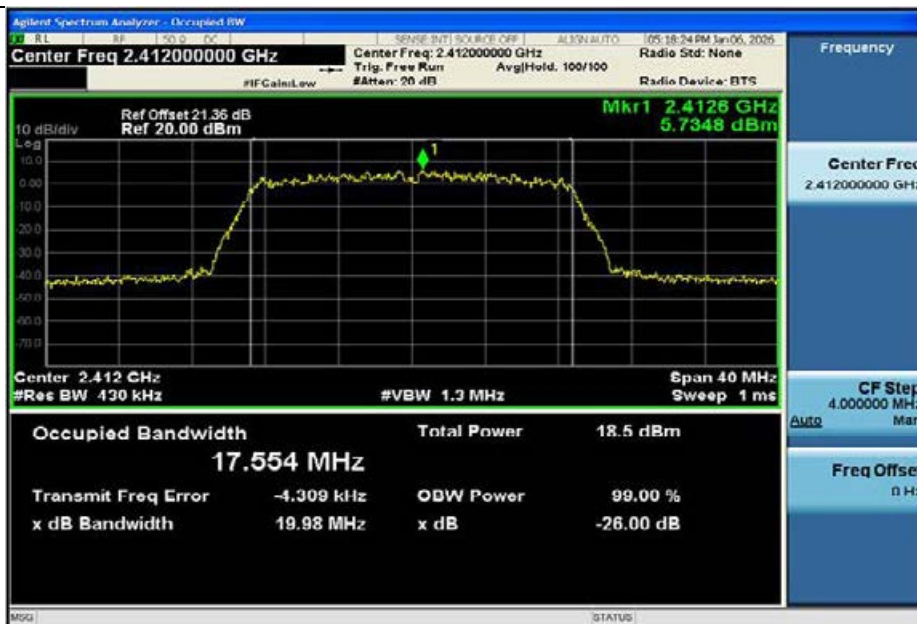
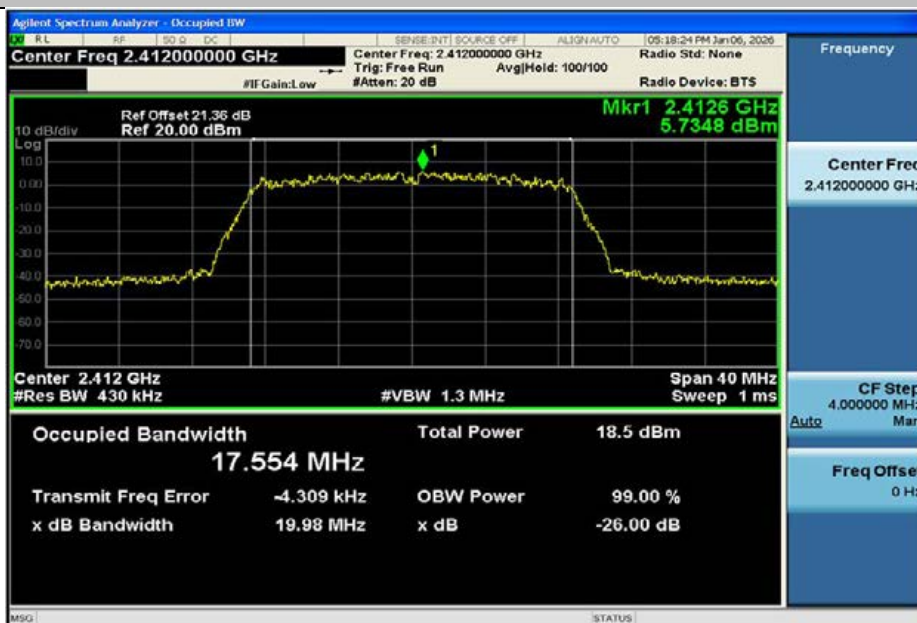
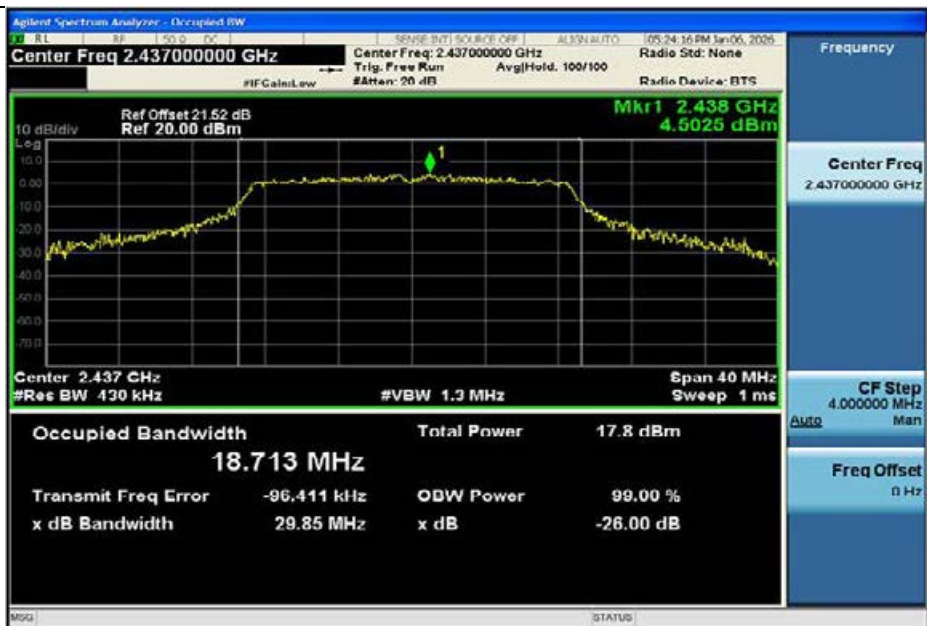




