

**MEASUREMENT REPORT**  
**FCC PART 15.247 / ISED RSS-247 WLAN 802.11b/g/n/ax-SU**

**Applicant Name:**  
 Apple Inc.  
 One Apple Park Way  
 Cupertino, CA 95014  
 United States

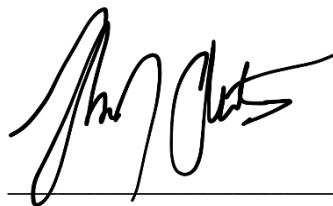
**Date of Testing:**  
 1/8/2024 - 3/15/2024  
**Test Report Issue Date:**  
 3/30/2024  
**Test Site/Location:**  
 Element Materials Technology  
**Test Report Serial No.:**  
 1C2311270067-03.BCG

<b>FCC ID:</b>	<b>BCGA2836</b>
<b>IC:</b>	<b>579C-A2836</b>
<b>APPLICANT:</b>	<b>Apple Inc.</b>

**Application Type:** Certification  
**Model/HVIN:** A2836  
**EUT Type:** Tablet Device  
**Frequency Range:** 2412 – 2472MHz  
**FCC Classification:** Digital Transmission System (DTS)  
**FCC Rule Part(s):** Part 15 Subpart C (15.247)  
**ISED Specification:** RSS-247 Issue 3  
**Test Procedure(s):** ANSI C63.10-2013, KDB 558074 D01 v05r02,  
 KDB 662911 D01 v02r01

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013 and KDB 558074 D01 v05r02. Test results reported herein relate only to the item(s) tested.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.



RJ Ortanez  
 Executive Vice President

**Prepared by:** WKR0000010245  
**Reviewed by:** WKR0000005805

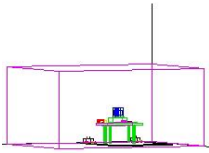


<b>FCC ID:</b> BCGA2836 <b>IC:</b> 579C-A2836	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1C2311270067-03.BCG	<b>Test Dates:</b> 1/8/2024 - 3/15/2024	<b>EUT Type:</b> Tablet Device
		Page 1 of 583

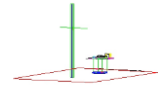
## T A B L E O F C O N T E N T S

1.0	INTRODUCTION .....	5
1.1	Scope .....	5
1.2	Element Materials Technology Test Location .....	5
1.3	Test Facility / Accreditations .....	5
2.0	PRODUCT INFORMATION .....	6
2.1	Equipment Description .....	6
2.2	Device Capabilities .....	6
2.3	Antenna Description.....	9
2.4	Test Support Equipment.....	9
2.5	Test Configuration.....	10
2.6	Software and Firmware .....	10
2.7	EMI Suppression Device(s)/Modifications.....	10
3.0	DESCRIPTION OF TESTS .....	11
3.1	Evaluation Procedure.....	11
3.2	AC Line Conducted Emissions .....	11
3.3	Radiated Emissions .....	12
3.4	Environmental Conditions .....	12
4.0	ANTENNA REQUIREMENTS .....	13
5.0	MEASUREMENT UNCERTAINTY .....	14
6.0	TEST EQUIPMENT CALIBRATION DATA.....	15
7.0	TEST RESULTS.....	16
7.1	Summary .....	16
7.2	6dB BW and 99% OBW Measurement .....	17
7.3	Output Power Measurement.....	70
7.4	Power Spectral Density.....	90
7.5	Conducted Authorized Band Edge .....	187
7.6	Conducted Spurious Emissions.....	341
7.7	Radiated Spurious Emissions – Above 1 GHz .....	352
7.8	Radiated Spurious Emissions – Below 1GHz .....	566
7.9	AC Line-Conducted Emissions Measurement.....	573
8.0	CONCLUSION.....	583

<b>FCC ID:</b> BCGA2836 <b>IC:</b> 579C-A2836	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1C2311270067-03.BCG	<b>Test Dates:</b> 1/8/2024 - 3/15/2024	<b>EUT Type:</b> Tablet Device
		Page 2 of 583



# MEASUREMENT REPORT



Mode	Tx Frequency (MHz)	Antenna WF8				Antenna WF7				Antenna WF9			
		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted	
		Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)
802.11g	2412 - 2472	99.724	19.99	400.037	26.02	107.349	20.31	407.568	26.10	107.647	20.32	422.863	26.26
802.11n	2412 - 2472	98.855	19.95	414.954	26.18	109.471	20.39	427.366	26.31	109.926	20.41	443.098	26.47
802.11ax (SU)	2412 - 2467	99.495	19.98	412.192	26.15	107.300	20.31	419.856	26.23	112.047	20.49	440.961	26.44

## EUT Overview SISO (Low Data Rate)

Mode	Tx Frequency (MHz)	Antenna WF8				Antenna WF7				CDD Primary			
		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted	
		Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)
802.11g	2412 - 2472	99.862	19.99	413.619	26.17	105.003	20.21	400.590	26.03	204.644	23.11	812.831	29.10
802.11n	2412 - 2472	97.791	19.90	414.859	26.18	104.568	20.19	416.677	26.20	202.302	23.06	831.764	29.20
802.11ax (SU)	2412 - 2467	100.809	20.04	410.015	26.13	102.754	20.12	402.717	26.05	203.236	23.08	812.831	29.10

## EUT Overview CDD Primary (Low Data Rate)

Mode	Tx Frequency (MHz)	Antenna WF8				Antenna WF9				CDD Diversity			
		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted	
		Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)
802.11g	2412 - 2472	99.862	19.99	413.619	26.17	112.202	20.50	434.210	26.38	211.836	23.26	847.227	29.28
802.11n	2412 - 2472	97.791	19.90	414.859	26.18	108.293	20.35	431.519	26.35	206.063	23.14	847.227	29.28
802.11ax (SU)	2412 - 2467	100.809	20.04	410.015	26.13	111.455	20.47	432.813	26.36	211.349	23.25	839.460	29.24

## EUT Overview CDD Diversity (Low Data Rate)

Mode	Tx Frequency (MHz)	Antenna WF8				Antenna WF7				Antenna WF9			
		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted	
		Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)
802.11g	2412 - 2472	103.467	20.15	465.157	26.68	112.202	20.50	473.042	26.75	108.518	20.36	474.898	26.77
802.11n	2412 - 2472	98.288	19.93	483.393	26.84	108.568	20.36	487.753	26.88	106.072	20.26	500.611	27.00
802.11ax (SU)	2412 - 2467	97.140	19.87	471.194	26.73	103.610	20.15	475.664	26.77	110.332	20.43	498.196	26.97

## EUT Overview SISO (Mid Data Rate)

Mode	Tx Frequency (MHz)	Antenna WF8				Antenna WF7				CDD Primary			
		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted	
		Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)
802.11g	2412 - 2472	103.657	20.16	428.746	26.32	105.901	20.25	419.759	26.23	207.014	23.16	841.395	29.25
802.11n	2412 - 2472	101.321	20.06	445.656	26.49	103.944	20.17	447.713	26.51	201.372	23.04	868.960	29.39
802.11ax (SU)	2412 - 2467	97.073	19.87	431.519	26.35	104.833	20.21	429.536	26.33	201.837	23.05	860.994	29.35

## EUT Overview CDD Primary (Mid Data Rate)

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 3 of 583

Mode	Tx Frequency (MHz)	Antenna WF8				Antenna WF9				CDD Diversity			
		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted	
		Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)
802.11g	2412 - 2472	103.657	20.16	462.381	26.65	108.843	20.37	467.735	26.70	208.930	23.20	926.830	29.67
802.11n	2412 - 2472	101.321	20.06	454.569	26.58	107.820	20.33	490.908	26.91	207.014	23.16	907.821	29.58
802.11ax (SU)	2412 - 2467	97.073	19.87	462.381	26.65	110.713	20.44	493.515	26.93	207.491	23.17	928.966	29.68

### EUT Overview CDD Diversity (Mid Data Rate)

Mode	Tx Frequency (MHz)	Antenna WF8				Antenna WF7				Antenna WF9			
		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted	
		Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)
802.11b	2412 - 2472	110.841	20.45	209.074	23.20	112.202	20.50	211.349	23.25	111.712	20.48	210.136	23.23
802.11g	2412 - 2472	100.231	20.01	578.496	27.62	105.560	20.24	567.283	27.54	108.468	20.35	585.868	27.68
802.11n	2412 - 2472	99.083	19.96	567.414	27.54	105.730	20.24	565.067	27.52	109.825	20.41	580.497	27.64
802.11ax (SU)	2412 - 2467	100.763	20.03	573.588	27.59	105.682	20.24	559.371	27.48	109.572	20.40	582.505	27.65

### EUT Overview SISO (High Data Rate)

Mode	Tx Frequency (MHz)	Antenna WF8				Antenna WF7				CDD Primary			
		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted	
		Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)
802.11g	2412 - 2472	104.978	20.21	438.531	26.42	101.391	20.06	435.512	26.39	206.063	23.14	857.038	29.33
802.11n	2412 - 2472	97.387	19.89	447.301	26.51	98.039	19.91	431.519	26.35	190.546	22.80	877.001	29.43
802.11ax (SU)	2412 - 2467	100.415	20.02	446.067	26.49	103.443	20.15	427.268	26.31	203.704	23.09	872.971	29.41

### EUT Overview CDD Primary (High Data Rate)

Mode	Tx Frequency (MHz)	Antenna WF8				Antenna WF9				CDD Diversity			
		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted		Avg Conducted		Peak Conducted	
		Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)	Max. Power (mW)	Max. Power (dBm)
802.11g	2412 - 2472	104.978	20.21	447.816	26.51	109.144	20.38	521.075	27.17	213.304	23.29	928.966	29.68
802.11n	2412 - 2472	97.387	19.89	448.745	26.52	100.415	20.02	517.607	27.14	197.697	22.96	924.698	29.66
802.11ax (SU)	2412 - 2467	100.415	20.02	446.067	26.49	108.618	20.36	509.096	27.07	208.930	23.20	924.698	29.66

### EUT Overview CDD Diversity (High Data Rate)

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 4 of 583

## 1.0 INTRODUCTION

### 1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

### 1.2 Element Materials Technology Test Location

These measurement tests were conducted at the Element Materials Technology facility located at 18855 Adams Court, Morgan Hill, CA 95037. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014 and KDB 414788 D01 v01r01.

### 1.3 Test Facility / Accreditations

Measurements were performed at Element Materials Technology.

- Element Materials Technology is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.02 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.
- Element Washington DC LLC TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).
- Element Materials Technology facility is a registered (22831) test laboratory with the site description on file with ISED.
- Element Washington DC LLC is a Recognized U.S. Certification Assessment Body (CAB # US0110) for ISED Canada as designated by NIST under the U.S. and Canada Mutual Recognition Agreements (MRAs).

<b>FCC ID:</b> BCGA2836 <b>IC:</b> 579C-A2836	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1C2311270067-03.BCG	<b>Test Dates:</b> 1/8/2024 - 3/15/2024	<b>EUT Type:</b> Tablet Device

## 2.0 PRODUCT INFORMATION

### 2.1 Equipment Description

The Equipment Under Test (EUT) is the **Apple Tablet Device FCC ID: BCGA2836, IC: 579C-A2836**. The test data contained in this report pertains only to the emissions due to the EUT's WLAN (DTS) transmitter.

**Test Device Serial No.:** C4CV3H0HPL, W2LTQY6JJQ, YNXD30JFHK, DLXH160000W000065V

### 2.2 Device Capabilities

This device contains the following capabilities:

802.11b/g/n/ax WLAN, 802.11a/n/ac/ax UNII, 802.11a/ax WIFI 6E, Bluetooth (1x, EDR, LE1M, LE2M, HDR4, HDR8), NB UNII (1x, HDR4, HDR8), WPT, 802.15.4

This device supports BT Beamforming

Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432	12	2467
6	2437	13*	2472
7	2442		

**Table 2-1. 802.11b/g/n/ax Frequency/Channel Operations**

\*Channel 13 is disabled for DTS 802.11ax HE20.

**Note:** The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz, and detector = peak per the guidance of Section 6.0 b) of KDB 558074 D01 v05r02 and ANSI C63.10-2013. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 6 of 583

V 10.6 09/14/2023

Measured Duty Cycles						
802.11 Mode/Band		Duty Cycle [%]				
		Antenna WF8	Antenna WF7	Antenna WF9	CDD (Primary)	CDD (Diversity)
2.4GHz	b	100.0	100.0	100	N/A	N/A
	g (Low Data Rate)	98.1	98.2	97.9	97.6	97.7
	g (Mid Data Rate)	96.2	96.3	96.1	95.4	95.6
	g (High Data Rate)	94.4	94.1	94.2	93.9	93.8
	n (Low Data Rate)	96.6	96.6	96.4	93.3	93.8
	n (Mid Data Rate)	93.8	93.3	93.8	89.9	89.7
	n (High Data Rate)	90.6	90.6	90.8	85.1	85.7
	11ax (SU) (Low Data Rate)	95.5	95.5	95.7	95.5	95.9
	11ax (SU) (Mid Data Rate)	93.1	92.7	92.9	92.9	92.5
	11ax (SU) (High Data Rate)	88.1	88.1	88.1	87.9	87.5

**Table 2-2. Measured Duty Cycles**

The device employs CDD technology. Below are the possible configurations.

