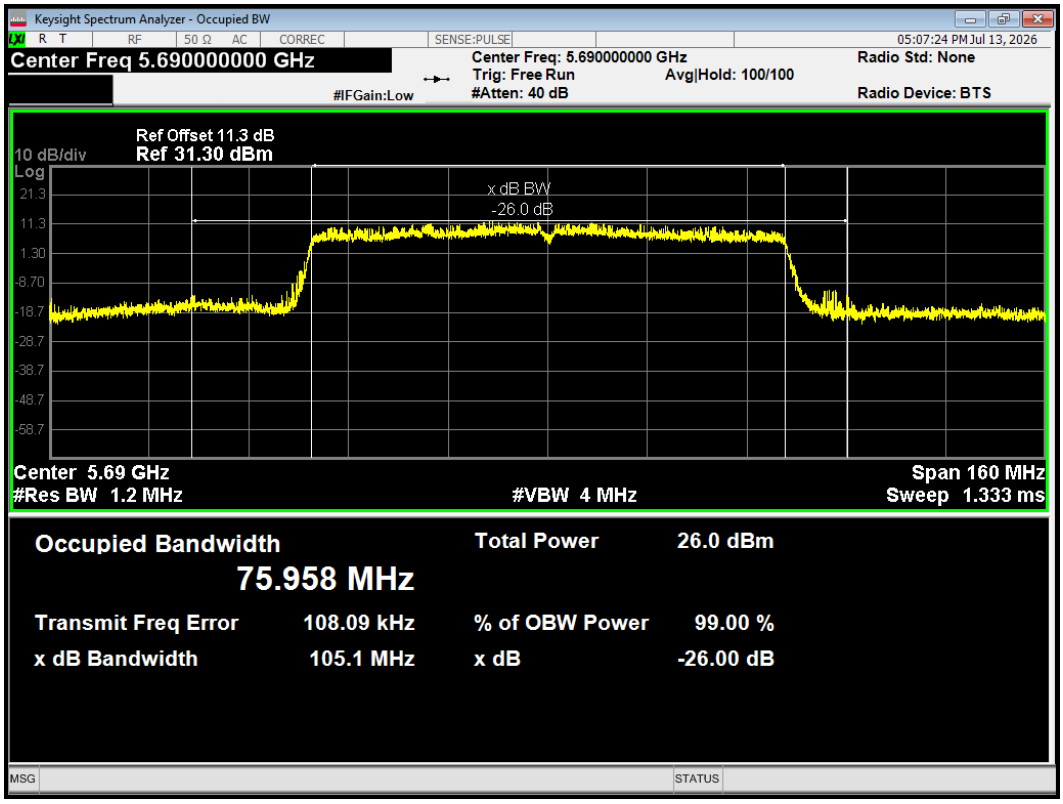
OBW 802.11ac(VHT80) 5610MHz



OBW 802.11ac(VHT80) 5690MHz



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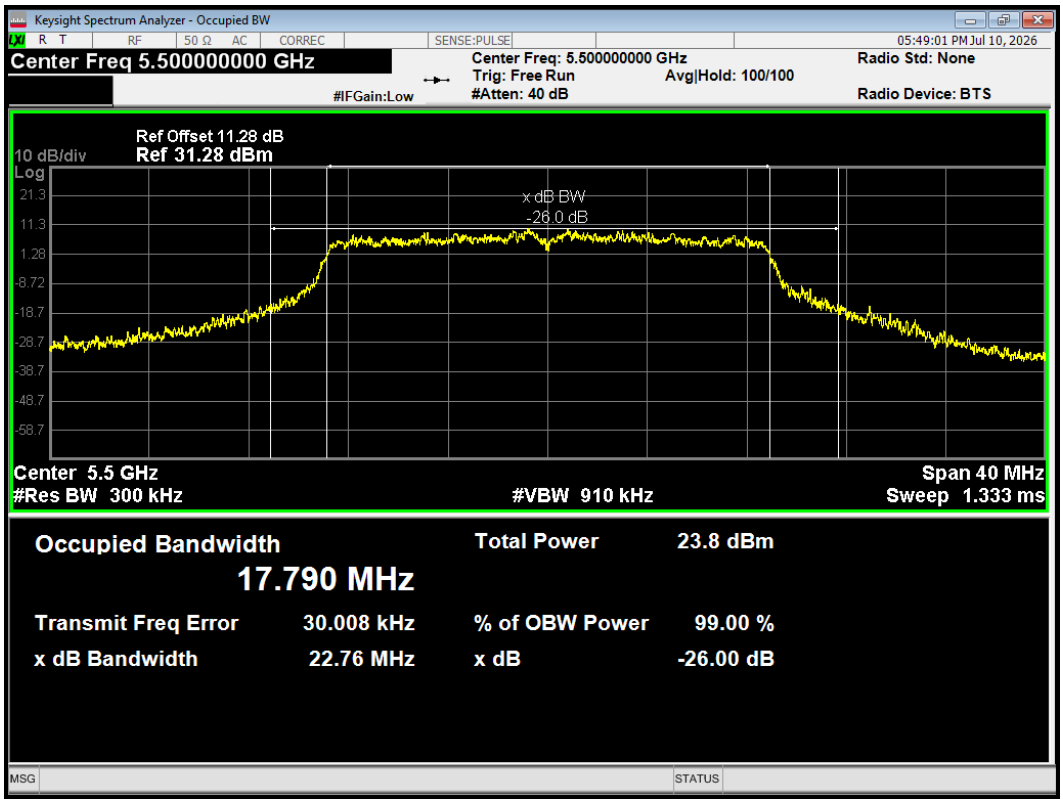
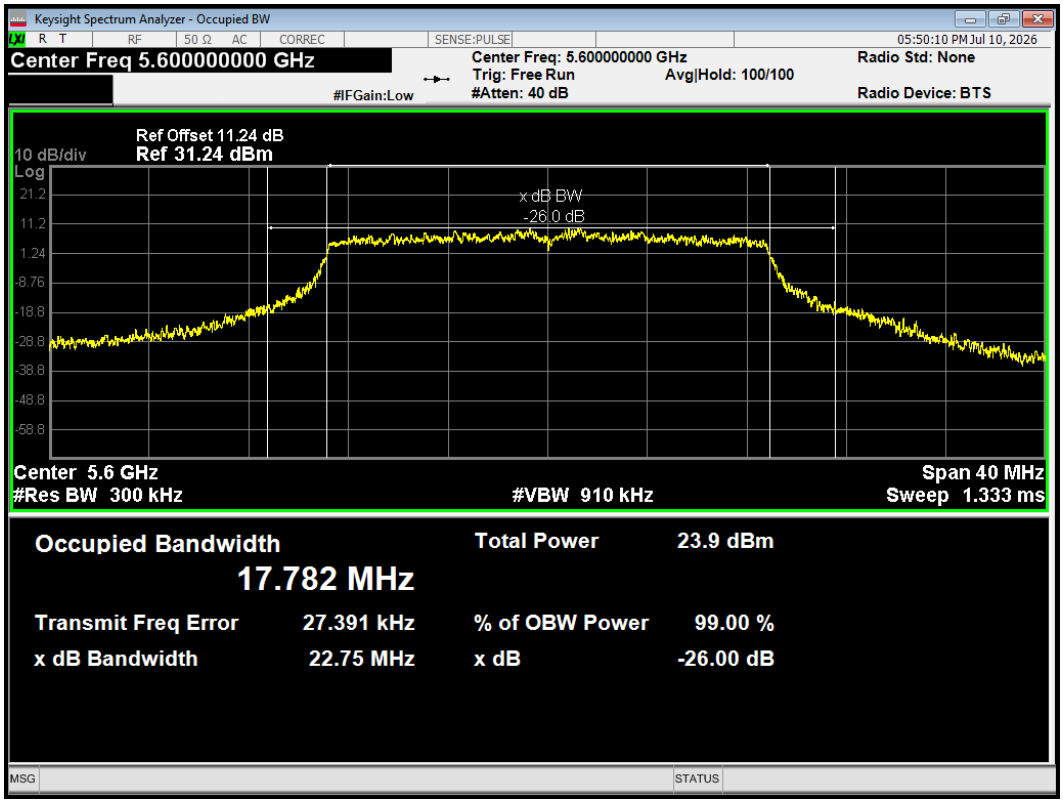
OBW 802.11n(HT20) 5500MHz