11N20MIMO-Ant1-2412



11N20MIMO-Ant2-2412



11N20MIMO-Ant1-2437



11N20MIMO-Ant2-2437



11N20MIMO-Ant1-2462



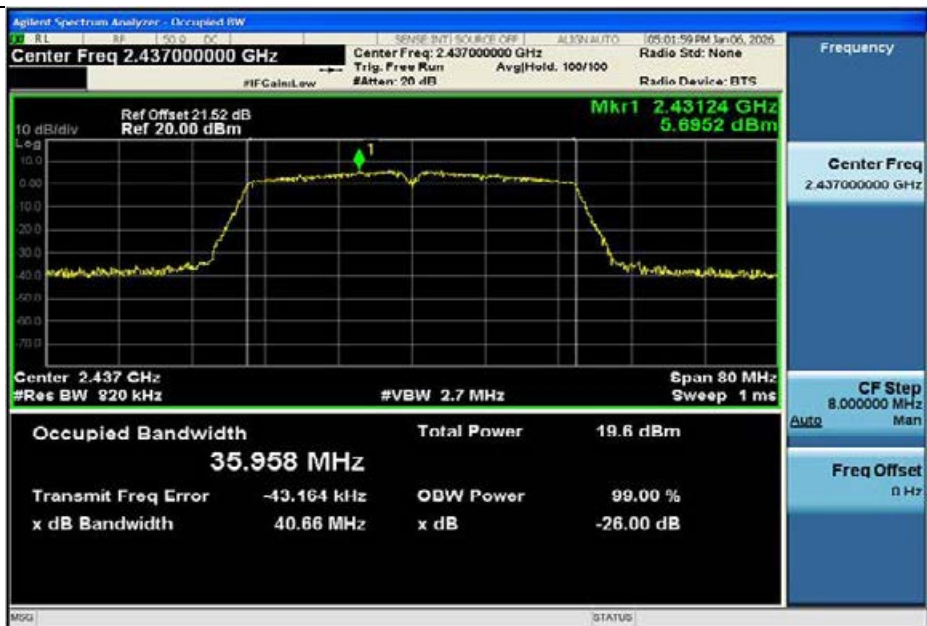
11N20MIMO-Ant2-2462



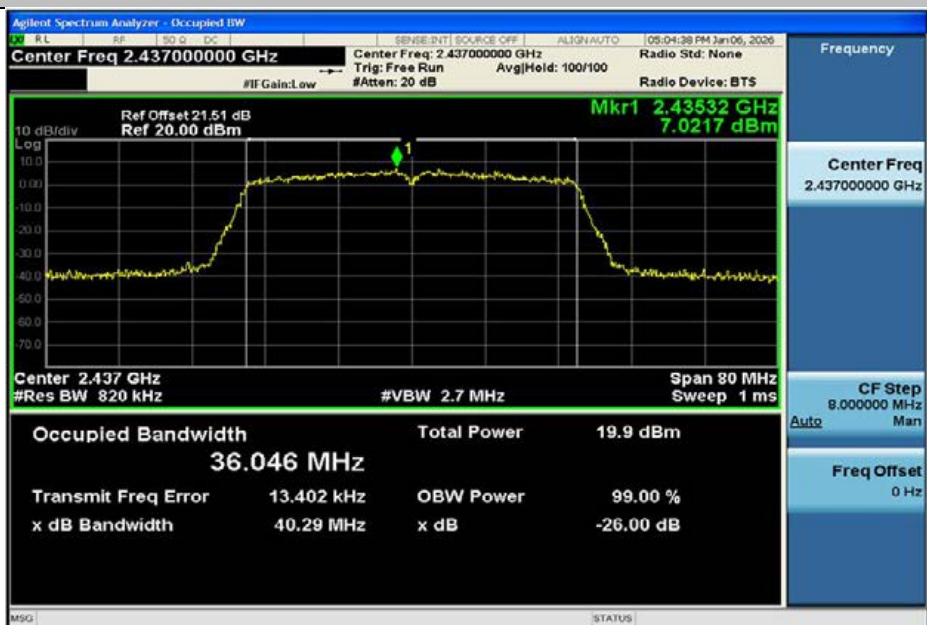
11N40MIMO-Ant1-2422



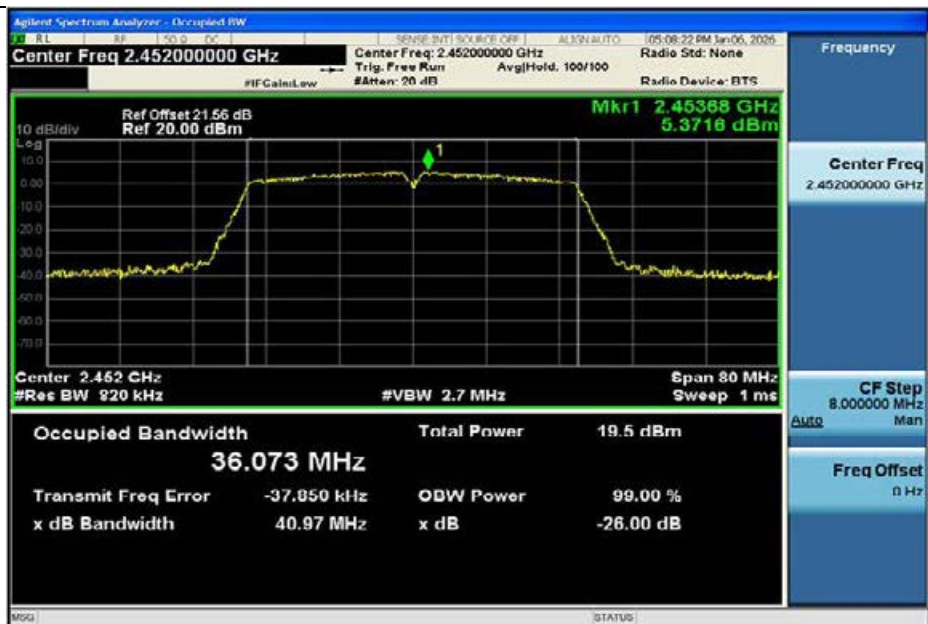
11N40MIMO-Ant2-2422



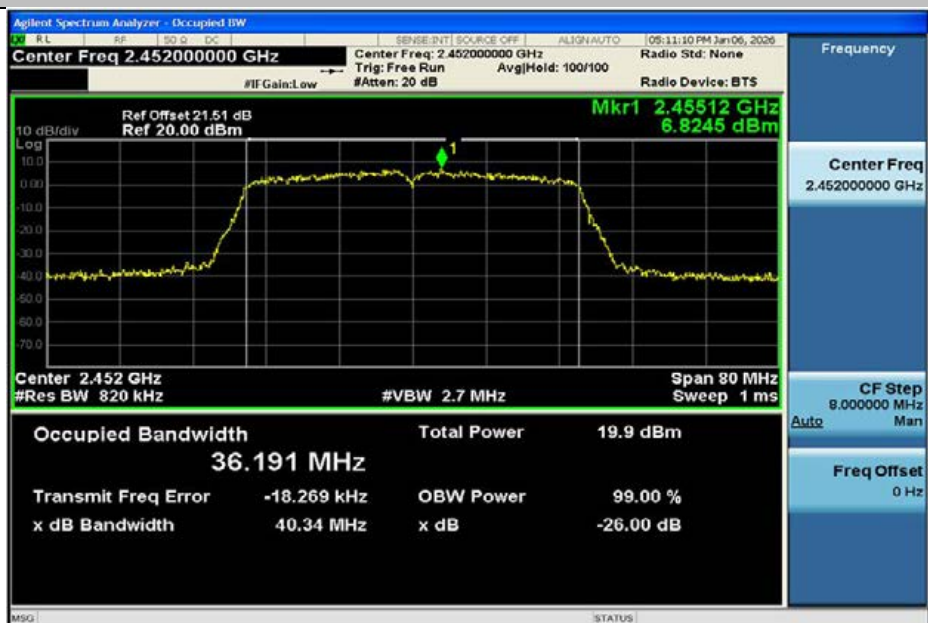
11N40MIMO-Ant1-2437



11N40MIMO-Ant2-2437



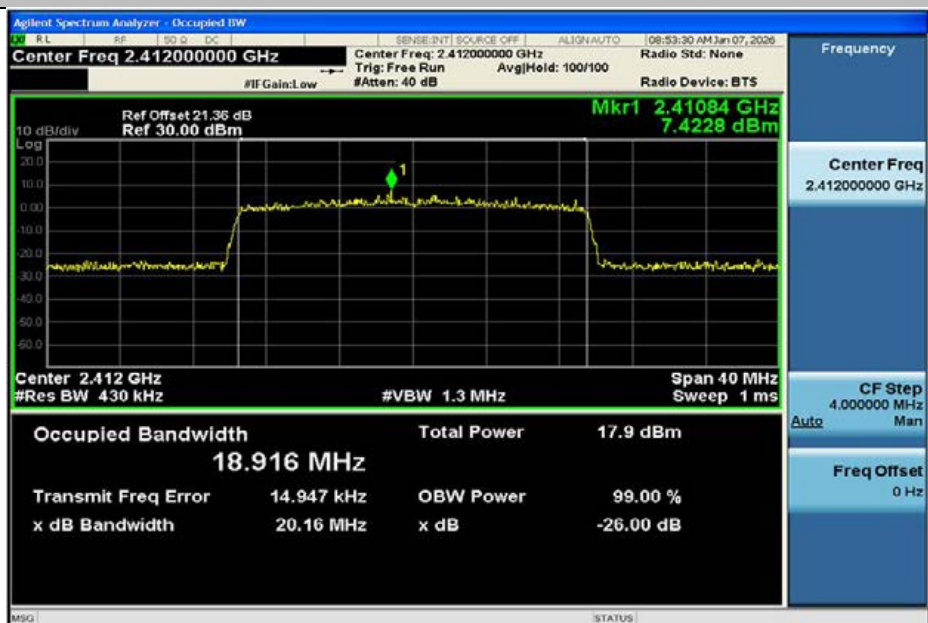
11N40MIMO-Ant1-2452



11N40MIMO-Ant2-2452



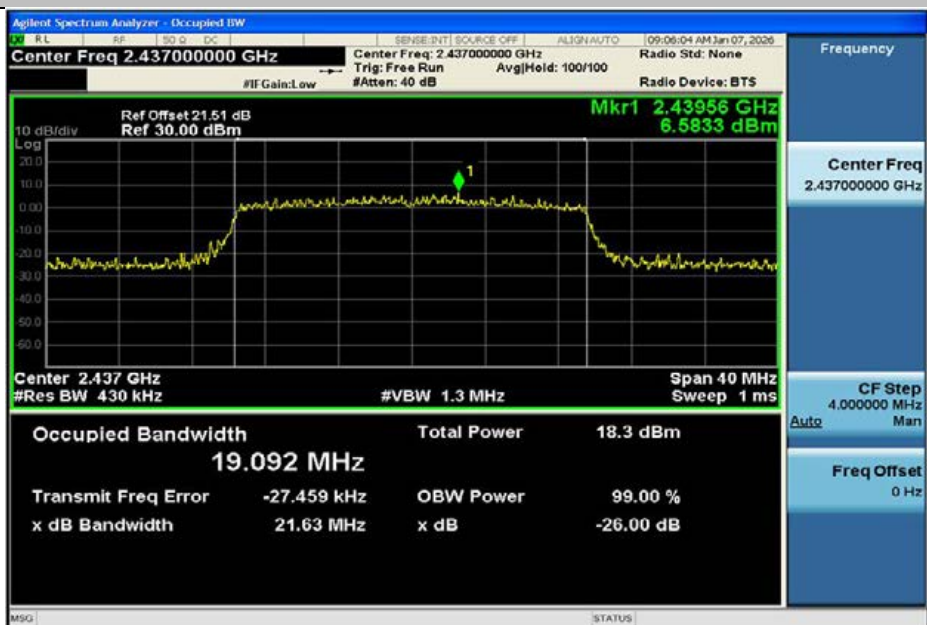
11AX20MIMO-Ant1-2412



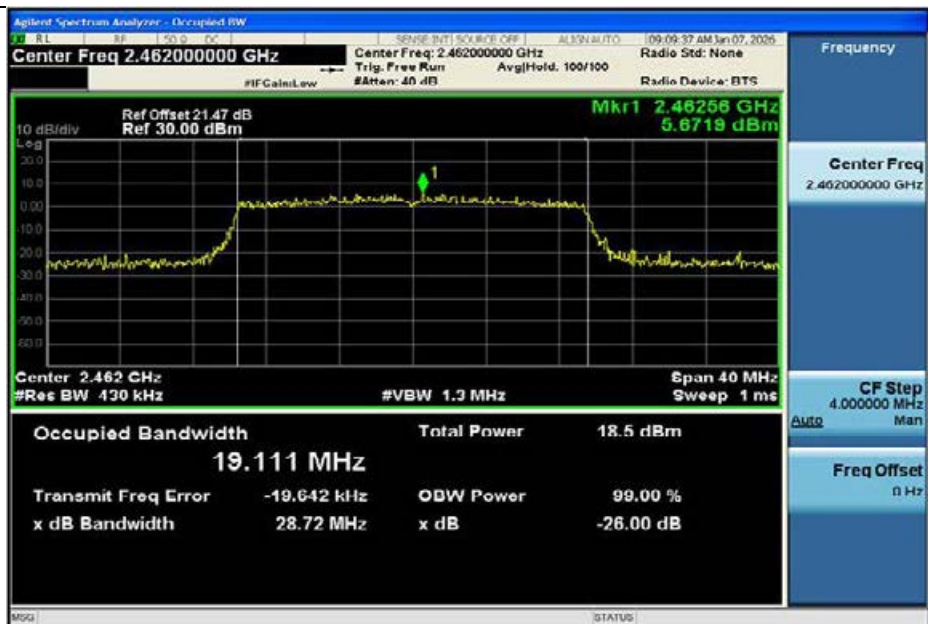
11AX20MIMO-Ant2-2412



11AX20MIMO-Ant1-2437



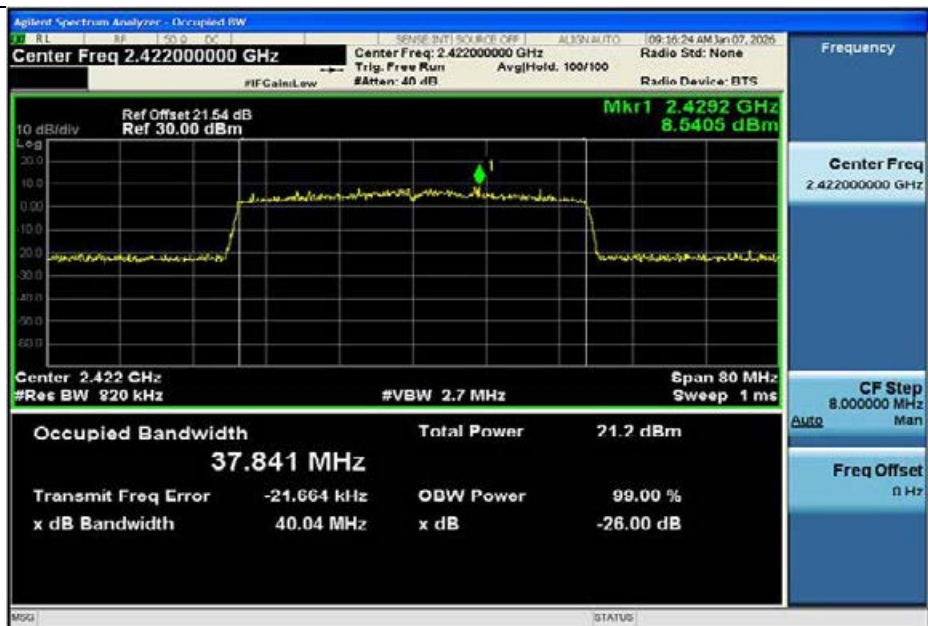
11AX20MIMO-Ant2-2437



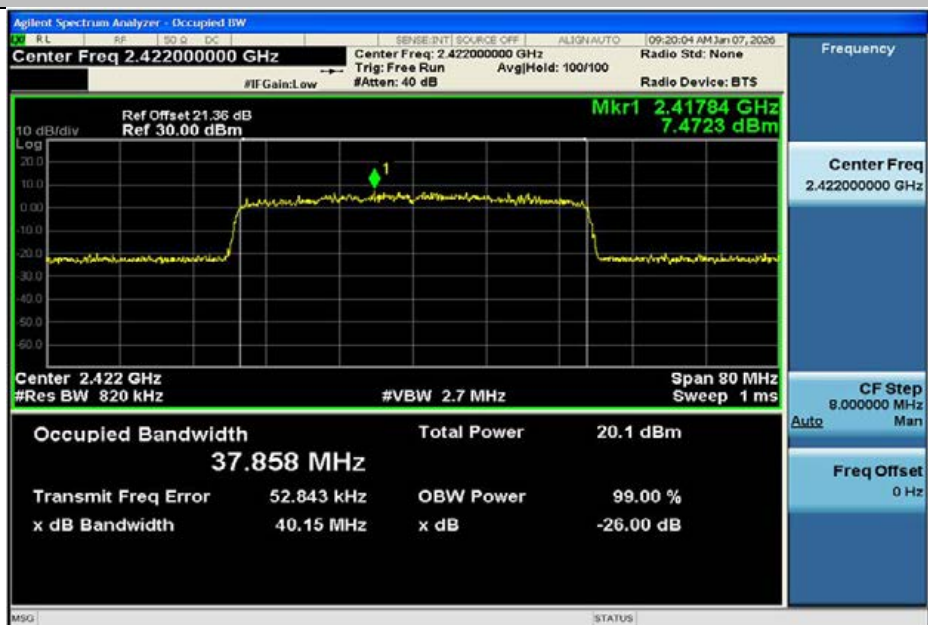
11AX20MIMO-Ant1-2462



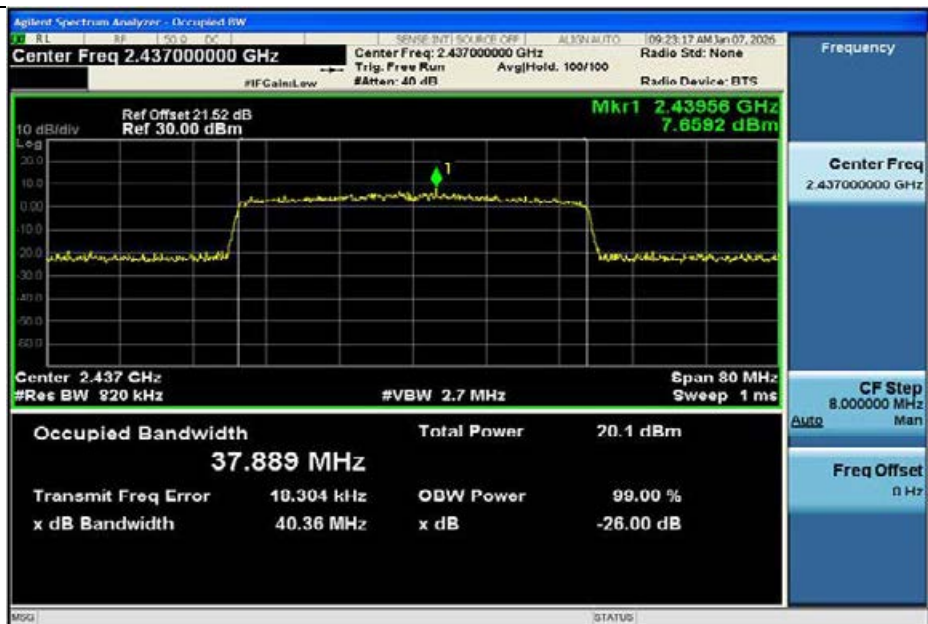
11AX20MIMO-Ant2-2462



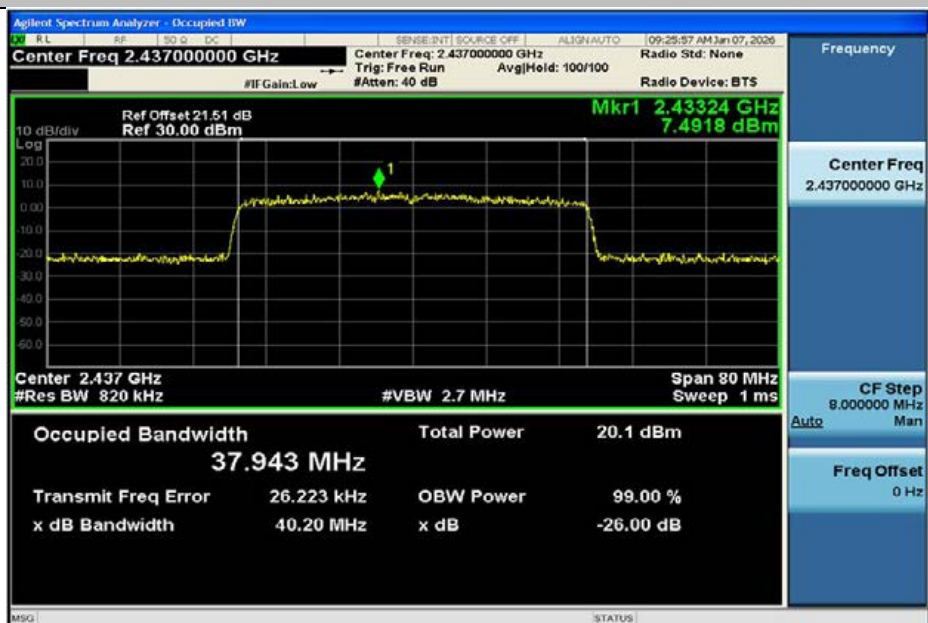
11AX40MIMO-Ant1-2422



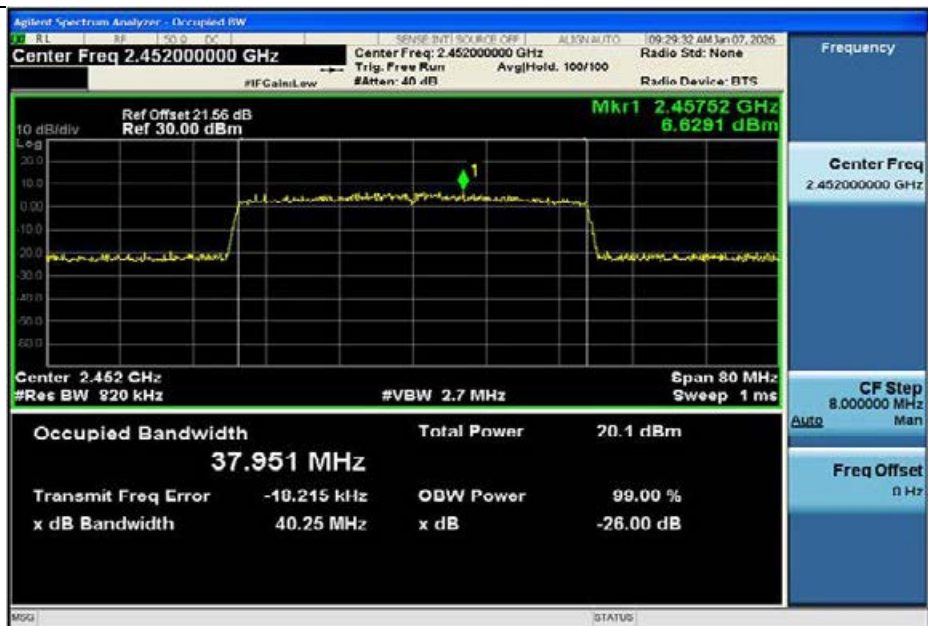
11AX40MIMO-Ant2-2422



11AX40MIMO-Ant1-2437



11AX40MIMO-Ant2-2437



11AX40MIMO-Ant1-2452



11AX40MIMO-Ant2-2452

3.5 Maximum conducted output power

3.5.1 Limit

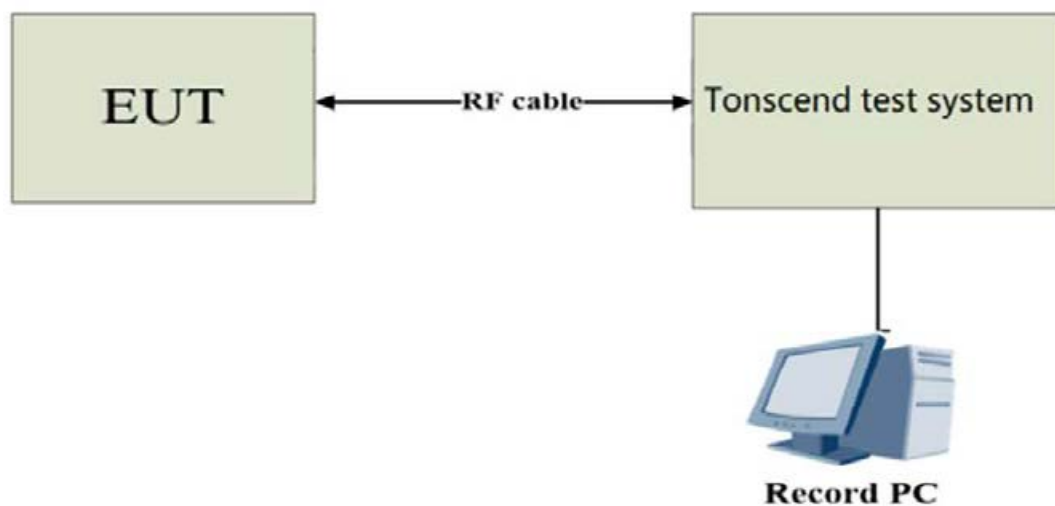