WiFi Configurations		SISO			Primary				Diversity			
					SDM		CDD		SDM		CDD	
		Antenna WF8	Antenna WF7	Antenna WF9	Antenna WF8	Antenna WF7	Antenna WF8	Antenna WF7	Antenna WF8	Antenna WF9	Antenna WF8	Antenna WF9
2.4GHz	11b	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗
	11g	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	11n	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	11ax	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

**Table 2-3. Wi-Fi Configurations**

✓ = Support ; ✗ = NOT Support

**SISO** = Single Input Single Output

**SDM** = Spatial Diversity Multiplexing – CDD function

**CDD** = Cyclic Delay Diversity - 2Tx Function

Data Rates Supported: 1Mbps, 2Mbps, 5.5Mbps, 11Mbps (b)

6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps (g)

6.5/7.2Mbps, 13/14.4Mbps, 19.5/21.7Mbps, 26/28.9Mbps, 39/43.3Mbps, 52/57.8Mbps, 58.5/65Mbps, 65/72.2Mbps (n)

13/14.4Mbps, 26/28.9Mbps, 39/43.3Mbps, 52/57.8Mbps, 78/86.7Mbps, 104/115.6Mbps, 117/130Mbps, 130/144.4Mbps (CDD n)

8/8.6Mbps, 16/17.2Mbps, 24/25.8Mbps, 33/34.4Mbps, 49/51.6Mbps, 65/68.8Mbps, 73/77.4Mbps, 81/86.0Mbps, 98/103.2Mbps, 108/114.7Mbps (ax – 20MHz)

16/17.2Mbps, 32/34.4Mbps, 48/51.6Mbps, 66/68.8Mbps, 98/103.2Mbps, 130/137.6Mbps, 146/154.8Mbps, 162/172Mbps, 196/206.4Mbps, 216/229.4Mbps (CDD ax – 20MHz)

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 7 of 583



This device supports simultaneous transmission operations, which allows for multiple transmitters to transmit simultaneously on the same antenna. The table below shows all configurations possible.

Antenna	Simultaneous Tx Config	Wifi 2GHz	Bluetooth	Thread	Wifi 5GHz	Wifi 6GHz	NB UNII
		802.11 b/g/n/ax	BDR, EDR, HDR4/8, LE1/2M	802.15.4	802.11 a/n/ac/ax	802.11 a/ax	BDR, HDR4/8
WF8	Config 1	✓	✗	✗	✗	✗	✓
WF8	Config 2	✗	✓	✗	✓	✗	✗
WF8	Config 3	✗	✓	✗	✗	✓	✗
WF8	Config 4	✗	✗	✓	✓	✗	✗
WF8	Config 5	✗	✗	✓	✗	✓	✗
WF7	Config 6	✓	✗	✗	✗	✗	✓
WF7	Config 7	✗	✓	✗	✓	✗	✗
WF7	Config 8	✗	✓	✗	✗	✓	✗
WF7	Config 9	✗	✗	✓	✓	✗	✗
WF7	Config 10	✗	✗	✓	✗	✓	✗

**Table 2-4. Simultaneous Transmission Configurations**

✓ = Support; ✗ = Not Support

**Note:**

All the above simultaneous transmission configurations have been tested and the worst-case configuration was found to be Config 2 and reported in RF Bluetooth and RF UNII test reports.

Specific 2.4GHz Wi-Fi antenna that can only transmit simultaneously with 2.4GHz Bluetooth antenna is listed in the SAR test report. For BT (2.4GHz) in connected mode and Wi-Fi (2.4GHz) - Wi-Fi max power will not exceed minimum of (13.5dBm, SAR max cap, Reg max cap) power. For BT (2.4GHz) in disconnected mode and Wi-Fi (2.4GHz) - BT will be using iPA only and Wi-Fi max power will not exceed minimum of (SAR max cap, Reg max cap) power. Bluetooth can simultaneously transmit with IEEE 802.11a/n/ac/ax 5/6 GHz on separate antenna.

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 8 of 583

V 10.6 09/14/2023



## 2.3 Antenna Description

Following antenna gains provided by manufacturer were used for the testing.

Frequency [GHz]	Antenna Gain (dBi)		
	Antenna WF8	Antenna WF7	Antenna WF9
2.4	3.5	3.0	1.5

Table 2-5. Highest Antenna Gain

## 2.4 Test Support Equipment

1	Apple MacBook Pro w/AC/DC Adapter	Model: Model:	A2141 A2166	S/N: S/N:	C02H604EQ05D C4H042705ZNP0WA6
2	Apple USB-C Cable	Model:	Spartan	S/N:	GXK1336018XKTR024
3	USB-C Cable w/ AC Adapter	Model: Model:	A246C A2305	S/N: S/N:	DWH80115BK826GV19 C4H95160004PF4F4V
4	Apple Pencil	Model:	A2538	S/N:	KJ26TCFXJW
5	DC Power Supply	Model:	KPS3010D	S/N:	N/A

Table 2-6. Test Support Equipment List

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 9 of 583

V 10.6 09/14/2023

## 2.5 Test Configuration

The EUT was tested per the guidance of ANSI C63.10-2013 and KDB 558074 D01 v05r02. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing. See Sections 3.2 for AC line conducted emissions test setups, Section 3.3 for radiated emissions test setups, and, 7.2, 7.3, 7.4, 7.5, and 7.6 for antenna port conducted emissions test setups.

There are two vendors of the WiFi/Bluetooth radio modules, variant 1 and variant 2. Both radio modules have the same mechanical outline, same on-board antenna matching circuit, identical antenna structure, and are built and tested to conform to the same specifications and to operate within the same tolerances. The worst case configuration was found between the two variants. The EUT was also investigated with and without charger.

For emissions from 1GHz – 18GHz, low, mid, and high channels were tested with highest power and worst case configuration. The emissions below 1GHz and above 18GHz were tested with the highest transmitting power and the worst case channel.

The EUT was manipulated through three orthogonal planes of X-orientation (flatbed), Y-orientation (landscape), and Z-orientation (portrait) during the testing. Only the worst case emissions were reported in this test report.

For AC line conducted and radiated test below 1GHz, following configuration were investigated and EUT powered by AC/DC was the worst case.

- EUT powered by AC/DC adaptor via USB-C cable with wire charger
- EUT powered by host PC via USB-C cable with wire charger

802.11n CDD mode test data provided in this report covers 802.11n SDM.

802.11ax-SU HE20 2TX CDD mode test data provided in this report covers 802.11ax-SU HE20 2TX SDM.

The data rates have been classified into three different groups; low data rate, middle data rate, and high data rate. All three groups of data rate have been investigated and only the worst case data rate per group is reported. The worst case data rate for each group per mode are as follows:

- 802.11b
  - 11Mbps
- 802.11g
  - Low Data Rate: 12Mbps
  - Mid Data Rate: 24Mbps
  - High Data Rate: 54Mbps
- 802.11n
  - Low Data Rate: MCS2/MCS10 (SISO/CDD)
  - Mid Data Rate: MCS4/MCS12 (SISO/CDD)
  - High Data Rate: MCS7/MCS15 (SISO/CDD)
- 802.11ax(SU)
  - Low Data Rate: MCS2
  - Mid Data Rate: MCS4
  - High Data Rate: MCS9

For 802.11ax-RU test results, see separate WLAN (OFDMA) report, 1C2311270067-04.BCG

## 2.6 Software and Firmware

The test was conducted with firmware version 21E8197 installed on the EUT.

## 2.7 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 10 of 583

V 10.6 09/14/2023

## 3.0 DESCRIPTION OF TESTS

### 3.1 Evaluation Procedure

The measurement procedures described in the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices (ANSI C63.10-2013) and the guidance provided in KDB 558074 D01 v05r02 were used in the measurement of the EUT.

**Deviation from measurement procedure.....None**

### 3.2 AC Line Conducted Emissions

The line-conducted facility is located inside a 7m x 3.66m x 2.7m shielded enclosure. The shielded enclosure is manufactured by AP Americas. The shielding effectiveness of the shielded room is in accordance with MIL-Std-285 or NSA 65-6. A 1m x 1.5m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50μH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. The external power line filter is EPCOS 2X60A Power Line Filter (100dB Attenuation, 14kHz-18GHz) and the two EPCOs 2X48A filters (100dB Minimum Insertion Loss, 14kHz - 10GHz). These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply line(s) will be connected to the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference groundplane. Power cables for support equipment were routed down to the second LISN while ensuring that the cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the spectrum analyzer and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The spectrum was scanned from 150kHz to 30MHz with a spectrum analyzer. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 10kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions is used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

Line conducted emissions test results are shown in Section 7.9. Automated test software was used to perform the AC line conducted emissions testing. Automated measurement software utilized is Rohde & Schwarz EMC32, Version 10.50.40.

<b>FCC ID:</b> BCGA2836 <b>IC:</b> 579C-A2836	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1C2311270067-03.BCG	<b>Test Dates:</b> 1/8/2024 - 3/15/2024	<b>EUT Type:</b> Tablet Device	Page 11 of 583

### 3.3 Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. An 80cm tall test table made of Styrodur is placed on top of the turn table. For measurements above 1GHz, an additional Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m.

Per KDB 414788 D01 v01r01, radiated emission test sites other than open-field test sites (e.g., shielded anechoic chambers), may be employed for emission measurements below 30MHz if characterized so that the measurements correspond to those obtained at an open-field test site. To determine test site equivalency, a reference sample transmitting at 149kHz was measured on an open field test site (asphalt with no ground plane) and then measured in the 3m semi-anechoic chamber. A calibrated 60cm loop antenna was rotated about its vertical axis while the reference device was rotated through the X, Y and Z axis in order to capture the worst case level. A maximum deviation of 2.77dB at 149kHz was measured when comparing the 3 meter semi-anechoic chamber to the open field site.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33 depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, mode of operation, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions.

### 3.4 Environmental Conditions

The temperature is controlled within range of 15°C to 35°C. The relative humidity is controlled within range of 10% to 75%. The atmospheric pressure is monitored within the range 86-106kPa (860-1060mbar).

<b>FCC ID:</b> BCGA2836 <b>IC:</b> 579C-A2836	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1C2311270067-03.BCG	<b>Test Dates:</b> 1/8/2024 - 3/15/2024	<b>EUT Type:</b> Tablet Device	Page 12 of 583

## 4.0 ANTENNA REQUIREMENTS

**Excerpt from §15.203 of the FCC Rules/Regulations:**

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The antennas of the EUT are **permanently attached**.
- There are no provisions for connections to an external antenna.

**Conclusion:**

The EUT unit complies with the requirement of §15.203.

<b>FCC ID:</b> BCGA2836 <b>IC:</b> 579C-A2836	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1C2311270067-03.BCG	<b>Test Dates:</b> 1/8/2024 - 3/15/2024	<b>EUT Type:</b> Tablet Device

## 5.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.23-2012. All measurement uncertainty values are shown with a coverage factor of  $k = 2$  to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the  $U_{CISPR}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty ( $\pm$ dB)
Conducted Bench Top Measurements	2.07
Line Conducted Disturbance	1.91
Radiated Disturbance (<30MHz)	4.12
Radiated Disturbance (30MHz - 1GHz)	4.85
Radiated Disturbance (1 - 18GHz)	5.08
Radiated Disturbance (>18GHz)	4.59

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 14 of 583

V 10.6 09/14/2023

## 6.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent Technologies	N9030A	3Hz-44GHz PXA Signal Analyzer	6/21/2023	Annual	6/21/2024	MY49430244
Anritsu	ML2496A	Power Meter	4/4/2023	Annual	4/4/2024	1840005
Anritsu	MA2411B	Pulse Power Sensor	8/22/2023	Annual	8/22/2024	1726262
Anritsu	MA2411B	Pulse Power Sensor	4/5/2023	Annual	4/5/2024	1726261
ETS-Lindgren	3117	Double Ridged Guide Antenna (1-18 GHz)	3/30/2023	Annual	3/30/2024	00218555
Keysight Technology	N9040B	UXA Signal Analyzer	3/10/2023	Annual	3/10/2024	MY57212015
Rohde & Schwarz	TS-PR18	Pre-Amplifier (1GHz - 18GHz)	8/31/2023	Annual	8/31/2024	100052
Rohde & Schwarz	FSV40	Signal Analyzer (10Hz-40GHz)	5/11/2023	Annual	5/11/2024	101619
Rohde & Schwarz	ESW44	EMI Test Receiver	6/6/2023	Annual	6/6/2024	101668
Rohde & Schwarz	TS-PR8	Pre-Amplifier (30MHz - 8GHz)	6/22/2023	Annual	6/22/2024	102356
Rohde & Schwarz	TS-PR1840	Pre-Amplifier (18GHz - 40GHz)	6/2/2023	Annual	6/2/2024	100050
Rohde & Schwarz	HFH2-Z2	Loop Antenna	5/1/2023	Annual	5/1/2024	100519
Rohde & Schwarz	ENV216	Two-Line V-Network	6/8/2023	Annual	6/8/2024	192052
Schwarzbeck	VULB 9162	Bilog Antenna (30MHz - 6GHz)	4/17/2023	Annual	4/17/2024	00304

**Table 6-1. Test Equipment List**

**Note:**

For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 15 of 583

## 7.0 TEST RESULTS

### 7.1 Summary

Company Name: Apple Inc.  
 FCC ID: BCGA2836  
 IC: 579C-A2836  
 FCC Classification: Digital Transmission System (DTS)

FCC Part Section(s)	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.247(a)(2)	RSS-247 [5.2]	6dB Bandwidth	> 500kHz	CONDUCTED	PASS	Section 7.2
2.1049	RSS-Gen [6.7]	Occupied Bandwidth	N/A		N/A	Section 7.2
15.247(b)(3)	RSS-247 [5.4]	Transmitter Output Power	< 1 Watt		PASS	Sections 7.3
15.247(e)	RSS-247 [5.2]	Transmitter Power Spectral Density	< 8dBm / 3kHz Band		PASS	Section 7.4
15.247(d)	RSS-247 [5.5]	Band Edge / Out-of-Band Emissions	≥ 20dBc		PASS	Sections 7.5, 7.6
15.205 15.209	RSS-Gen [8.9]	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209 (RSS-Gen [8.9])	RADIATED	PASS	Sections 7.7, 7.8
15.207	RSS-Gen [8.8]	AC Conducted Emissions 150kHz – 30MHz	< FCC 15.207 limits (RSS-Gen[8.8])	AC LINE CONDUCTED	PASS	Section 7.9

**Table 7-1. Summary of Test Results**

#### Notes:

1. All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
2. The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
3. All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and attenuators.
4. For conducted spurious emissions, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Element “WLAN Automation,” Version 5.0.
5. For radiated band edge, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Element “Chamber Automation,” Version 3.0.0.