OBW 802.11n(HT20) 5600MHz



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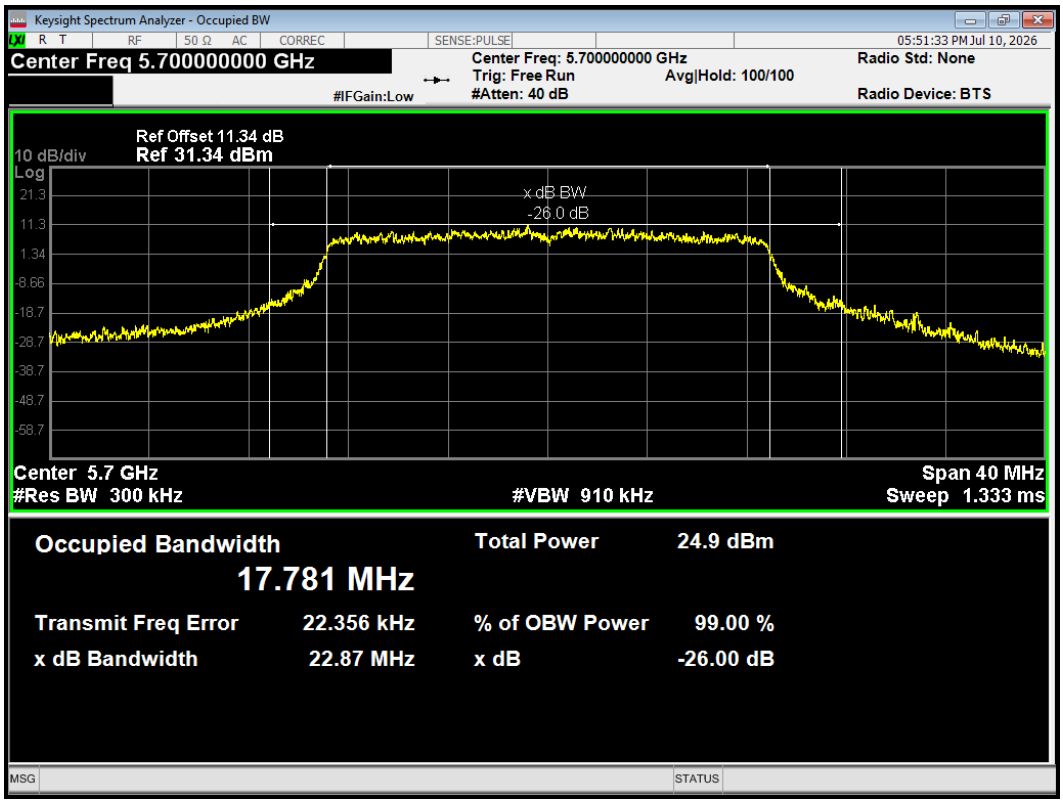
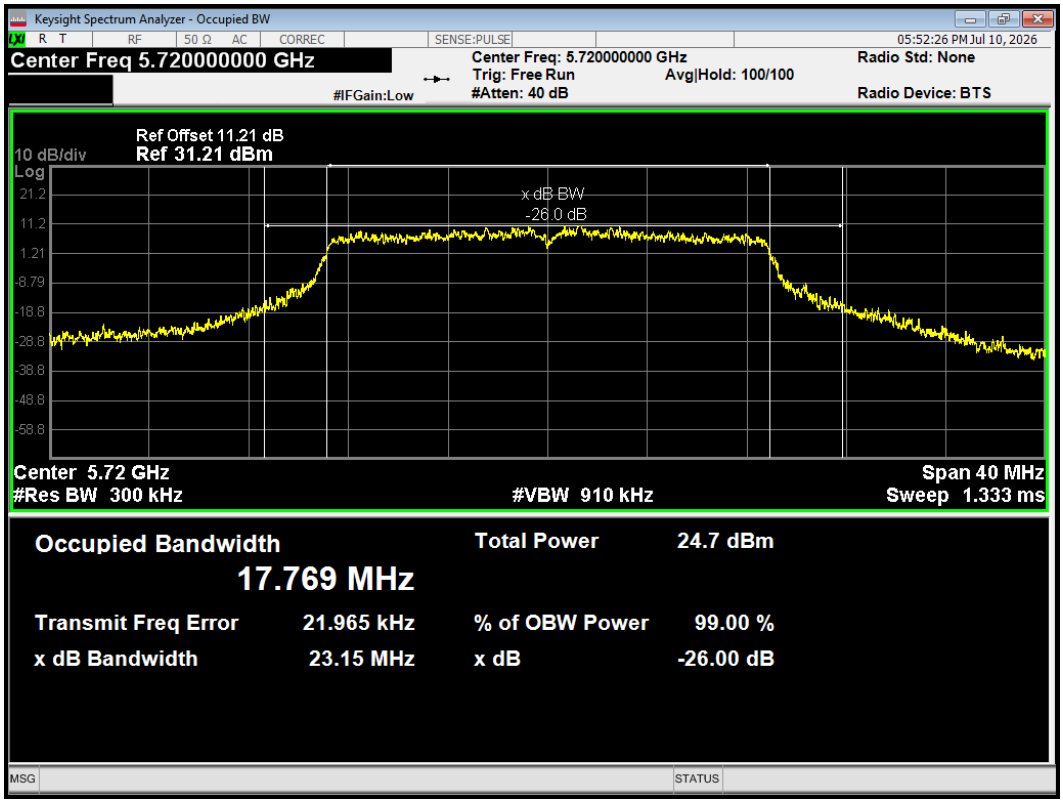
OBW 802.11n(HT20) 5700MHz