For systems using digital modulation in the 2400~2483.5MHz, The Maximum output Power shall not exceed 1W(30dBm)

3.5.2 Test Procedure

Test Method	
☒ Conducted Measurement	☐ Radiated Measurement
Test Channels	
☒ Lowest, Middle and Highest Channel	☐ Lowest and Highest Channel
Environmental conditions	
☒ Normal	☐ Normal and Extreme
Note: ☒ : Test ☐ : No Test	

- The EUT was directly connected to the tonscond test system and antenna output port as show in the block diagram below.
- The maximum conducted output power was performed in accordance with method 11.9.2.3.1 (for method AVGPM)of ANSI C63.10-2020 and FCC KDB 662911 D01 v02r01 Multiple Transmitter Output.

3.5.3 Test Setup



3.5.4 Table of Parameters of Text Software Setting

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Test Software Version	SecureCRT		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	Default	Default	Default
IEEE 802.11g	Default	Default	Default
IEEE 802.11n20	Default	Default	Default
IEEE 802.11ax20	Default	Default	Default
Frequency (MHz)	2422	2437	2452
IEEE 802.11n40	Default	Default	Default
IEEE 802.11ax40	Default	Default	Default

3.5.5 The Result

Test Mode	Antenna	Frequency[MHz]	Result [dBm]	Limit [dBm]	Verdict
11B-CDD	Ant1	2412	11.91	≤30.00	PASS
11B-CDD	Ant2	2412	11.53	≤30.00	PASS
11B-CDD	total	2412	14.73	≤30.00	PASS
11B-CDD	Ant1	2437	12.05	≤30.00	PASS
11B-CDD	Ant2	2437	11.79	≤30.00	PASS
11B-CDD	total	2437	14.93	≤30.00	PASS
11B-CDD	Ant1	2462	11.99	≤30.00	PASS
11B-CDD	Ant2	2462	11.78	≤30.00	PASS
11B-CDD	total	2462	14.90	≤30.00	PASS
11G-CDD	Ant1	2412	12.14	≤30.00	PASS
11G-CDD	Ant2	2412	11.80	≤30.00	PASS
11G-CDD	total	2412	14.98	≤30.00	PASS
11G-CDD	Ant1	2437	12.25	≤30.00	PASS
11G-CDD	Ant2	2437	12.01	≤30.00	PASS
11G-CDD	total	2437	15.14	≤30.00	PASS
11G-CDD	Ant1	2462	12.18	≤30.00	PASS
11G-CDD	Ant2	2462	12.05	≤30.00	PASS
11G-CDD	total	2462	15.13	≤30.00	PASS
11N20MIMO	Ant1	2412	11.43	≤30.00	PASS
11N20MIMO	Ant2	2412	11.23	≤30.00	PASS
11N20MIMO	total	2412	14.34	≤30.00	PASS
11N20MIMO	Ant1	2437	11.66	≤30.00	PASS
11N20MIMO	Ant2	2437	11.69	≤30.00	PASS
11N20MIMO	total	2437	14.69	≤30.00	PASS
11N20MIMO	Ant1	2462	11.54	≤30.00	PASS
11N20MIMO	Ant2	2462	11.77	≤30.00	PASS
11N20MIMO	total	2462	14.67	≤30.00	PASS