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 16 of 583



## 7.2 6dB BW and 99% OBW Measurement

§15.247(a.2); §2.1049; RSS-247 [5.2]; RSS-Gen [6.7]

### Test Overview and Limit

The bandwidth at 6dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the transmitter antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated and the worst case configuration results are reported in this section.

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

***The minimum permissible 6dB bandwidth is 500 kHz.***

### Test Procedure Used

ANSI C63.10-2013 – Subclause 11.8.2 Option 2

KDB 558074 D01 v05r02 – Section 8.2

RSS-Gen [6.7]

### Test Settings

1. The signal analyzer's automatic bandwidth measurement capability of the spectrum analyzer was used to perform the 99% occupied bandwidth and the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 6. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 100kHz
3. VBW  $\geq$  3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, step 2 – 7 were repeated after changing the RBW such that it would be within 1 -5% of the 99% occupied bandwidth observed in Step 7

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 17 of 583

V 10.6 09/14/2023

**Test Setup**

The EUT and measurement equipment were set up as shown in the diagram below.



**Figure 7-1. Test Instrument & Measurement Setup**

**Test Notes**

The data rates have been classified into three different groups: low data rate, middle data rate, and high data rate. All three data rate groups have been investigated and only the worst case data rate per groups is reported.

<b>FCC ID:</b> BCGA2836 <b>IC:</b> 579C-A2836	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1C2311270067-03.BCG	<b>Test Dates:</b> 1/8/2024 - 3/15/2024	<b>EUT Type:</b> Tablet Device	Page 18 of 583

## 7.2.1 Antenna WF8 6 dB BW and 99% OBW Measurements

Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 6dB Bandwidth [MHz]	Minimum 6dB Bandwidth [MHz]	Pass/Fail
2412	1	g	12	16.59	16.04	0.50	Pass
2437	6	g	12	16.45	16.42	0.50	Pass
2462	11	g	12	16.56	16.42	0.50	Pass
2412	1	n	19.5/21.7 (MCS2)	17.72	17.34	0.50	Pass
2437	6	n	19.5/21.7 (MCS2)	17.65	17.64	0.50	Pass
2462	11	n	19.5/21.7 (MCS2)	17.71	17.53	0.50	Pass
2412	1	ax (SU)	24/25.8 (MCS2)	18.92	18.97	0.50	Pass
2437	6	ax (SU)	24/25.8 (MCS2)	18.92	19.03	0.50	Pass
2462	11	ax (SU)	24/25.8 (MCS2)	18.95	19.01	0.50	Pass

**Table 7-2. Conducted Bandwidth Measurements Antenna WF8 (Low Data Rate)**

Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 6dB Bandwidth [MHz]	Minimum 6dB Bandwidth [MHz]	Pass/Fail
2412	1	g	24	16.46	16.51	0.50	Pass
2437	6	g	24	16.46	16.52	0.50	Pass
2462	11	g	24	16.45	16.50	0.50	Pass
2412	1	n	39/43.3 (MCS4)	17.67	17.74	0.50	Pass
2437	6	n	39/43.3 (MCS4)	17.66	17.74	0.50	Pass
2462	11	n	39/43.3 (MCS4)	17.65	17.74	0.50	Pass
2412	1	ax (SU)	49/51.6 (MCS4)	18.91	19.09	0.50	Pass
2437	6	ax (SU)	49/51.6 (MCS4)	18.92	19.04	0.50	Pass
2462	11	ax (SU)	49/51.6 (MCS4)	18.93	19.10	0.50	Pass

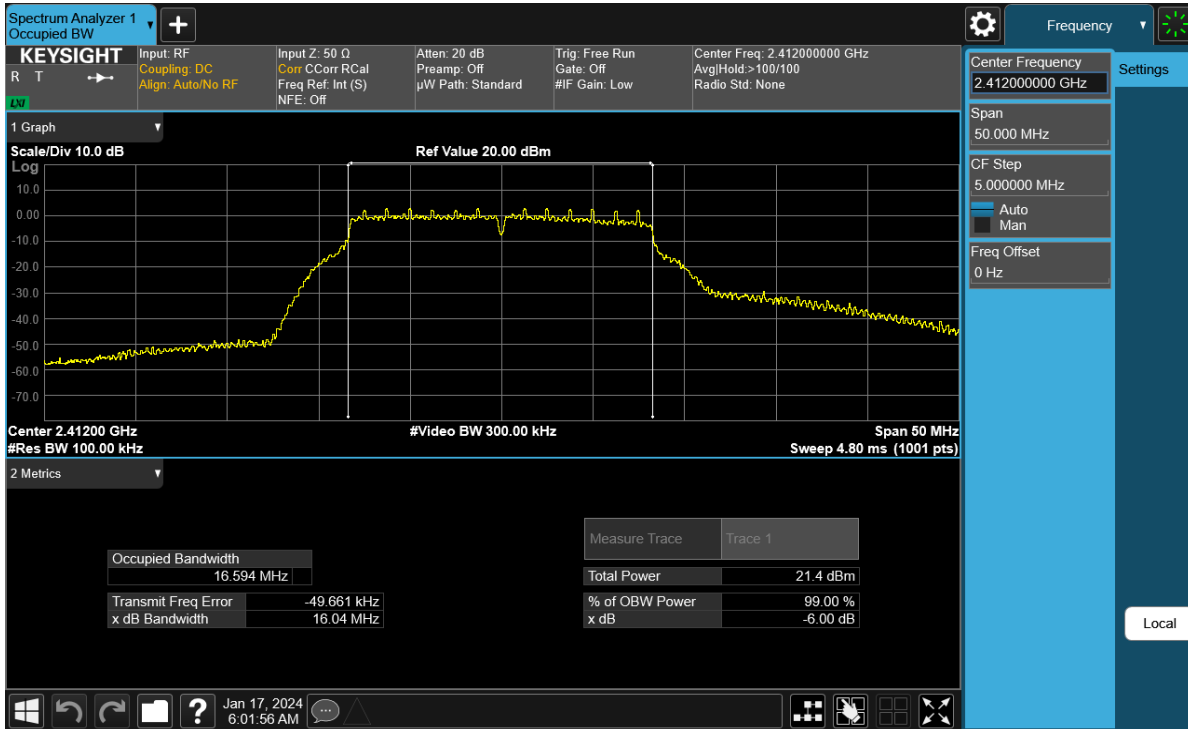
**Table 7-3. Conducted Bandwidth Measurements Antenna WF8 (Mid Data Rate)**

Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 6dB Bandwidth [MHz]	Minimum 6dB Bandwidth [MHz]	Pass/Fail
2412	1	b	11	12.76	8.29	0.50	Pass
2437	6	b	11	12.83	7.51	0.50	Pass
2462	11	b	11	12.78	8.52	0.50	Pass
2412	1	g	54	16.48	16.56	0.50	Pass
2437	6	g	54	16.50	16.54	0.50	Pass
2462	11	g	54	16.47	16.54	0.50	Pass
2412	1	n	65/72.2 (MCS7)	17.68	17.77	0.50	Pass
2437	6	n	65/72.2 (MCS7)	17.70	17.77	0.50	Pass
2462	11	n	65/72.2 (MCS7)	17.67	17.77	0.50	Pass
2412	1	ax (SU)	81/86 (MCS9)	18.95	19.11	0.50	Pass
2437	6	ax (SU)	81/86 (MCS9)	18.98	19.11	0.50	Pass
2462	11	ax (SU)	81/86 (MCS9)	18.96	19.11	0.50	Pass

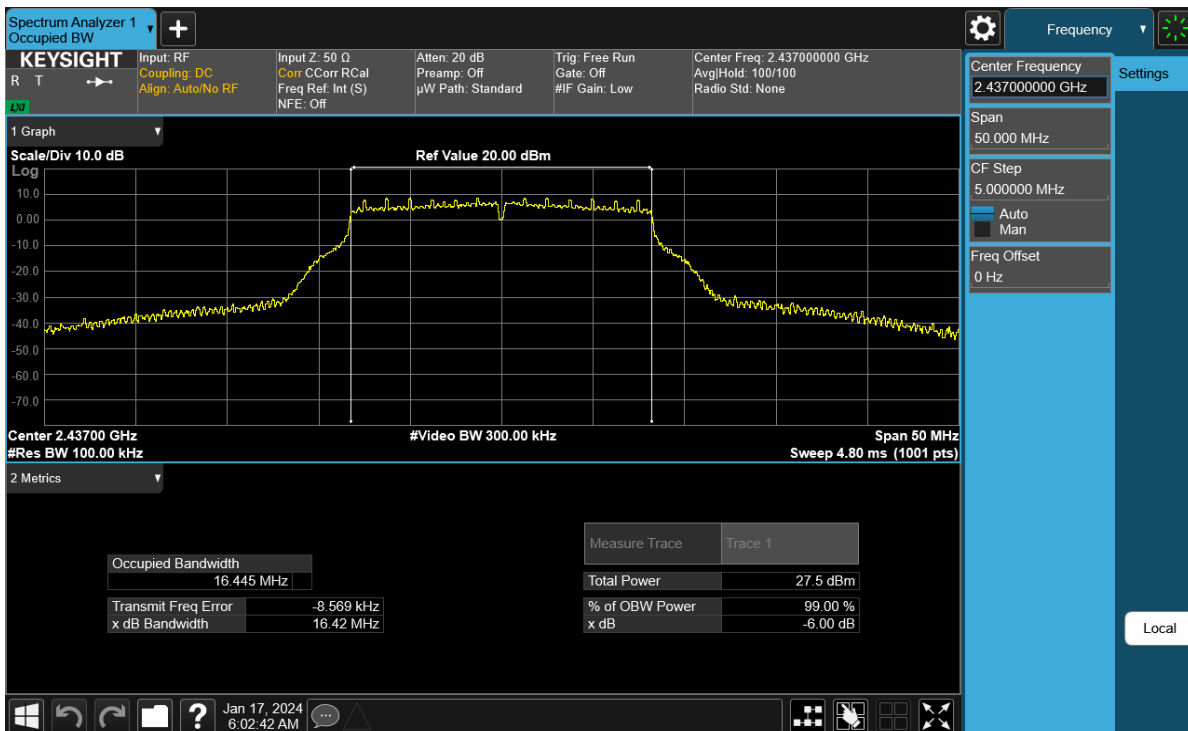
**Table 7-4. Conducted Bandwidth Measurements Antenna WF8 (High Data Rate)**