OBW 802.11n(HT20) 5720MHz



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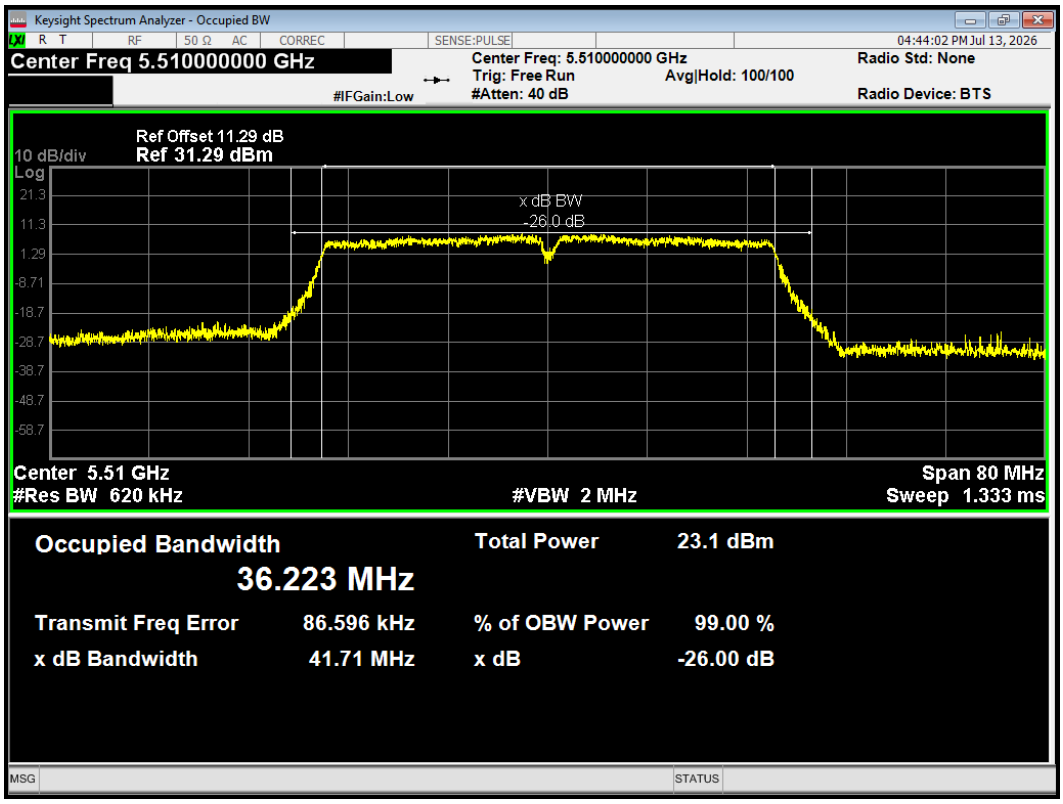
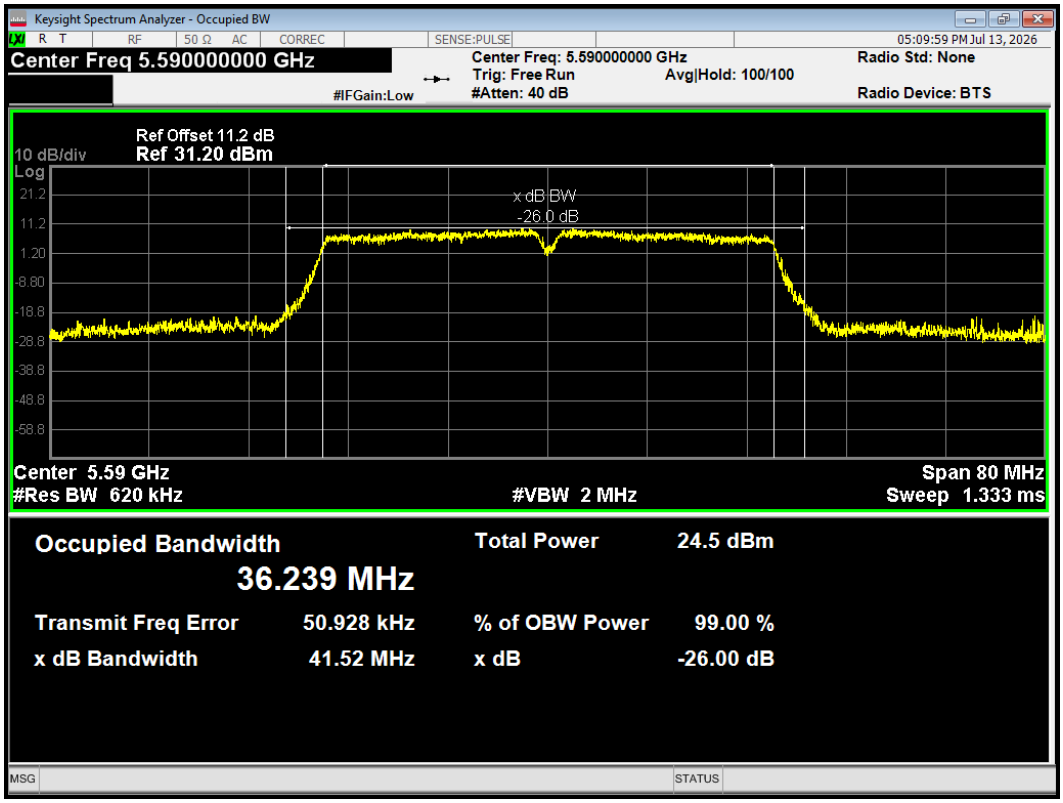
OBW 802.11n(HT40) 5510MHz



OBW 802.11n(HT40) 5590MHz



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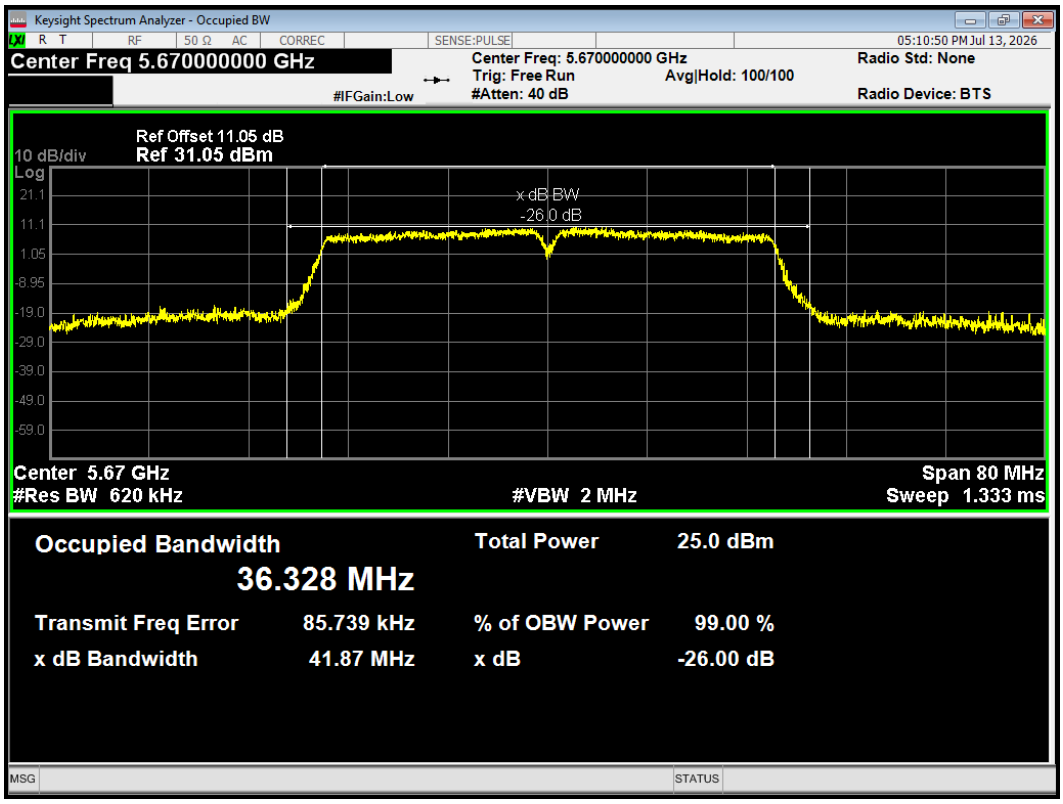
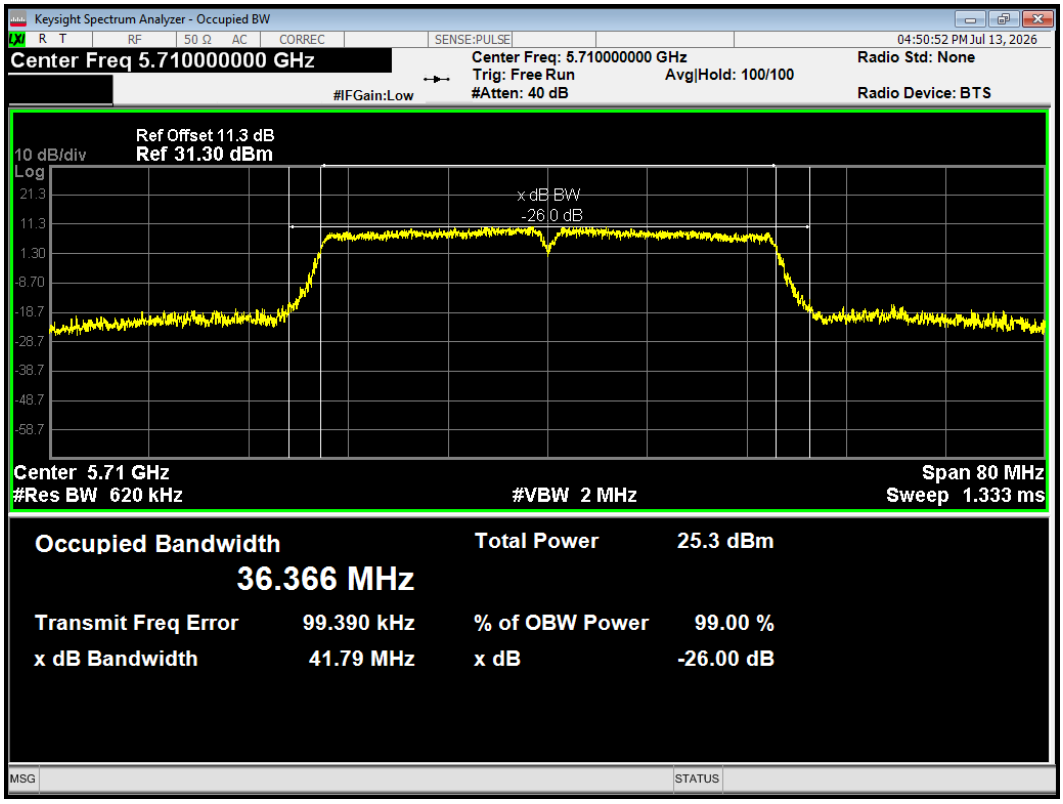
OBW 802.11n(HT40) 5670MHz