11N40MIMO	Ant1	2422	12.81	≤30.00	PASS
11N40MIMO	Ant2	2422	12.39	≤30.00	PASS
11N40MIMO	total	2422	15.62	≤30.00	PASS
11N40MIMO	Ant1	2437	12.76	≤30.00	PASS
11N40MIMO	Ant2	2437	12.42	≤30.00	PASS
11N40MIMO	total	2437	15.60	≤30.00	PASS
11N40MIMO	Ant1	2452	12.77	≤30.00	PASS
11N40MIMO	Ant2	2452	12.48	≤30.00	PASS
11N40MIMO	total	2452	15.64	≤30.00	PASS
11AX20MIMO	Ant1	2412	11.21	≤30.00	PASS
11AX20MIMO	Ant2	2412	10.88	≤30.00	PASS
11AX20MIMO	total	2412	14.06	≤30.00	PASS
11AX20MIMO	Ant1	2437	11.44	≤30.00	PASS
11AX20MIMO	Ant2	2437	11.15	≤30.00	PASS

11AX20MIMO	total	2437	14.31	≤30.00	PASS
11AX20MIMO	Ant1	2462	11.44	≤30.00	PASS
11AX20MIMO	Ant2	2462	11.33	≤30.00	PASS
11AX20MIMO	total	2462	14.40	≤30.00	PASS
11AX40MIMO	Ant1	2422	12.56	≤30.00	PASS
11AX40MIMO	Ant2	2422	12.09	≤30.00	PASS
11AX40MIMO	total	2422	15.34	≤30.00	PASS
11AX40MIMO	Ant1	2437	12.57	≤30.00	PASS
11AX40MIMO	Ant2	2437	12.24	≤30.00	PASS
11AX40MIMO	total	2437	15.42	≤30.00	PASS
11AX40MIMO	Ant1	2452	12.56	≤30.00	PASS
11AX40MIMO	Ant2	2452	12.22	≤30.00	PASS
11AX40MIMO	total	2452	15.40	≤30.00	PASS

Note: The duty cycle factor is compensated in the average conducted output power.