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 19 of 583

### Low Rate

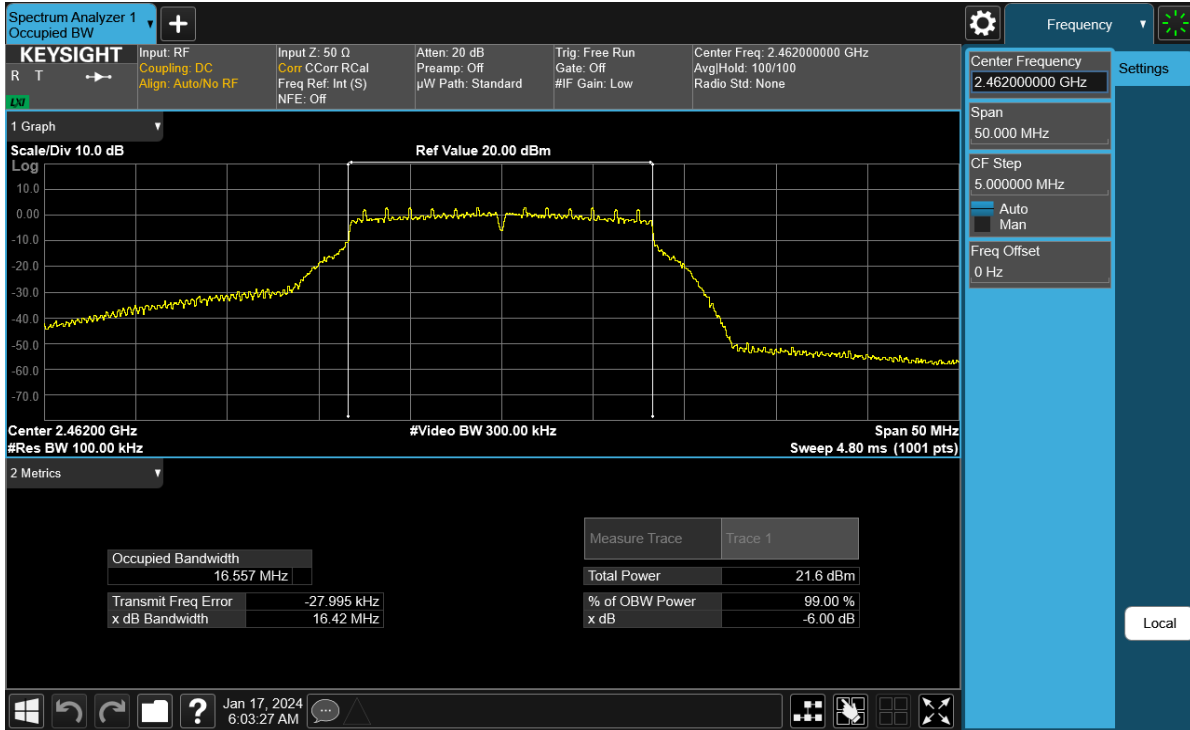


Plot 7-1. 6 dB BW and 99% OBW Plot Antenna WF8 (802.11g – Ch. 1) – 12Mbps

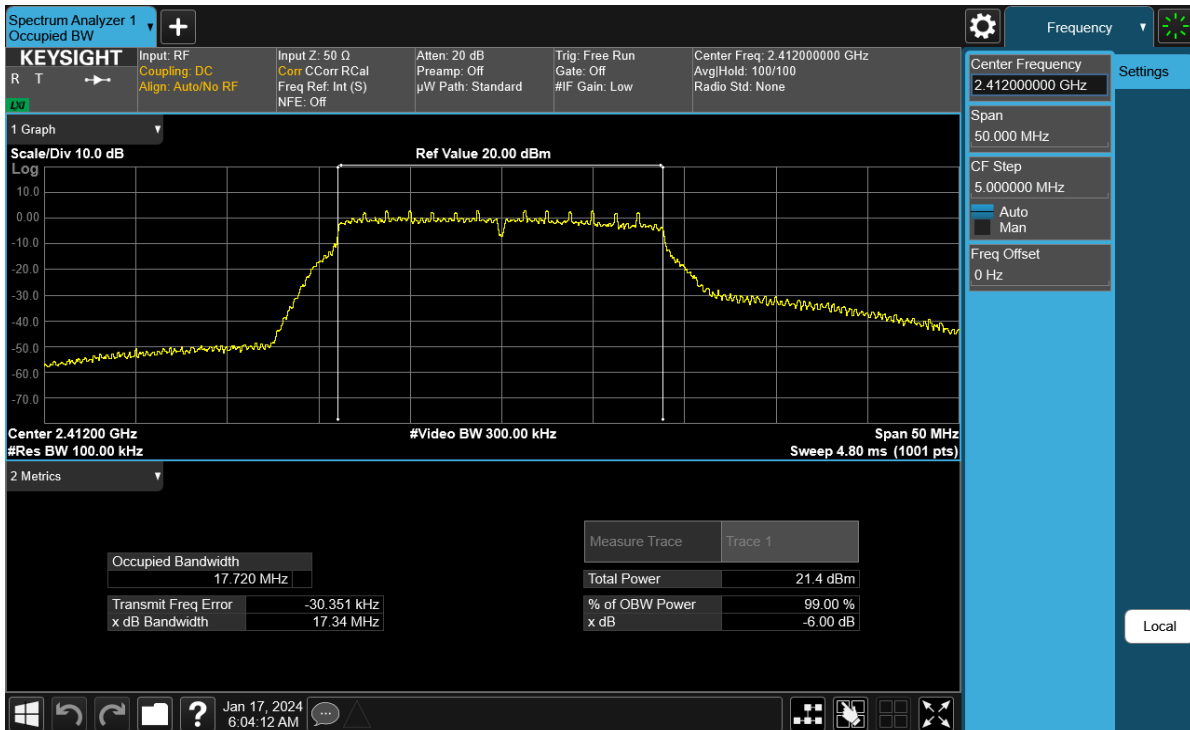


Plot 7-2. 6 dB BW and 99% OBW Plot Antenna WF8 (802.11g – Ch. 6) – 12Mbps

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 20 of 583

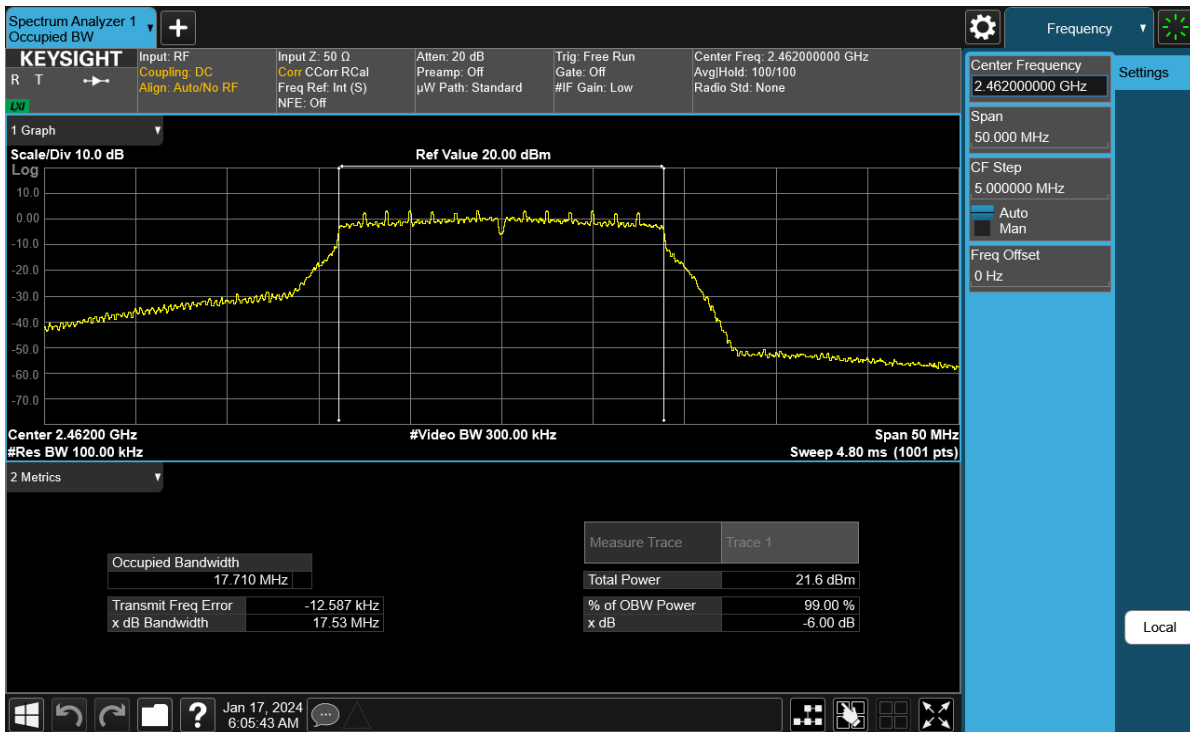
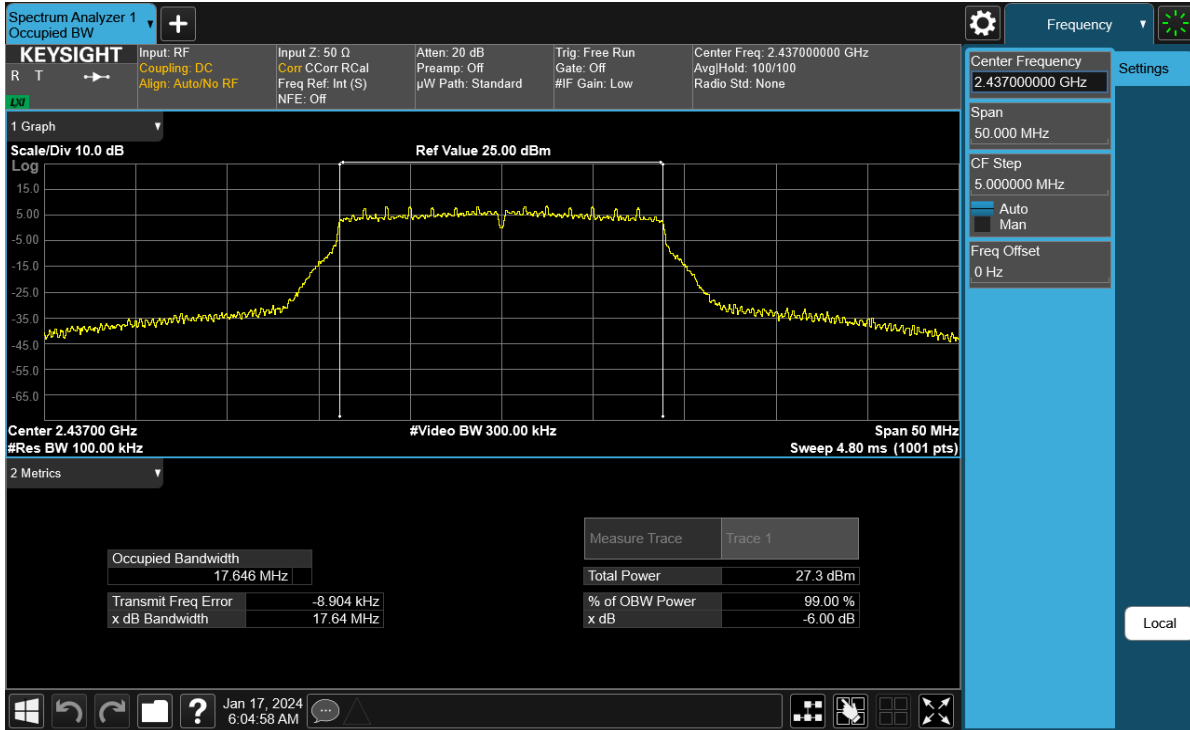


**Plot 7-3. 6 dB BW and 99% OBW Plot Antenna WF8 (802.11g – Ch. 11) – 12Mbps**

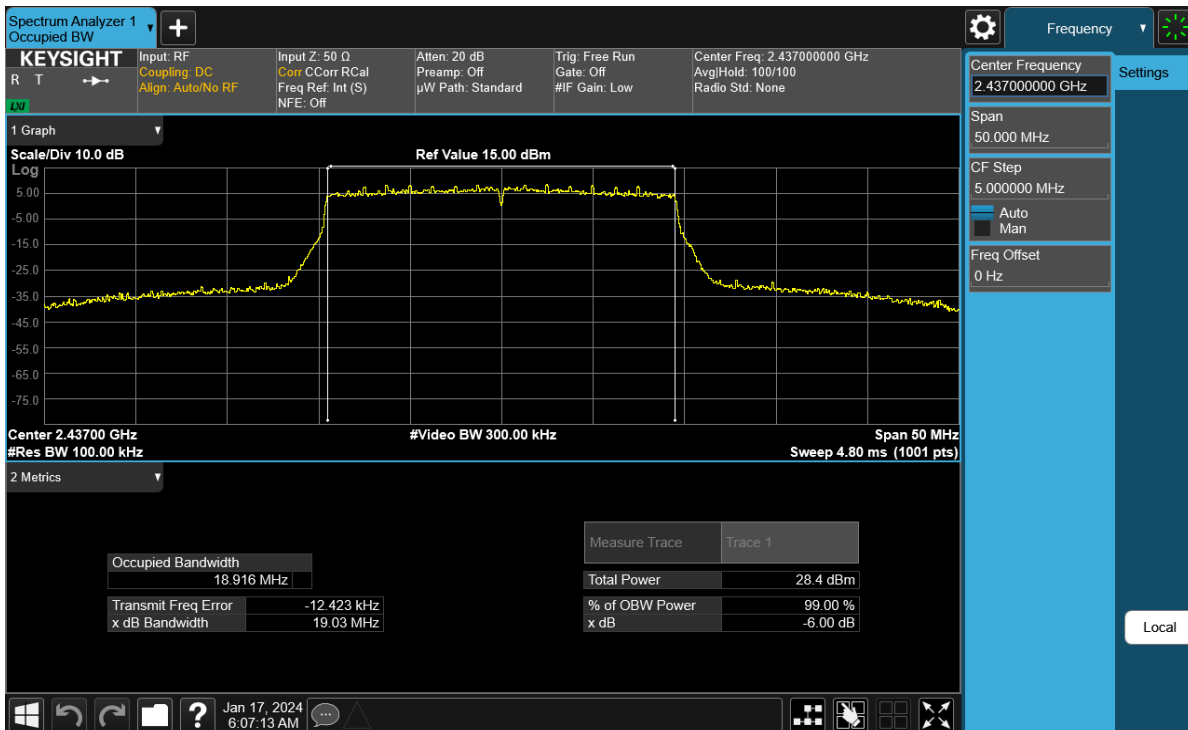
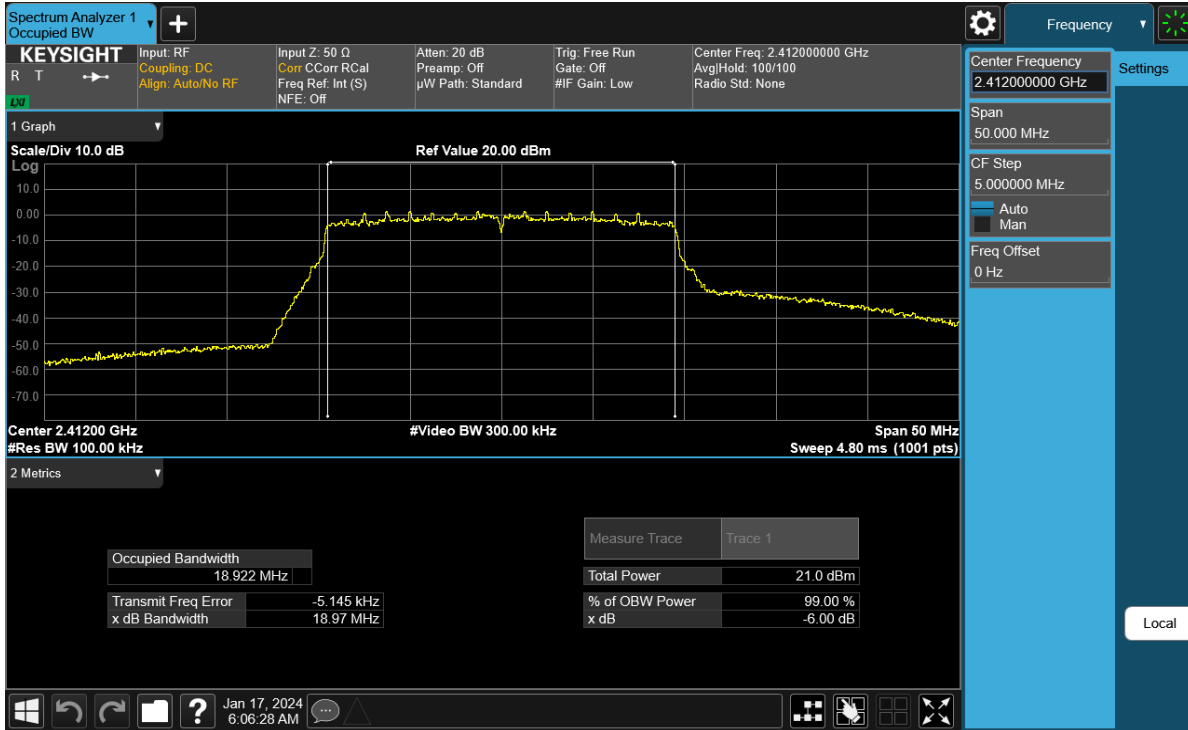