OBW 802.11n(HT40) 5710MHz



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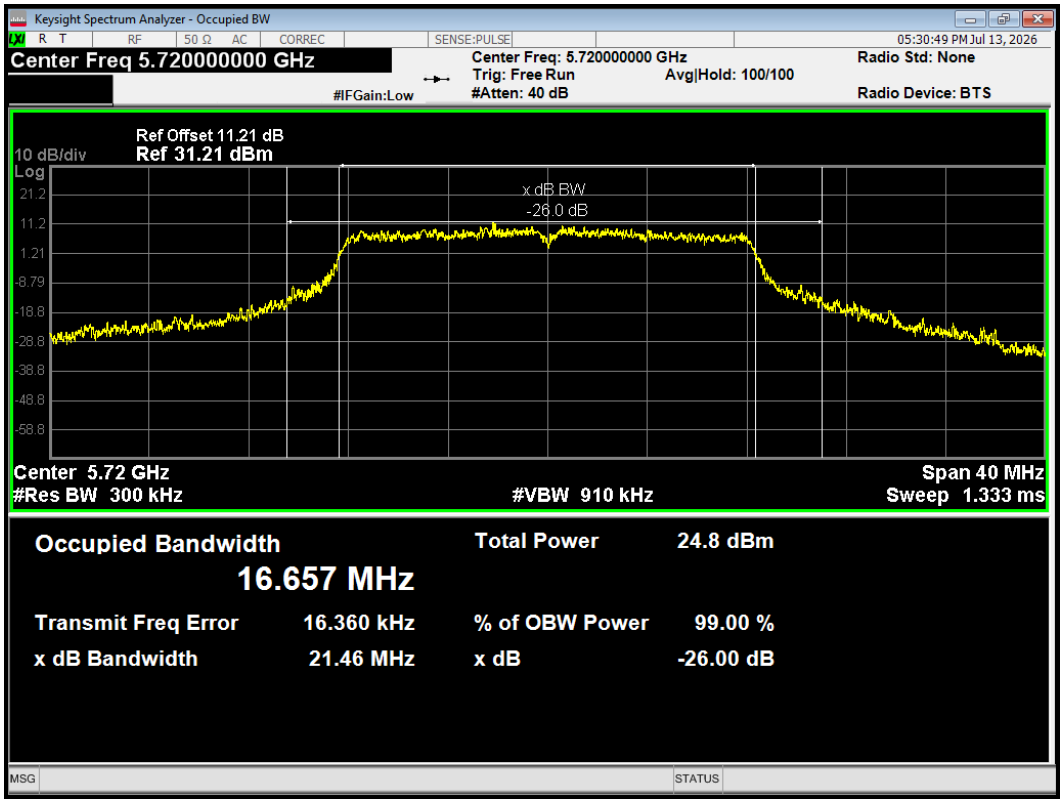
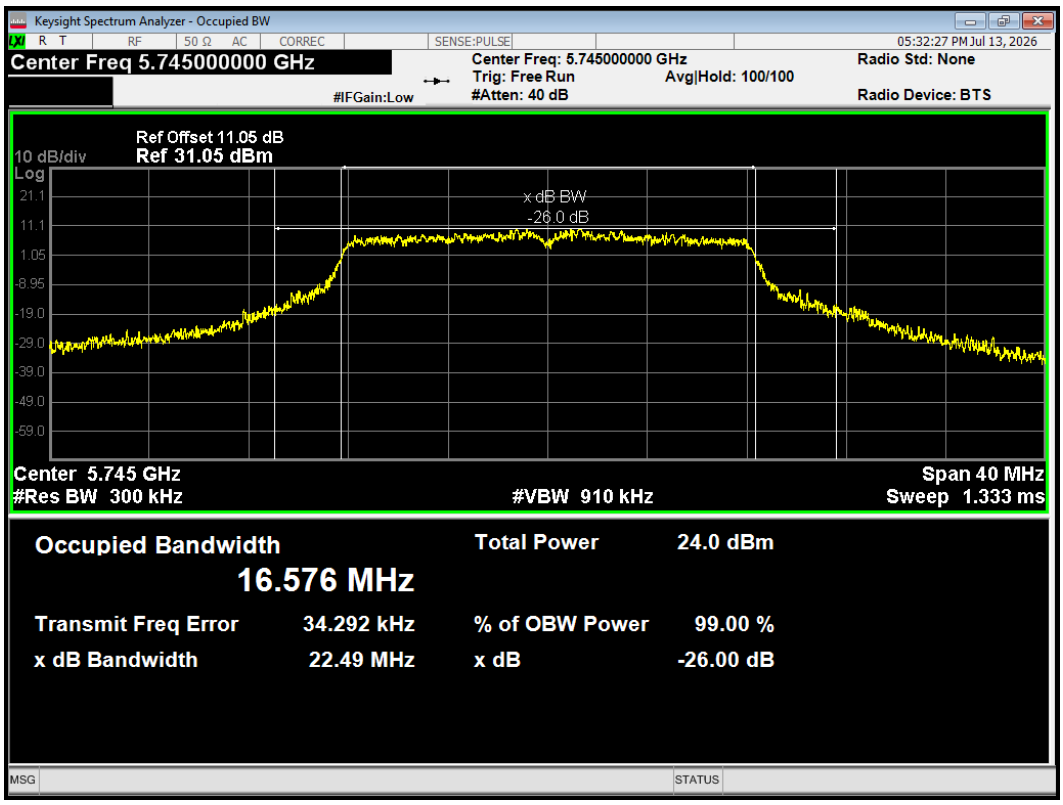
U-NII-3