All transmit signals are completely uncorrelated with each other;

Directional gain = 1.80dBi

3.6 Power Spectral Density

3.6.1 Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmitting.

3.6.2 Test Procedure

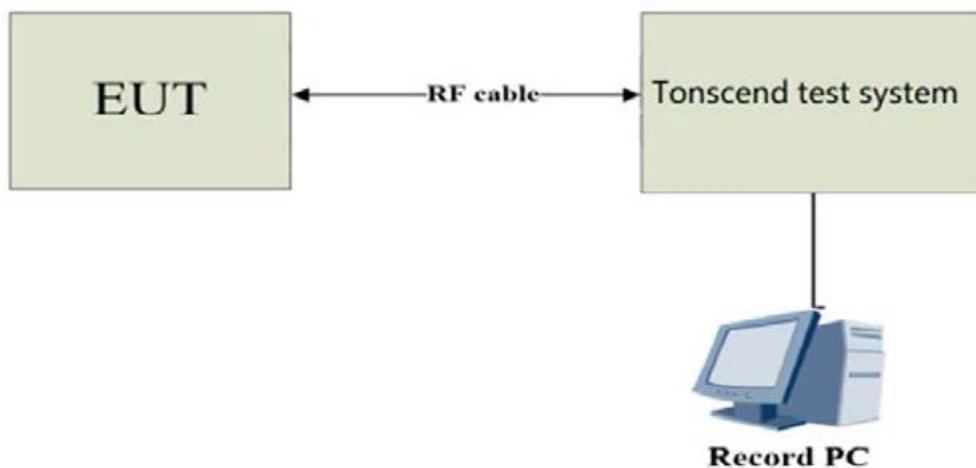
Test Method	
☒ Conducted Measurement	☐ Radiated Measurement
Test Channels	
☒ Lowest, Middle and Highest Channel	☐ Lowest and Highest Channel
Environmental conditions	
☒ Normal	☐ Normal and Extreme
Note: ☒ : Test ☐ : No Test	

a) The EUT was directly connected to the tonscend test system and antenna output port as show in the block diagram below.

b) Spectrum analyser settings as following:

Spectrum Parameters	Setting
Span Frequency	2 times the OBW bandwidth
RBW	3 kHz
VBW	10 kHz
Detector	RMS
Trace	RMS
Sweep Time	Auto

3.6.3 Test Setup



3.6.4 The Result

Test Mode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B-CDD	Ant1	2412	-19.36	≤8.00	PASS
11B-CDD	Ant2	2412	-20.05	≤8.00	PASS
11B-CDD	total	2412	-16.68	≤8.00	PASS
11B-CDD	Ant1	2437	-19.01	≤8.00	PASS
11B-CDD	Ant2	2437	-19.60	≤8.00	PASS
11B-CDD	total	2437	-16.28	≤8.00	PASS
11B-CDD	Ant1	2462	-19.14	≤8.00	PASS
11B-CDD	Ant2	2462	-19.52	≤8.00	PASS
11B-CDD	total	2462	-16.32	≤8.00	PASS
11G-CDD	Ant1	2412	-21.28	≤8.00	PASS
11G-CDD	Ant2	2412	-21.85	≤8.00	PASS
11G-CDD	total	2412	-18.55	≤8.00	PASS
11G-CDD	Ant1	2437	-21.45	≤8.00	PASS
11G-CDD	Ant2	2437	-21.24	≤8.00	PASS
11G-CDD	total	2437	-18.33	≤8.00	PASS
11G-CDD	Ant1	2462	-21.44	≤8.00	PASS
11G-CDD	Ant2	2462	-21.26	≤8.00	PASS
11G-CDD	total	2462	-18.34	≤8.00	PASS
11N20MIMO	Ant1	2412	-22.13	≤8.00	PASS
11N20MIMO	Ant2	2412	-21.75	≤8.00	PASS
11N20MIMO	total	2412	-18.93	≤8.00	PASS
11N20MIMO	Ant1	2437	-21.59	≤8.00	PASS
11N20MIMO	Ant2	2437	-21.72	≤8.00	PASS
11N20MIMO	total	2437	-18.64	≤8.00	PASS
11N20MIMO	Ant1	2462	-22.22	≤8.00	PASS
11N20MIMO	Ant2	2462	-21.61	≤8.00	PASS
11N20MIMO	total	2462	-18.89	≤8.00	PASS
11N40MIMO	Ant1	2422	-23.66	≤8.00	PASS
11N40MIMO	Ant2	2422	-24.33	≤8.00	PASS
11N40MIMO	total	2422	-20.97	≤8.00	PASS
11N40MIMO	Ant1	2437	-23.52	≤8.00	PASS
11N40MIMO	Ant2	2437	-24.32	≤8.00	PASS
11N40MIMO	total	2437	-20.89	≤8.00	PASS
11N40MIMO	Ant1	2452	-23.97	≤8.00	PASS
11N40MIMO	Ant2	2452	-24.28	≤8.00	PASS
11N40MIMO	total	2452	-21.11	≤8.00	PASS
11AX20MIMO	Ant1	2412	-23.87	≤8.00	PASS
11AX20MIMO	Ant2	2412	-24.11	≤8.00	PASS
11AX20MIMO	total	2412	-20.98	≤8.00	PASS
11AX20MIMO	Ant1	2437	-23.49	≤8.00	PASS
11AX20MIMO	Ant2	2437	-24.11	≤8.00	PASS

11AX20MIMO	total	2437	-20.78	≤8.00	PASS
11AX20MIMO	Ant1	2462	-23.53	≤8.00	PASS
11AX20MIMO	Ant2	2462	-23.66	≤8.00	PASS
11AX20MIMO	total	2462	-20.58	≤8.00	PASS
11AX40MIMO	Ant1	2422	-25.34	≤8.00	PASS
11AX40MIMO	Ant2	2422	-25.85	≤8.00	PASS
11AX40MIMO	total	2422	-22.58	≤8.00	PASS
11AX40MIMO	Ant1	2437	-25.33	≤8.00	PASS
11AX40MIMO	Ant2	2437	-25.28	≤8.00	PASS
11AX40MIMO	total	2437	-22.29	≤8.00	PASS
11AX40MIMO	Ant1	2452	-25.48	≤8.00	PASS
11AX40MIMO	Ant2	2452	-25.78	≤8.00	PASS
11AX40MIMO	total	2452	-22.62	≤8.00	PASS

Note: The duty cycle factor has been included in the test diagram.