**Plot 7-4. 6 dB BW and 99% OBW Plot Antenna WF8 (802.11n (2.4GHz) – Ch. 1) – MCS2**

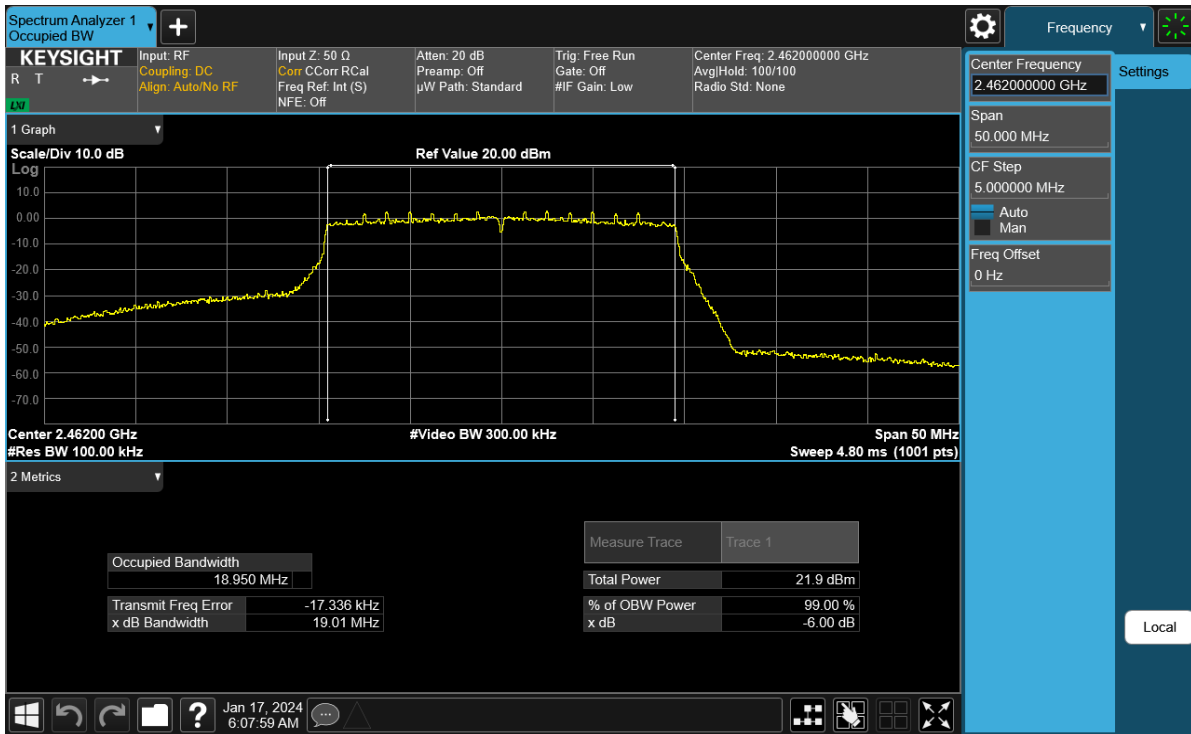
FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 21 of 583



FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 22 of 583



FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 23 of 583

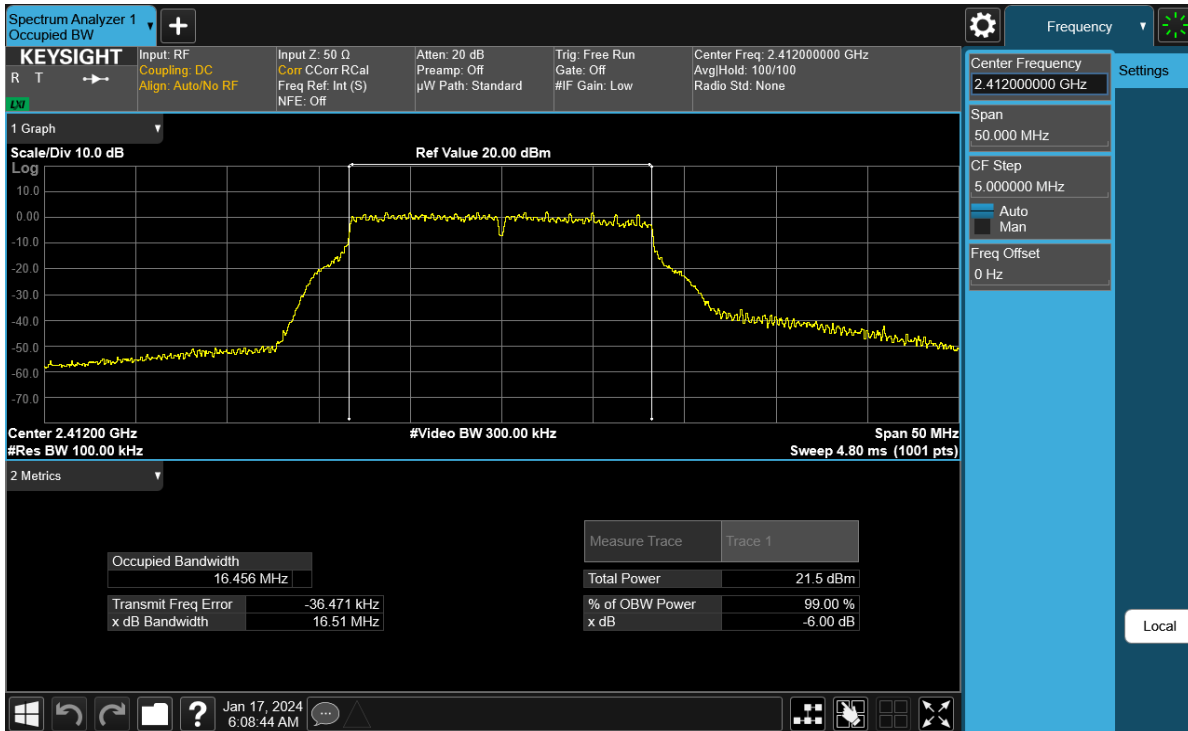


Plot 7-9. 6 dB BW and 99% OBW Plot Antenna WF8 (802.11ax (SU - 2.4GHz) – Ch. 11) – MCS2

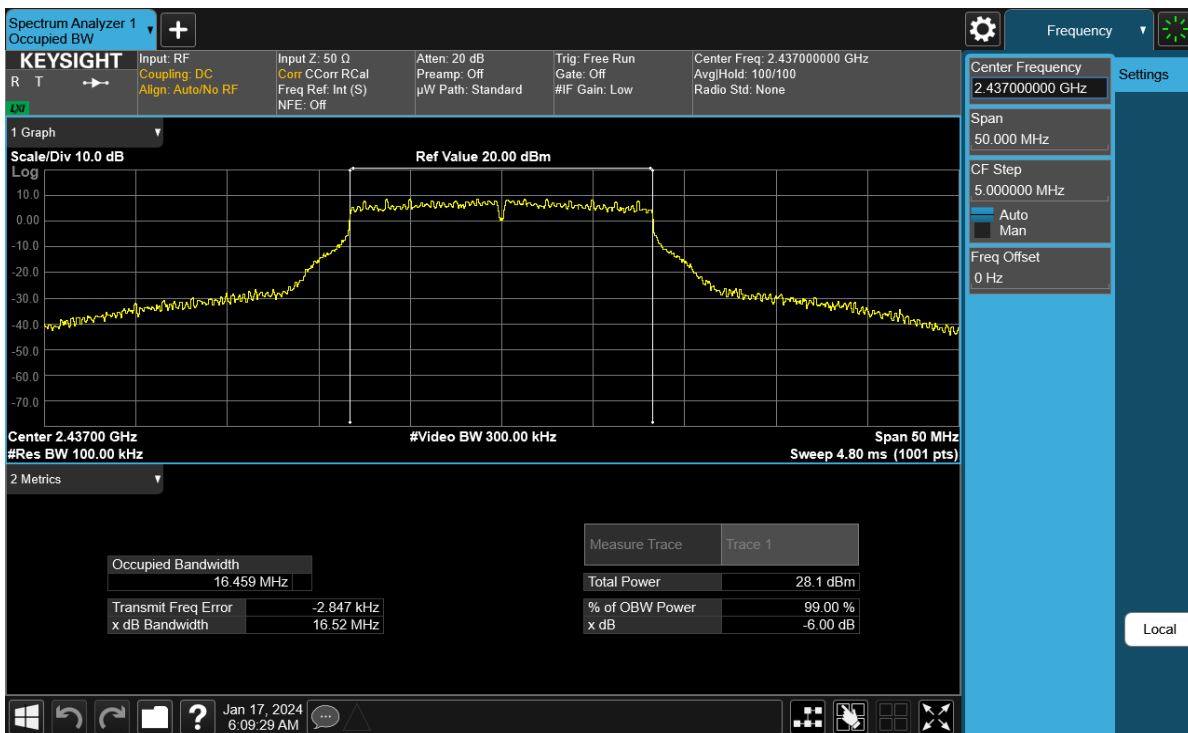
FCC ID: BCGA2836 IC: 579C-A2836	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device
		Page 24 of 583