OBW 802.11a 5720MHz



OBW 802.11a 5745MHz



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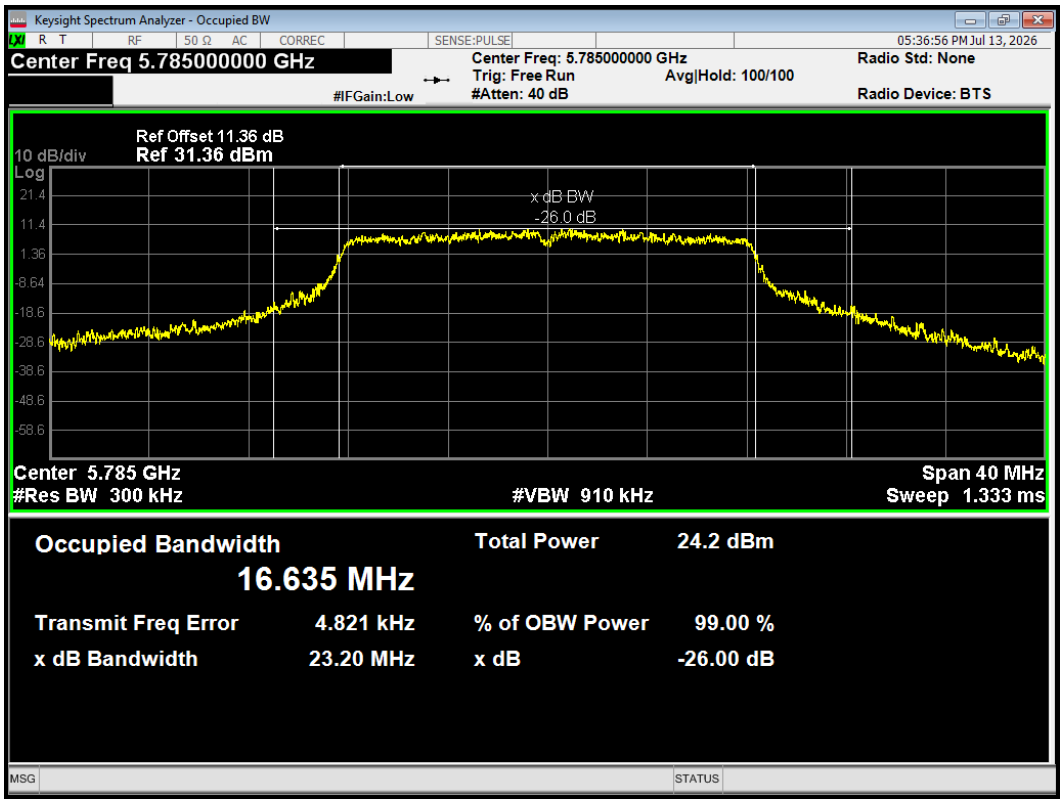
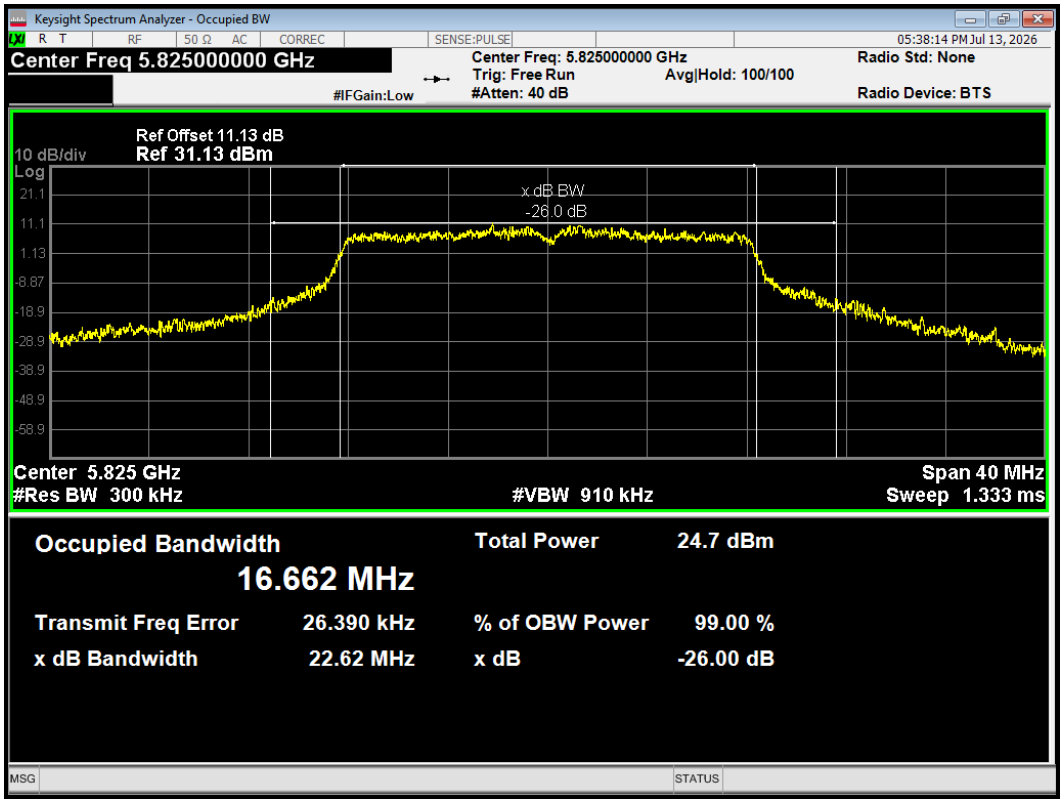
OBW 802.11a 5785MHz



OBW 802.11a 5825MHz



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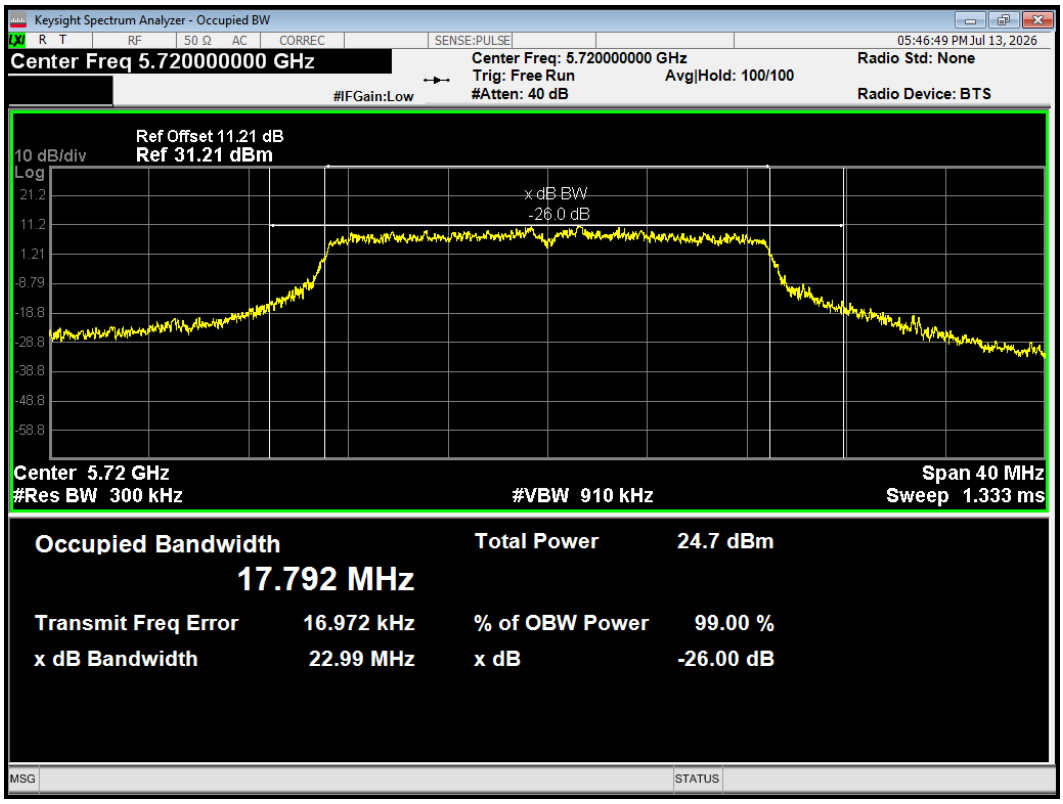
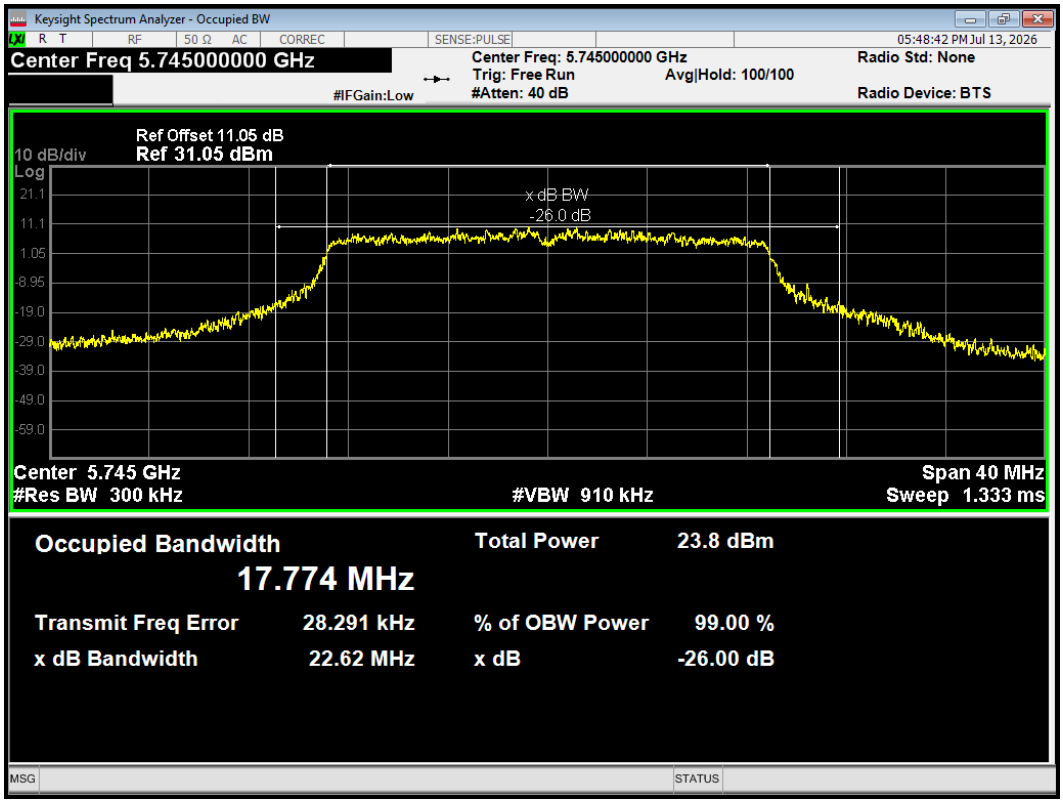
OBW 802.11ac(VHT20) 5720MHz