All transmit signals are completely uncorrelated with each other;

Directional gain = 1.80dBi

Test Graphs



11B-CDD-Ant1-2412-PASS



11B-CDD-Ant2-2412-PASS



11B-CDD-Ant1-2437-PASS



11B-CDD-Ant2-2437-PASS



11B-CDD-Ant1-2462-PASS



11B-CDD-Ant2-2462-PASS



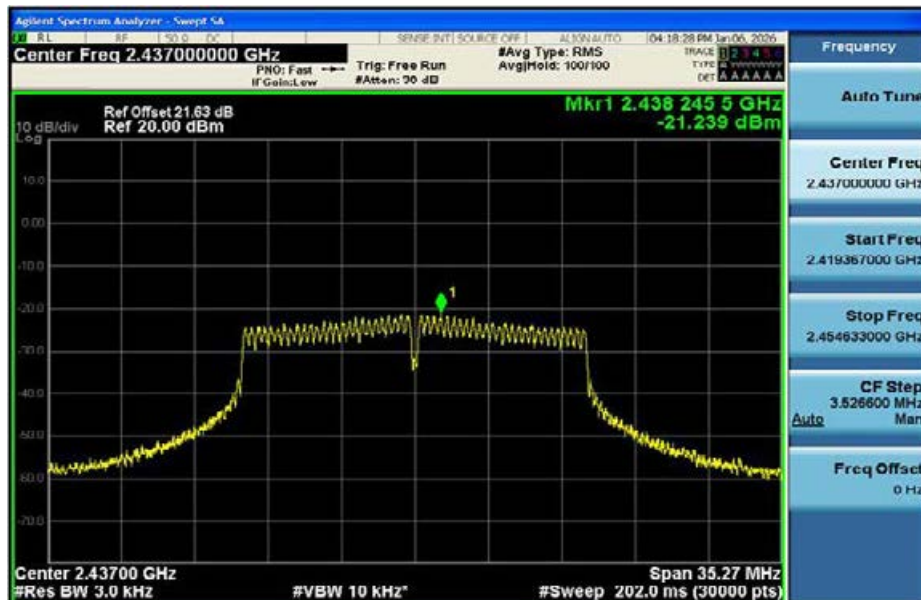
11G-CDD-Ant1-2412-PASS



11G-CDD-Ant2-2412-PASS



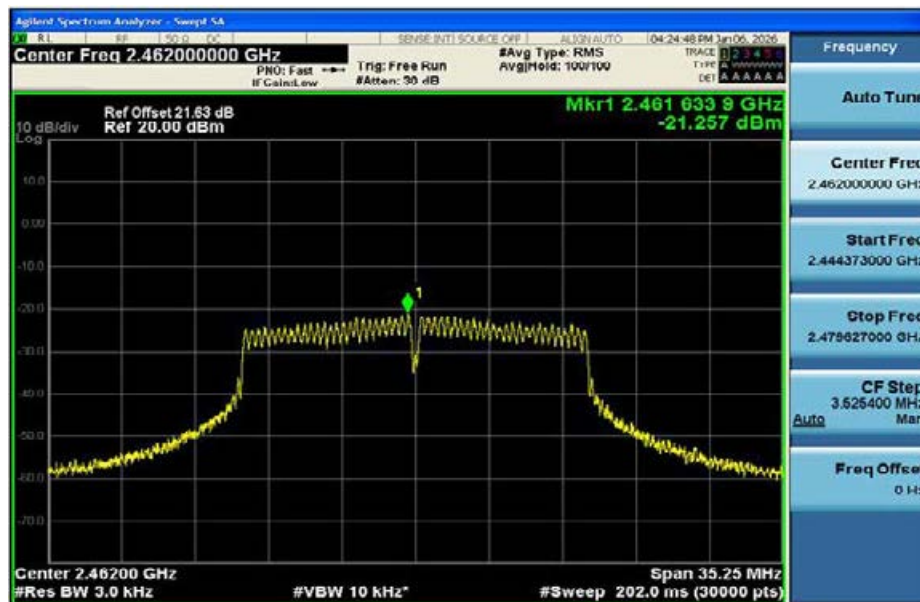
11G-CDD-Ant1-2437-PASS



11G-CDD-Ant2-2437-PASS



11G-CDD-Ant1-2462-PASS



11G-CDD-Ant2-2462-PASS



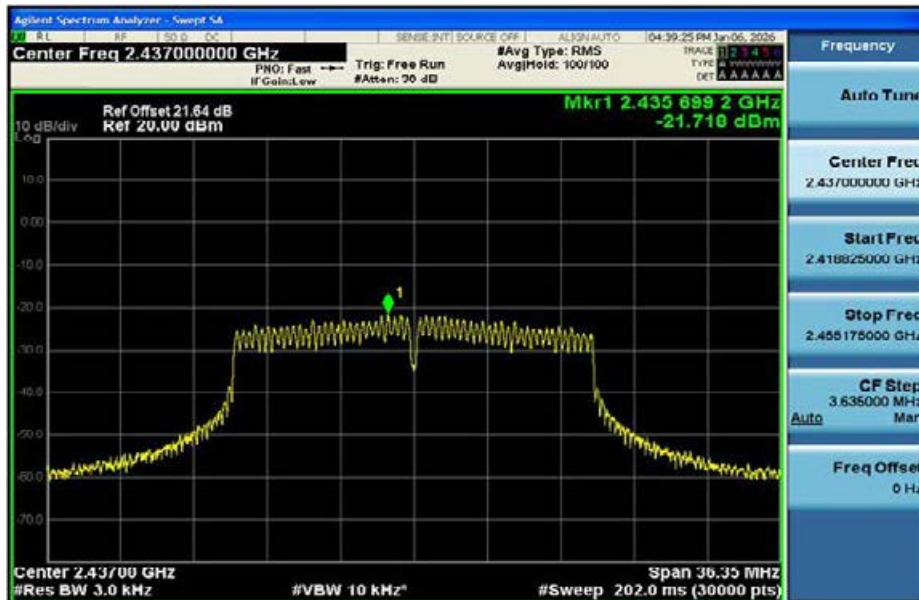
11N20MIMO-Ant1-2412-PASS



11N20MIMO-Ant2-2412-PASS



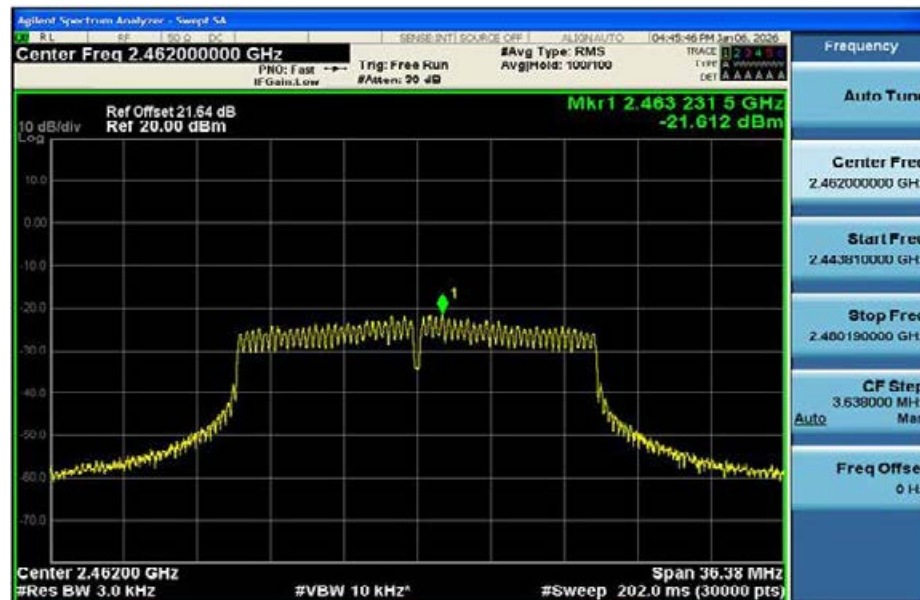
11N20MIMO-Ant1-2437-PASS



11N20MIMO-Ant2-2437-PASS



11N20MIMO-Ant1-2462-PASS



11N20MIMO-Ant2-2462-PASS



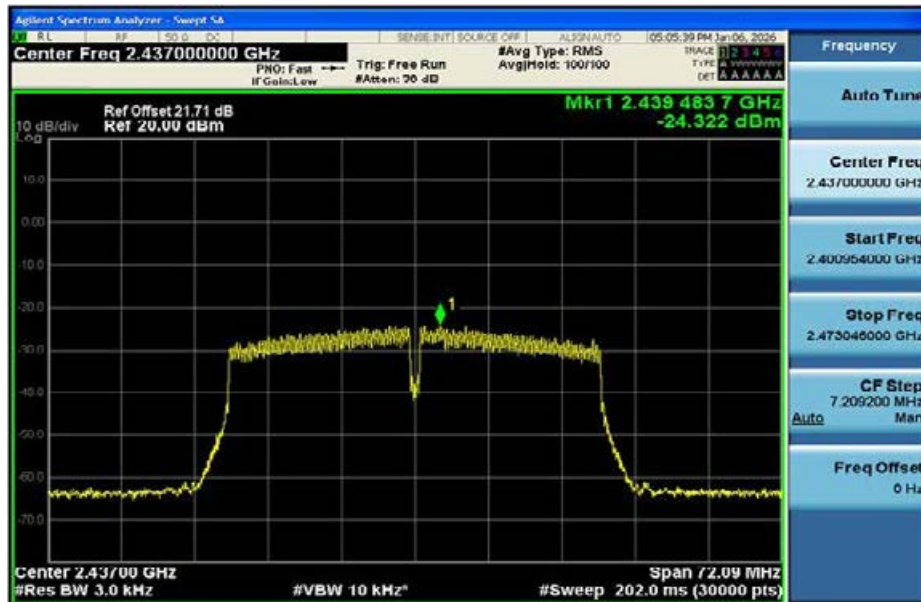
11N40MIMO-Ant1-2422-PASS



11N40MIMO-Ant2-2422-PASS



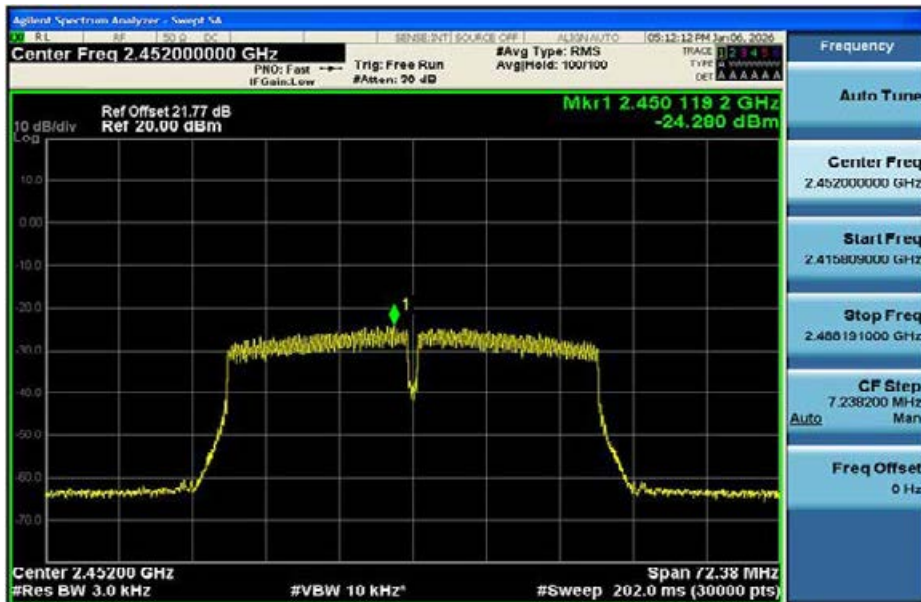
11N40MIMO-Ant1-2437-PASS



11N40MIMO-Ant2-2437-PASS



11N40MIMO-Ant1-2452-PASS



11N40MIMO-Ant2-2452-PASS



11AX20MIMO-Ant1-2412-PASS



11AX20MIMO-Ant2-2412-PASS