Mid Rate

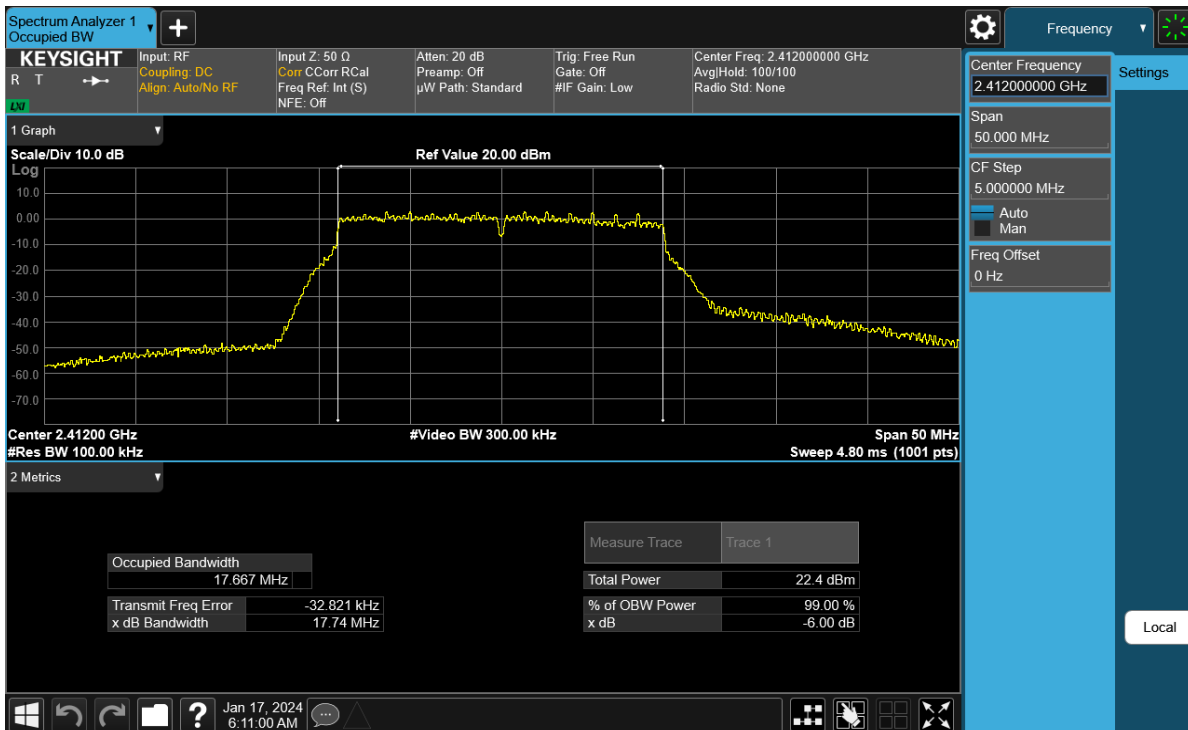
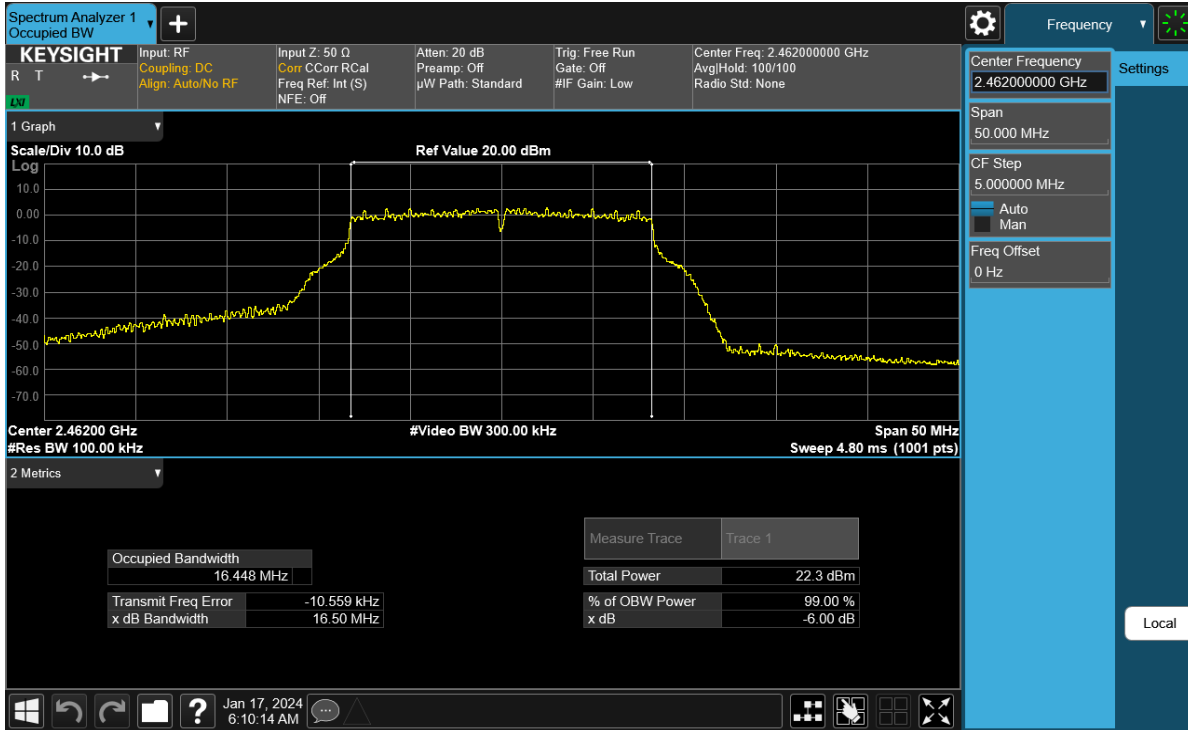


Plot 7-10. 6 dB BW and 99% OBW Plot Antenna WF8 (802.11g – Ch. 1) – 24Mbps

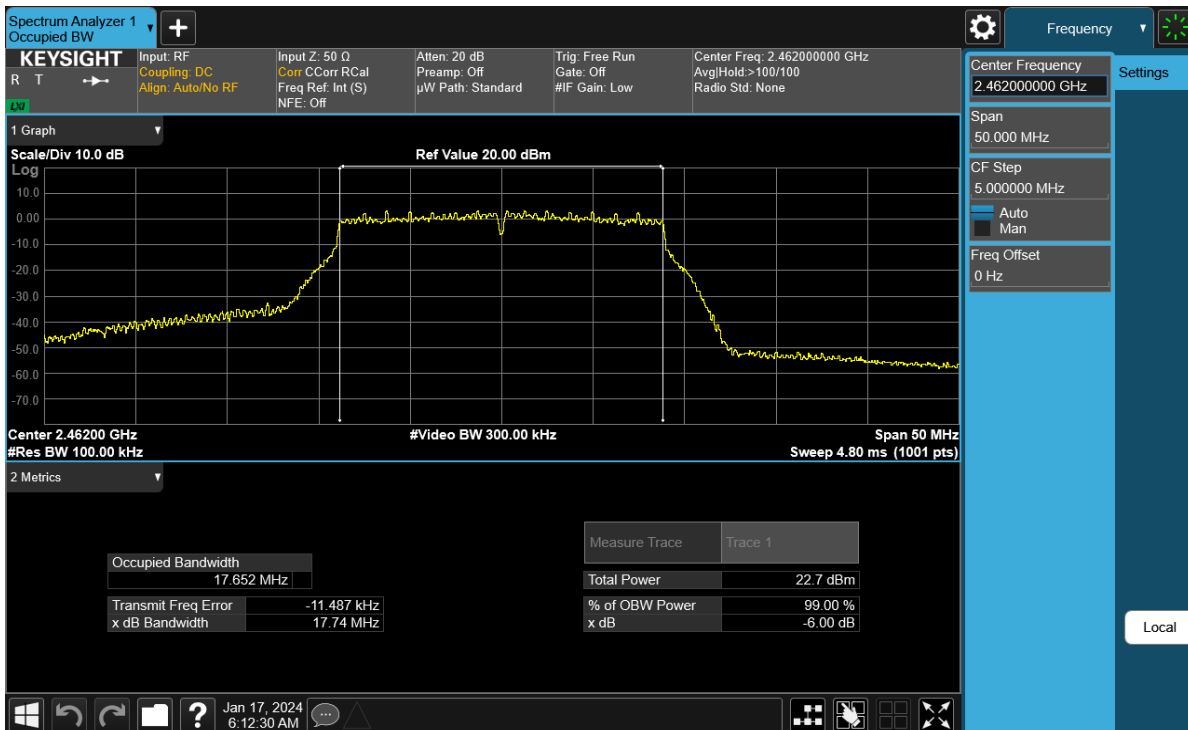
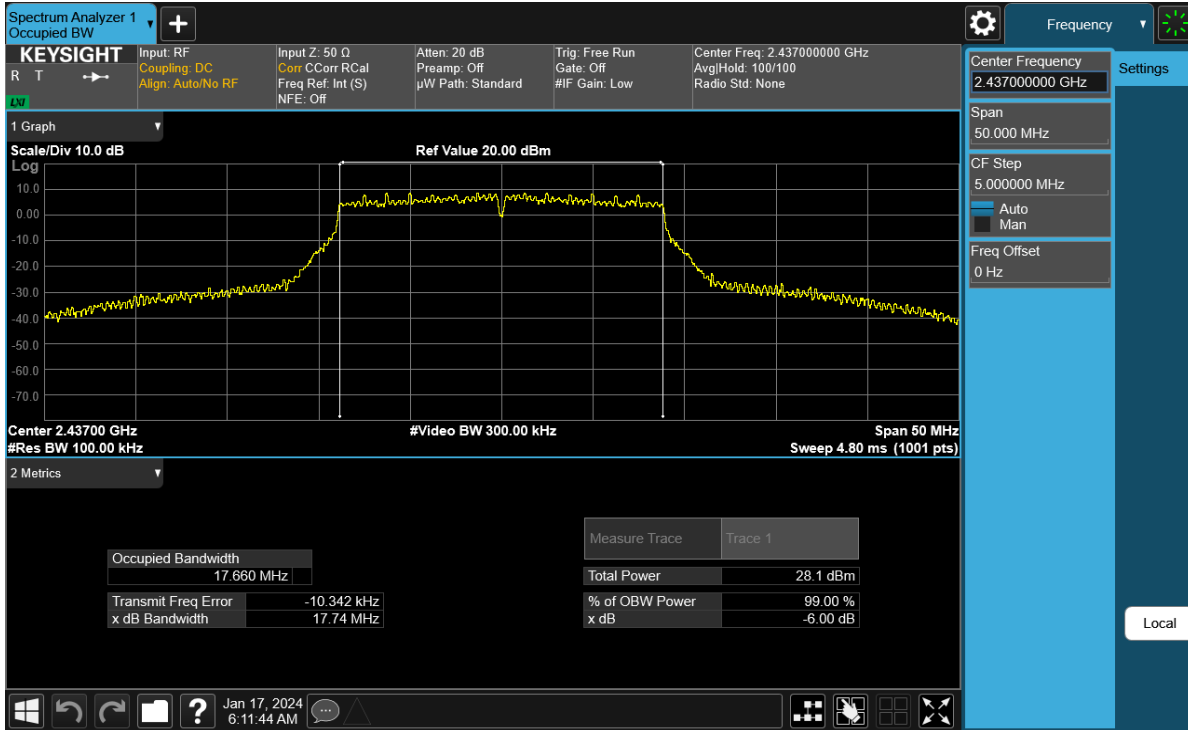


Plot 7-11. 6 dB BW and 99% OBW Plot Antenna WF8 (802.11g – Ch. 6) – 24Mbps

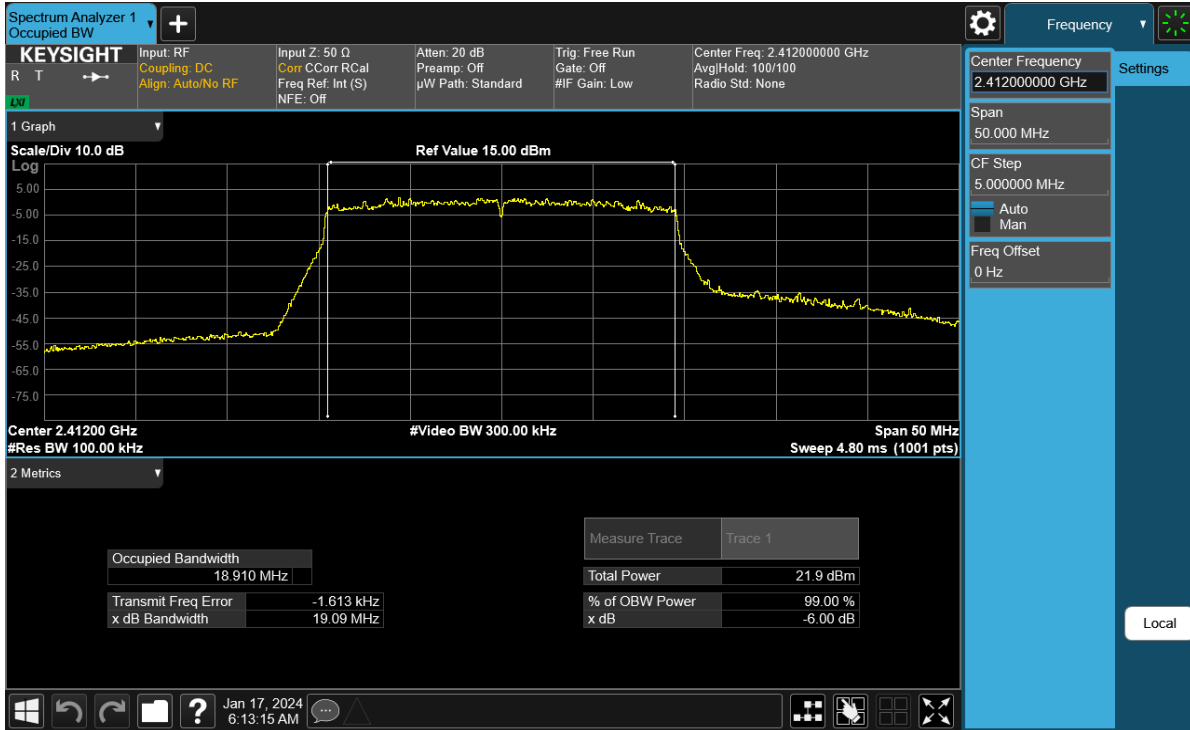
FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 25 of 583



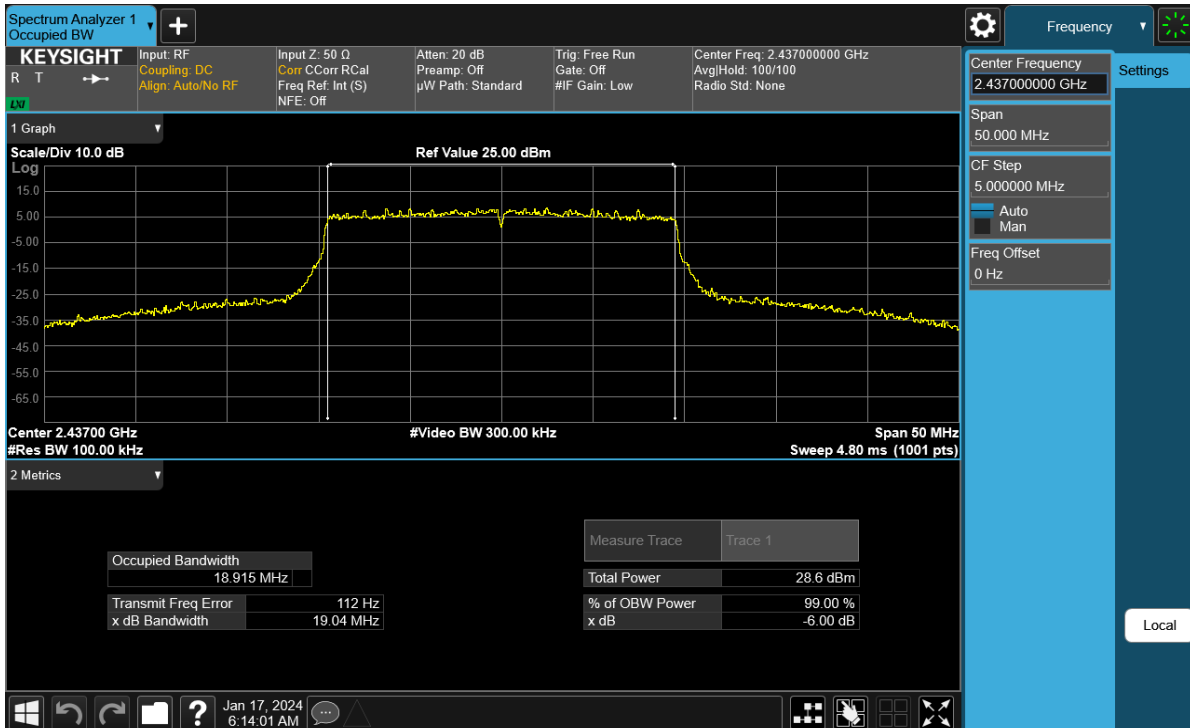
FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 26 of 583



FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 27 of 583

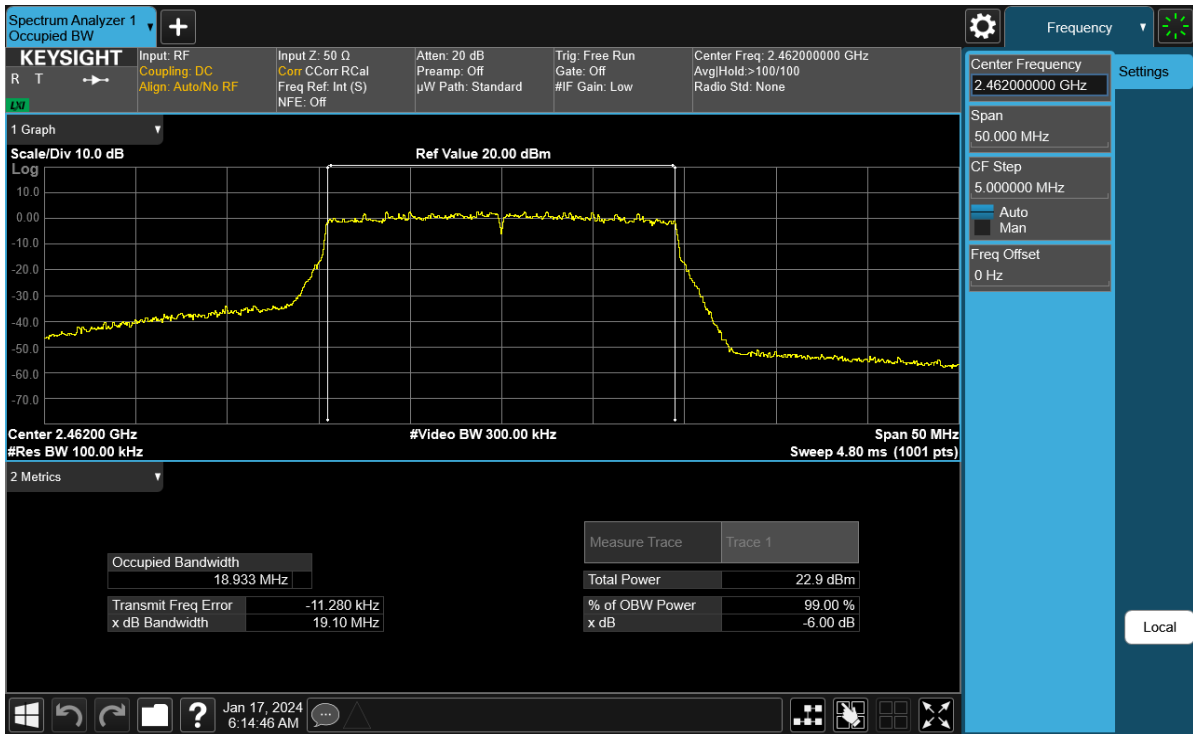


Plot 7-16. 6 dB BW and 99% OBW Plot Antenna WF8 (802.11ax (SU - 2.4GHz) - Ch. 1) - MCS4



Plot 7-17. 6 dB BW and 99% OBW Plot Antenna WF8 (802.11ax (SU - 2.4GHz) - Ch. 6) - MCS4

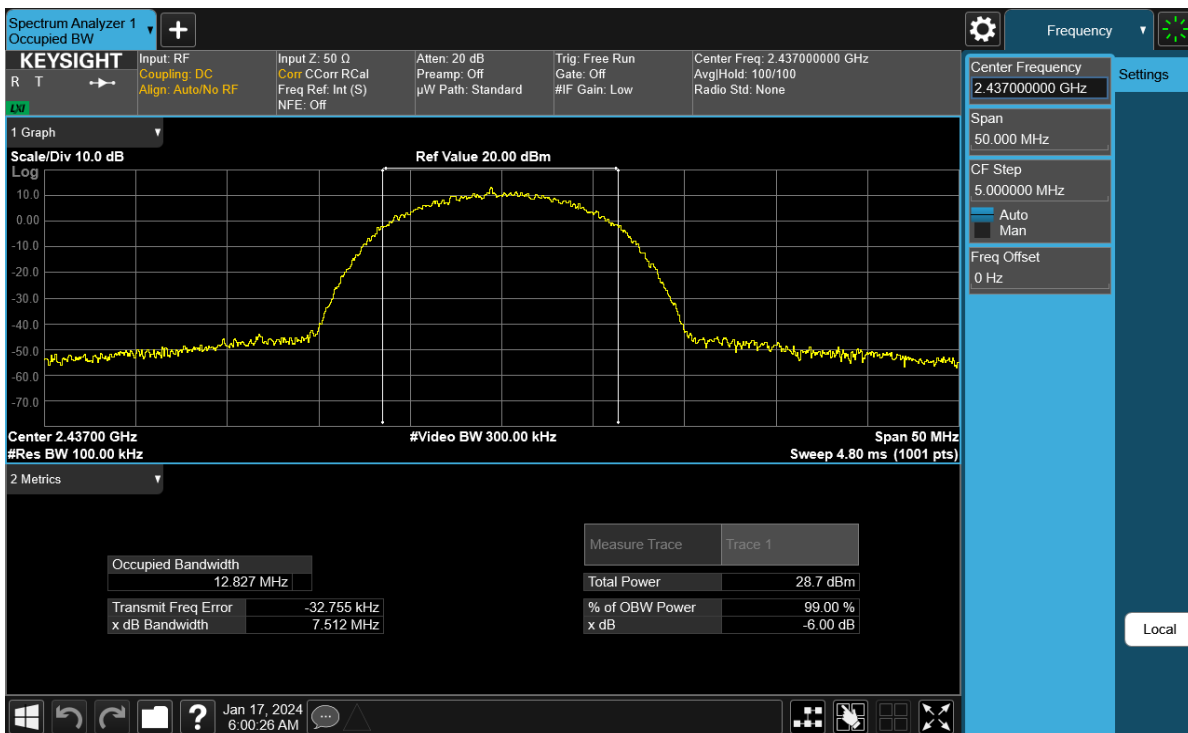
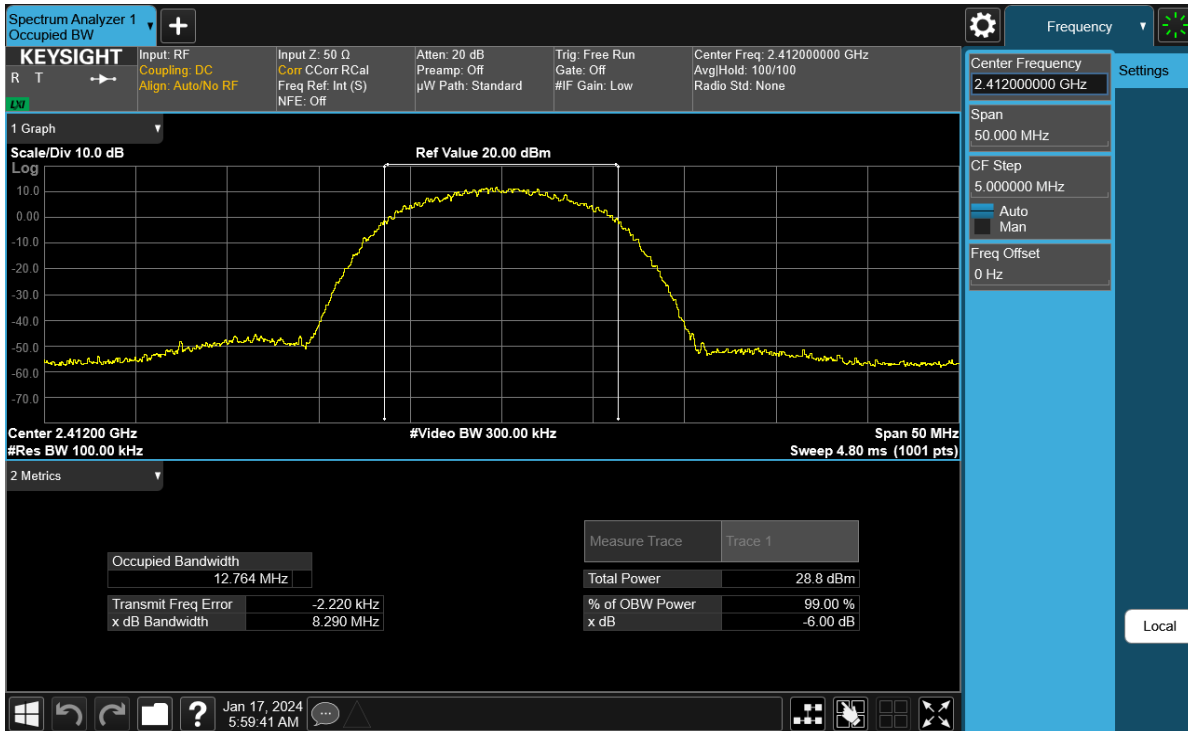
FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 28 of 583



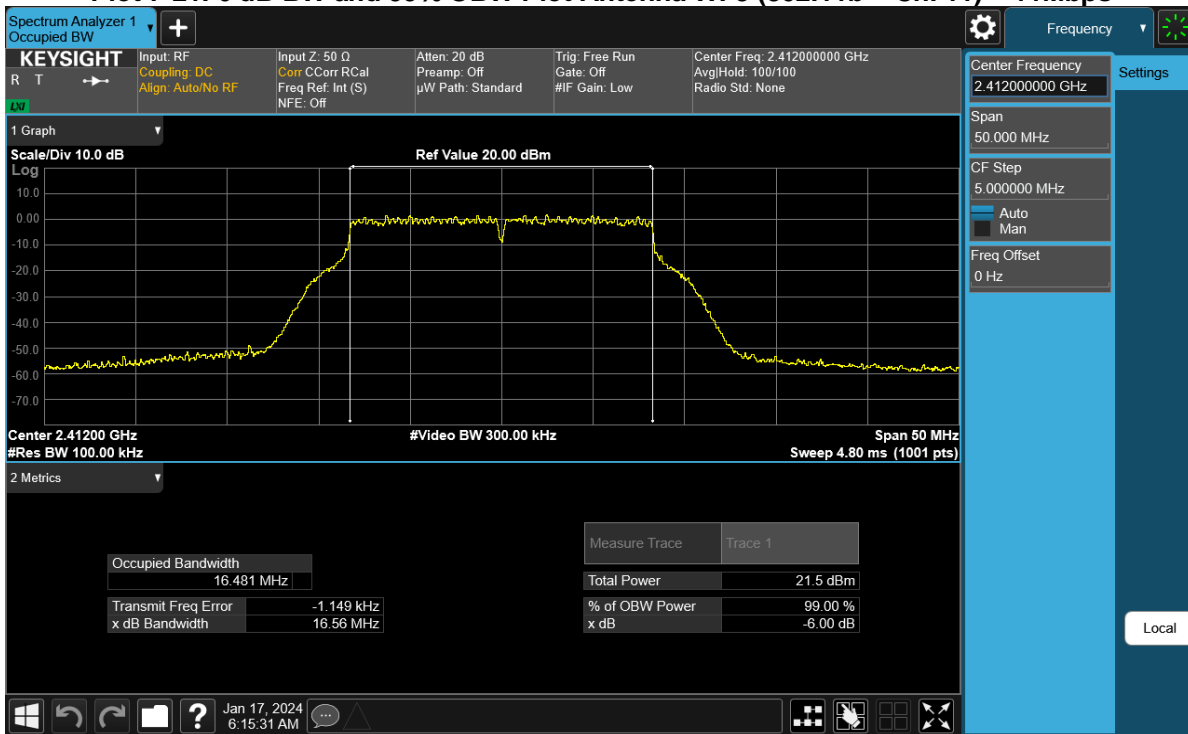
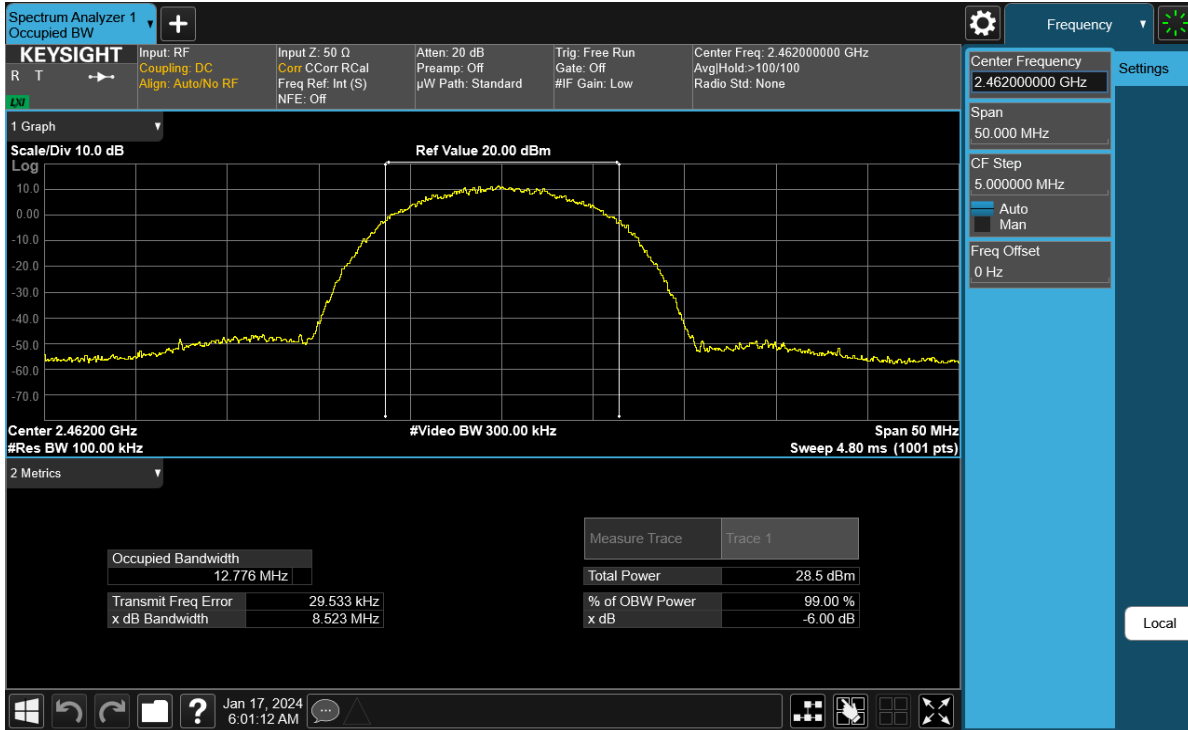
Plot 7-18. 6 dB BW and 99% OBW Plot Antenna WF8 (802.11ax (SU - 2.4GHz) - Ch. 11) - MCS4