OBW 802.11ac(VHT20) 5745MHz



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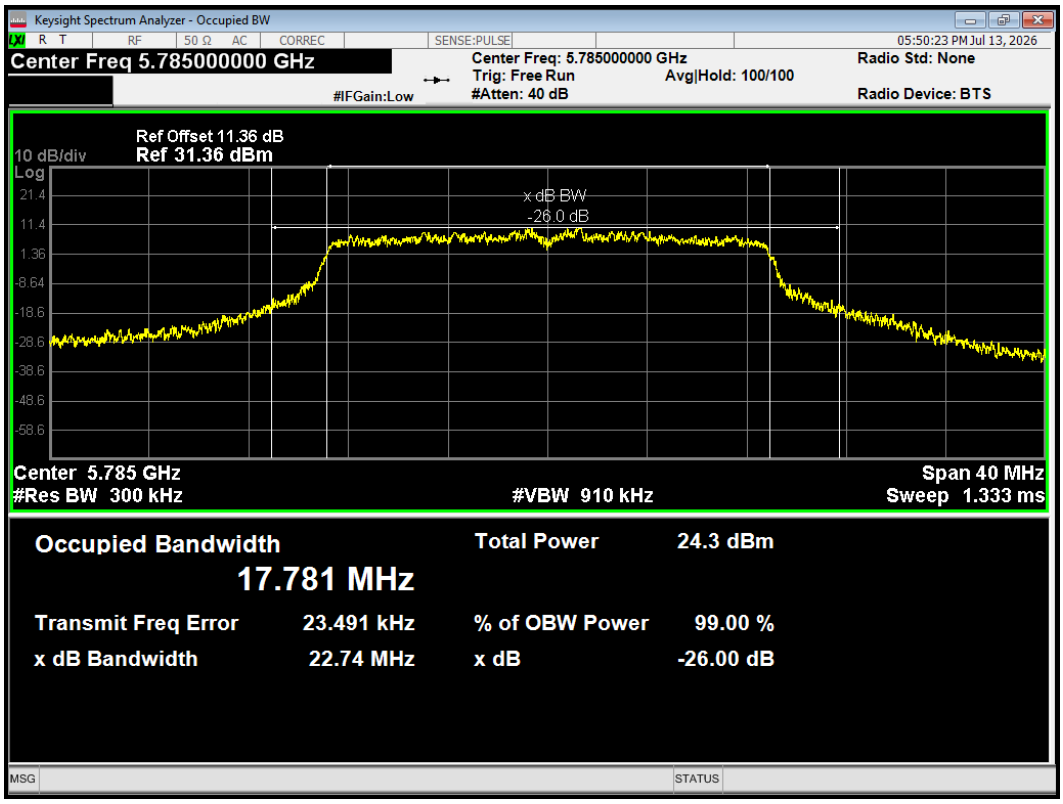
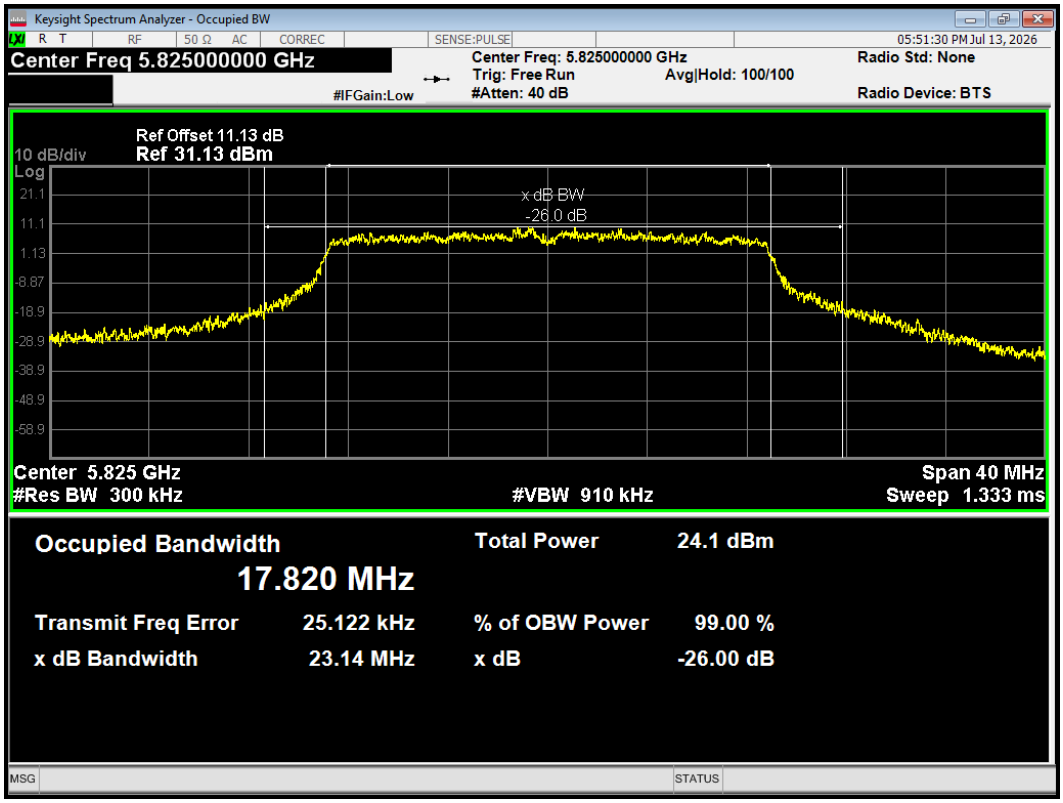
OBW 802.11ac(VHT20) 5785MHz