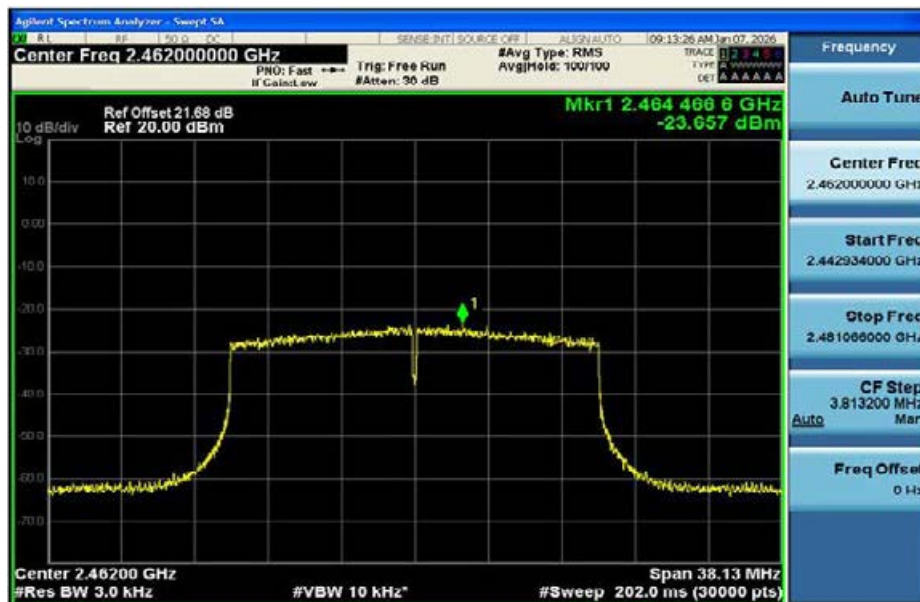
11AX20MIMO-Ant1-2437-PASS



11AX20MIMO-Ant2-2437-PASS



11AX20MIMO-Ant1-2462-PASS



11AX20MIMO-Ant2-2462-PASS



11AX40MIMO-Ant1-2422-PASS



11AX40MIMO-Ant2-2422-PASS



11AX40MIMO-Ant1-2437-PASS



11AX40MIMO-Ant2-2437-PASS



11AX40MIMO-Ant1-2452-PASS



11AX40MIMO-Ant2-2452-PASS

Statement

1. The report is invalid without the official seal or special seal of Shenzhen Haiyun Standard Technical Co., Ltd. (hereinafter referred to as the unit).
2. The report is invalid without the signature of the approver.
3. The report is invalid if altered arbitrarily.
4. The report shall not be partially copied without the written approval of the unit.
5. The reported test results are only valid for the tested samples.
6. If there is any objection to the test report, it shall be submitted to the test unit within 15 days from the date of receiving the report, and the overdue shall not be accepted.

Shenzhen Haiyun Standard Technical Co., Ltd.

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End of Test Report