OBW 802.11ac(VHT20) 5825MHz



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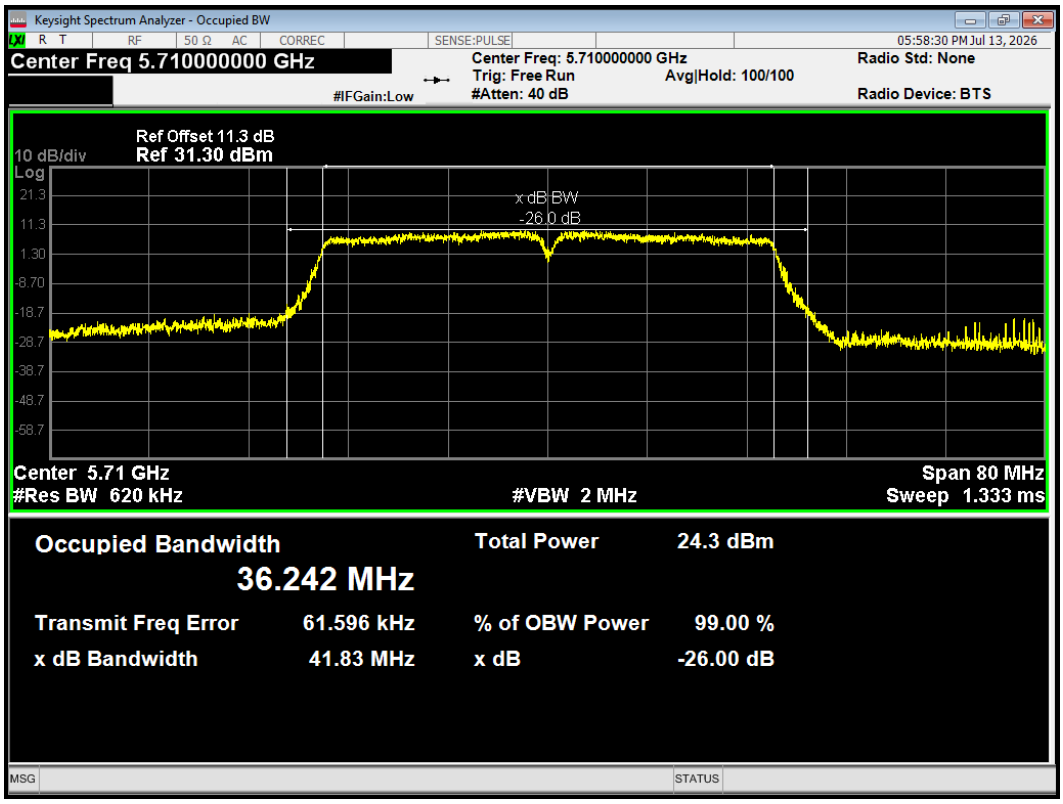
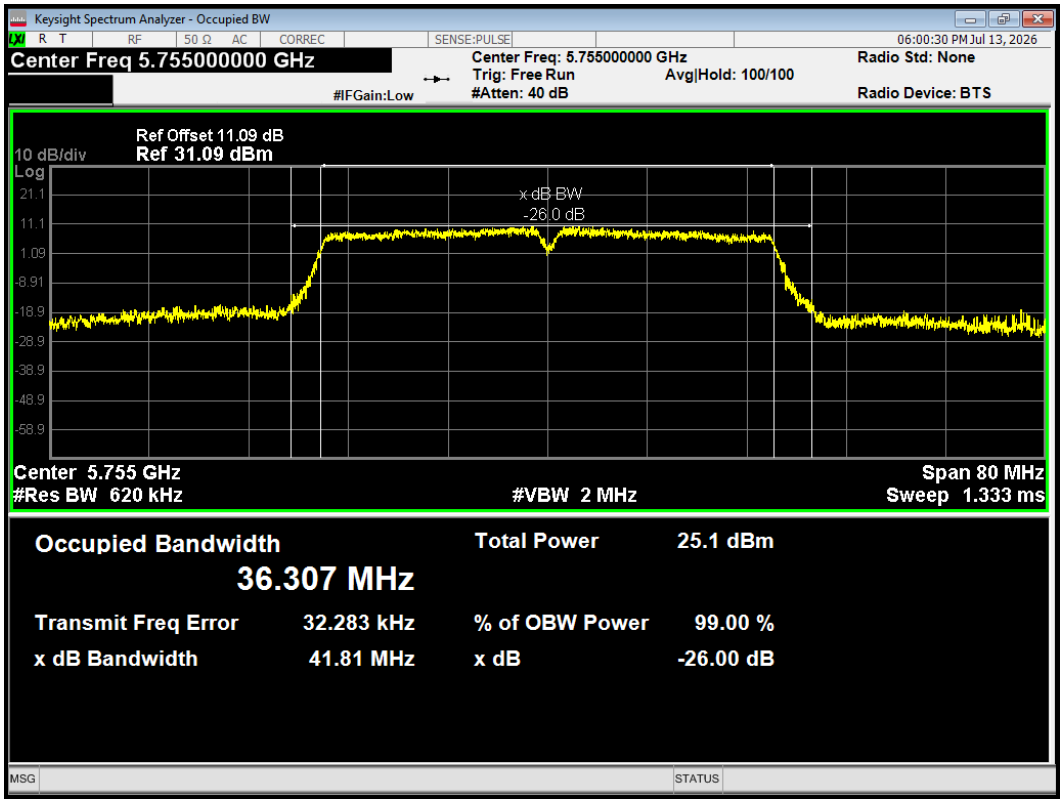
OBW 802.11ac(VHT40) 5710MHz



OBW 802.11ac(VHT40) 5755MHz



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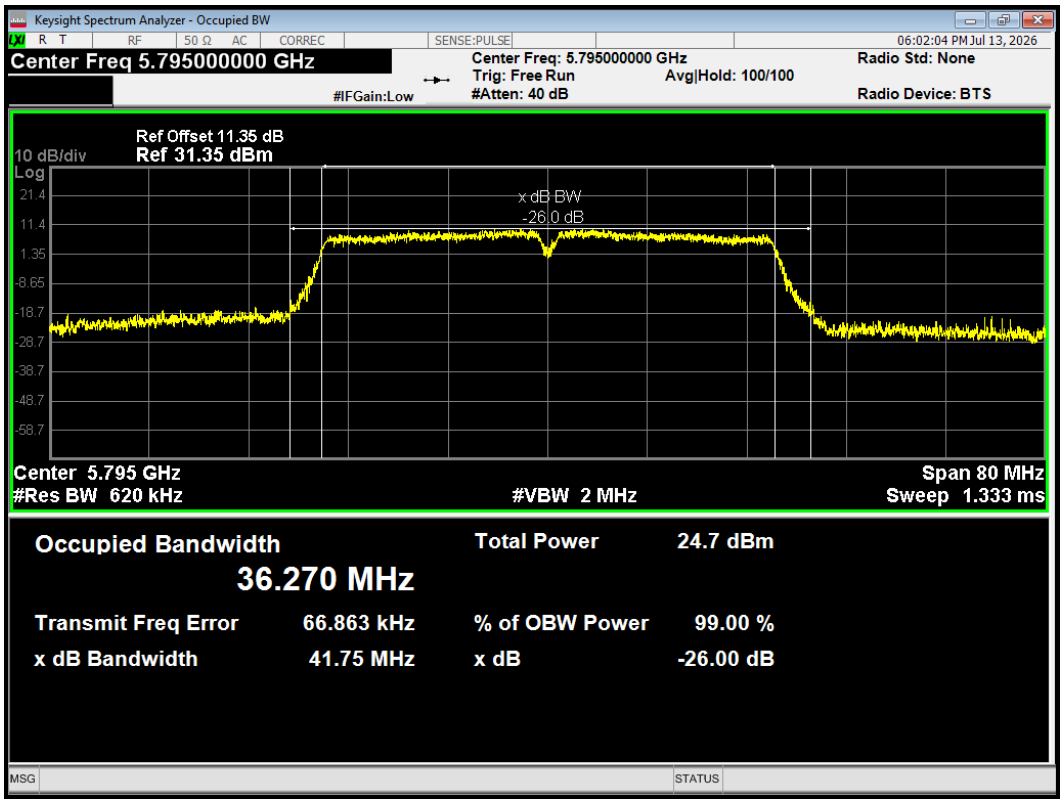
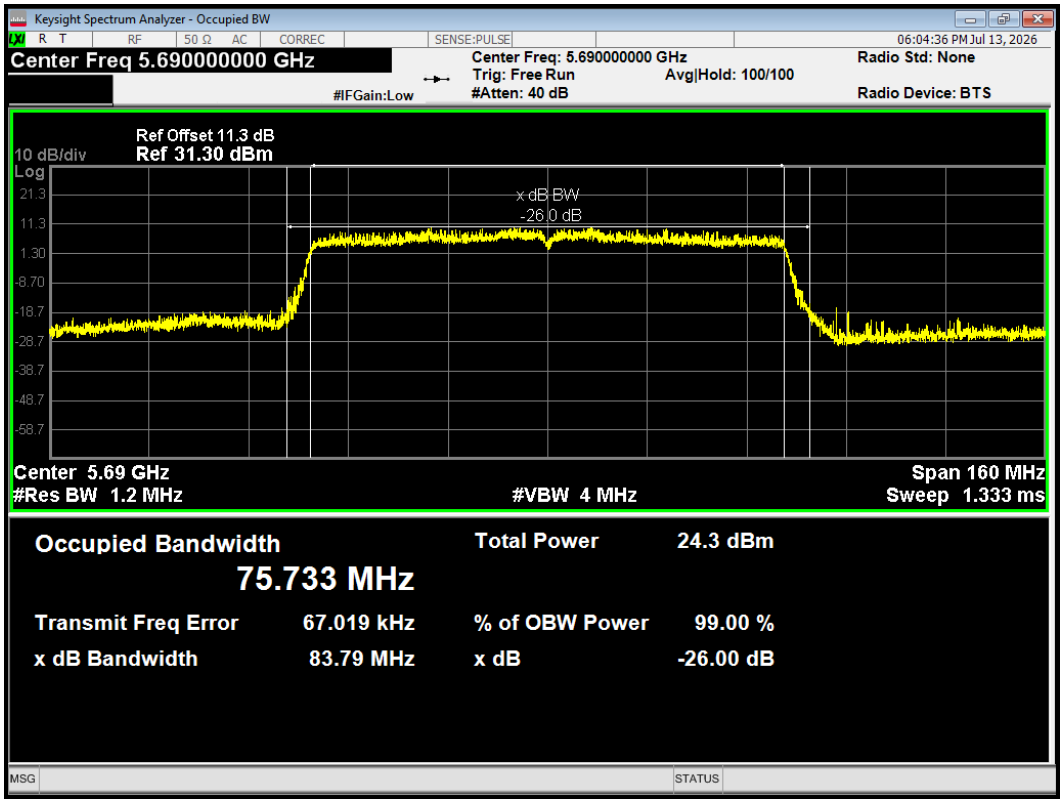
OBW 802.11ac(VHT40) 5795MHz



OBW 802.11ac(VHT80) 5690MHz



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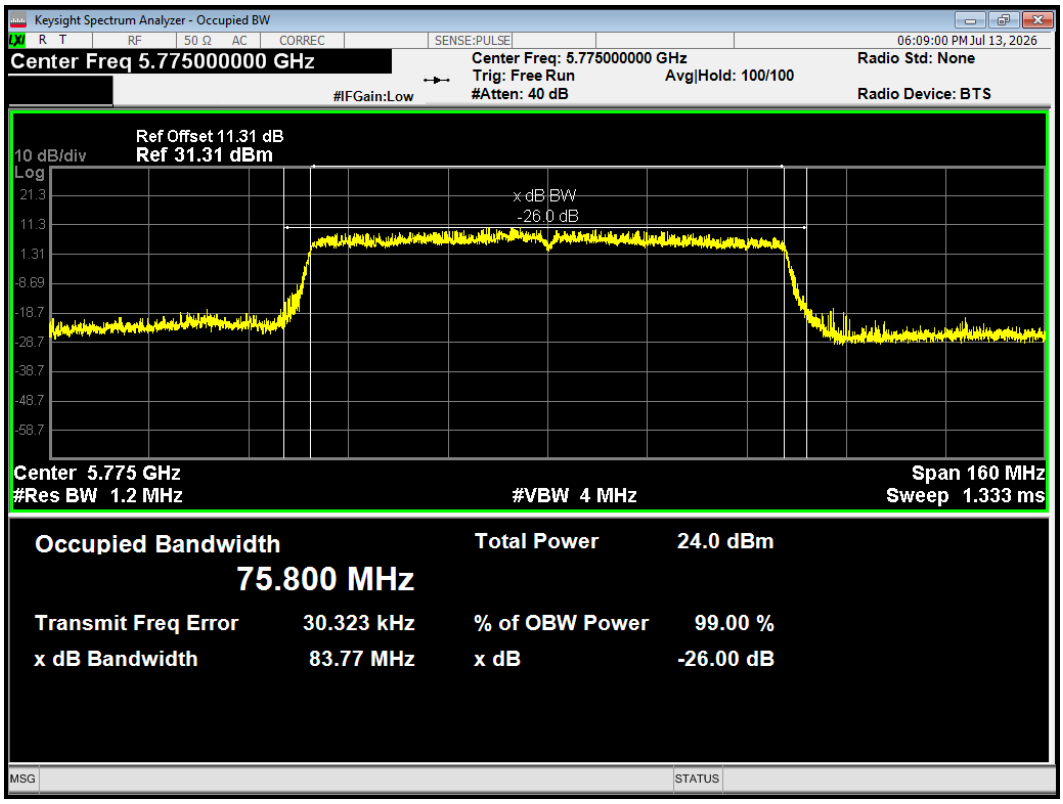
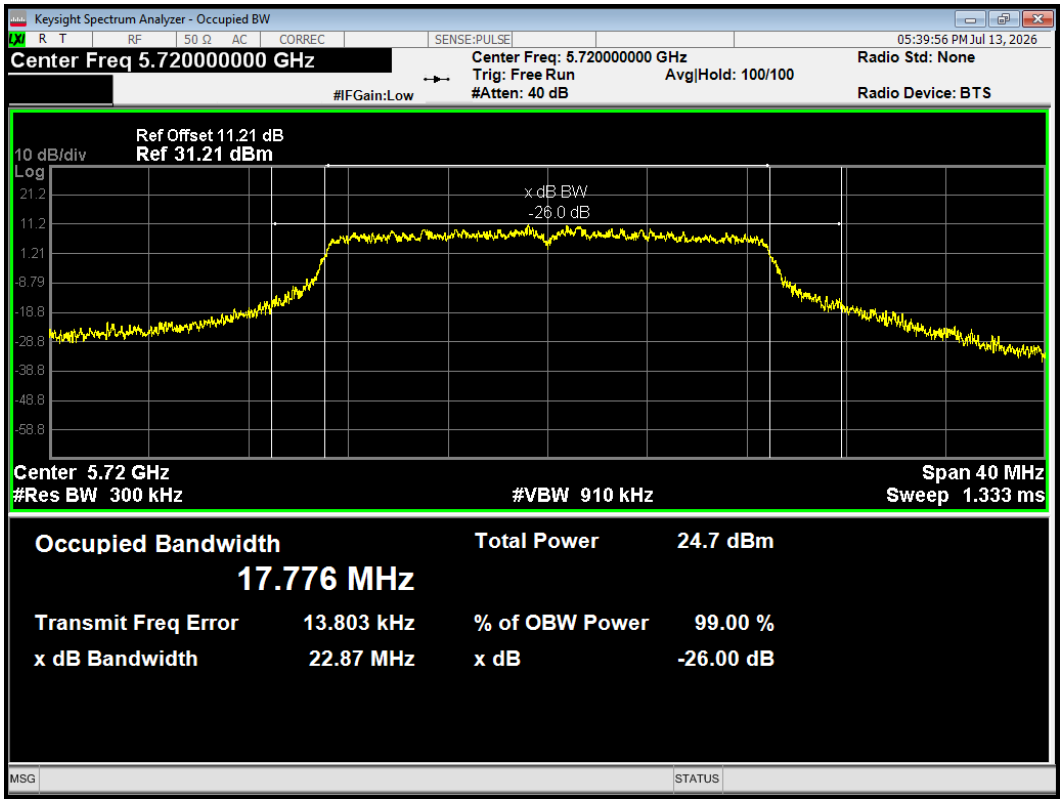
OBW 802.11ac(VHT80) 5775MHz



OBW 802.11n(HT20) 5720MHz



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