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 29 of 583

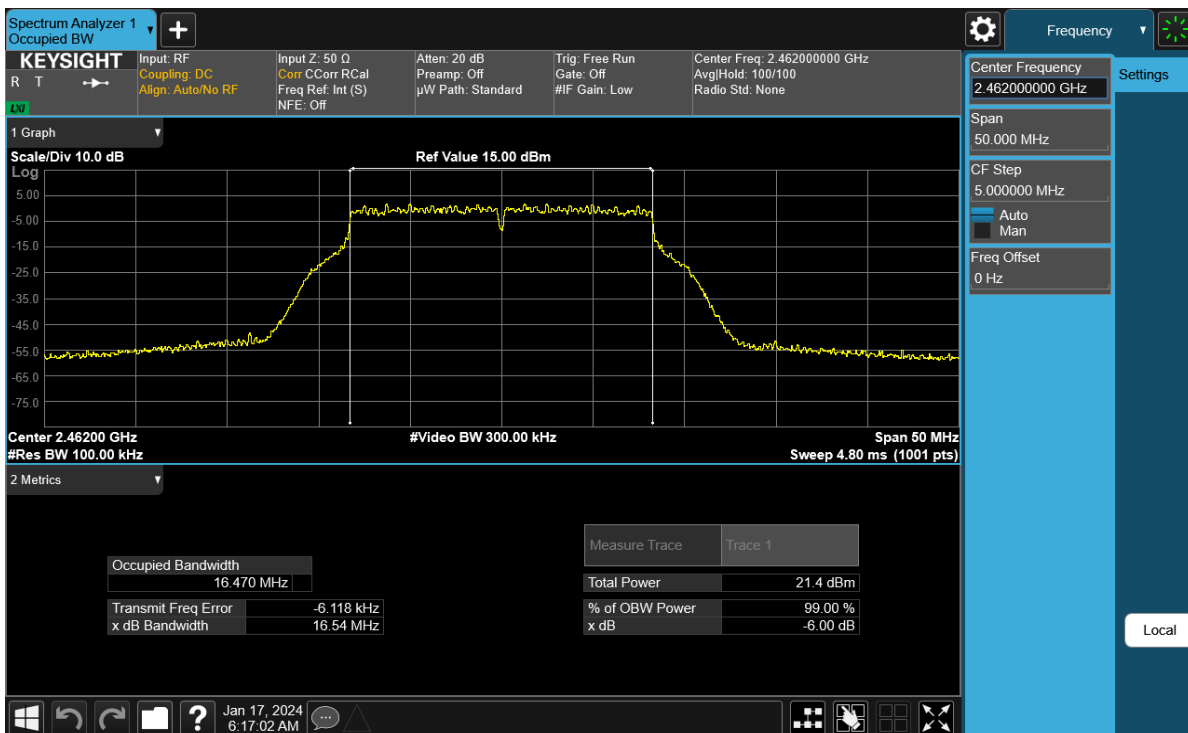
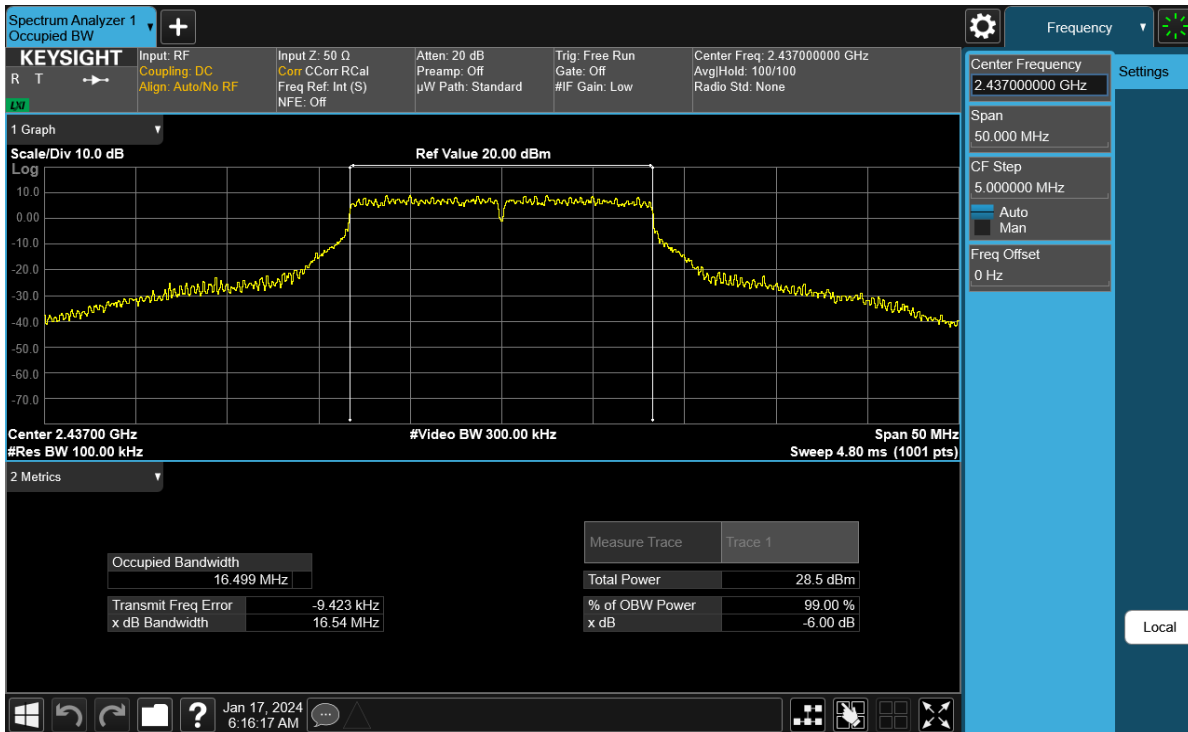
### High Rate



FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 30 of 583

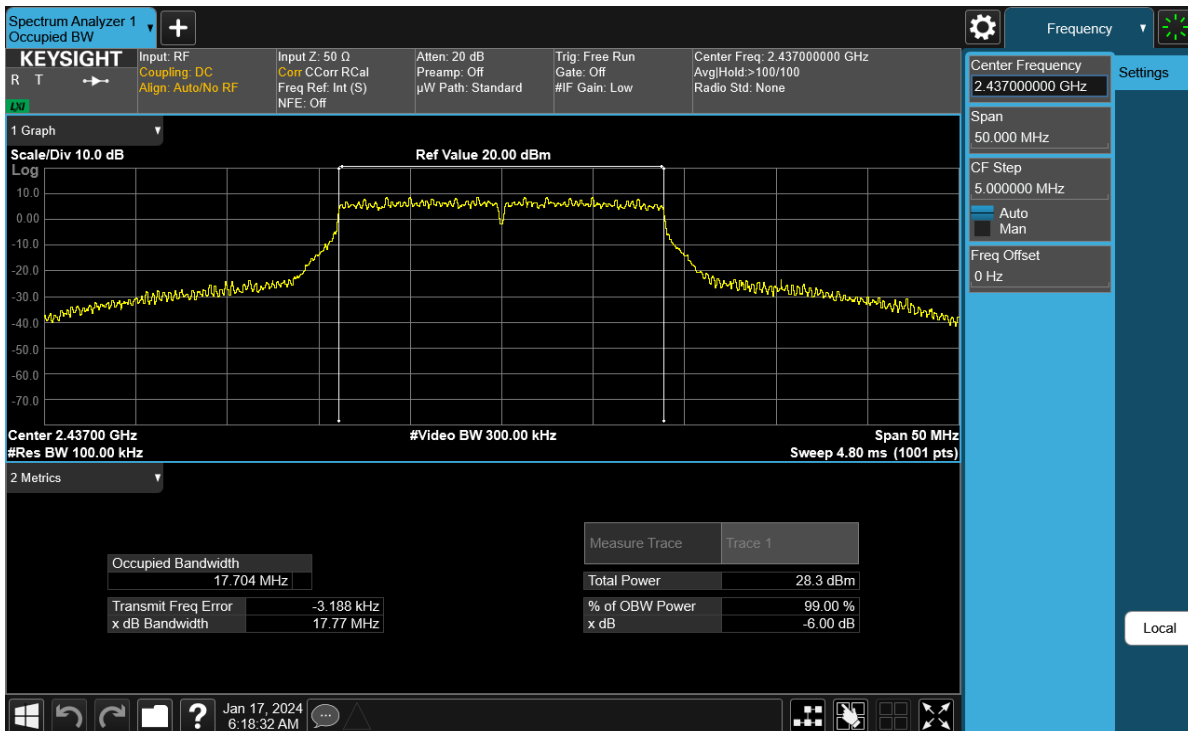
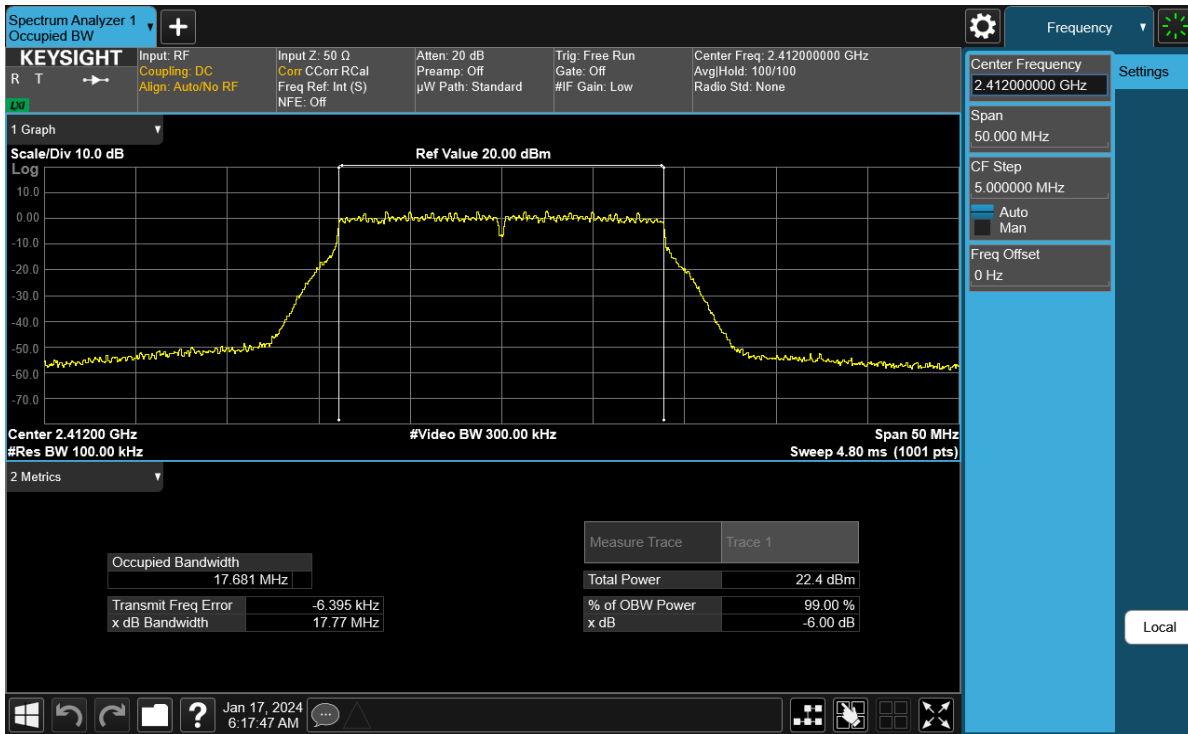


FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 31 of 583

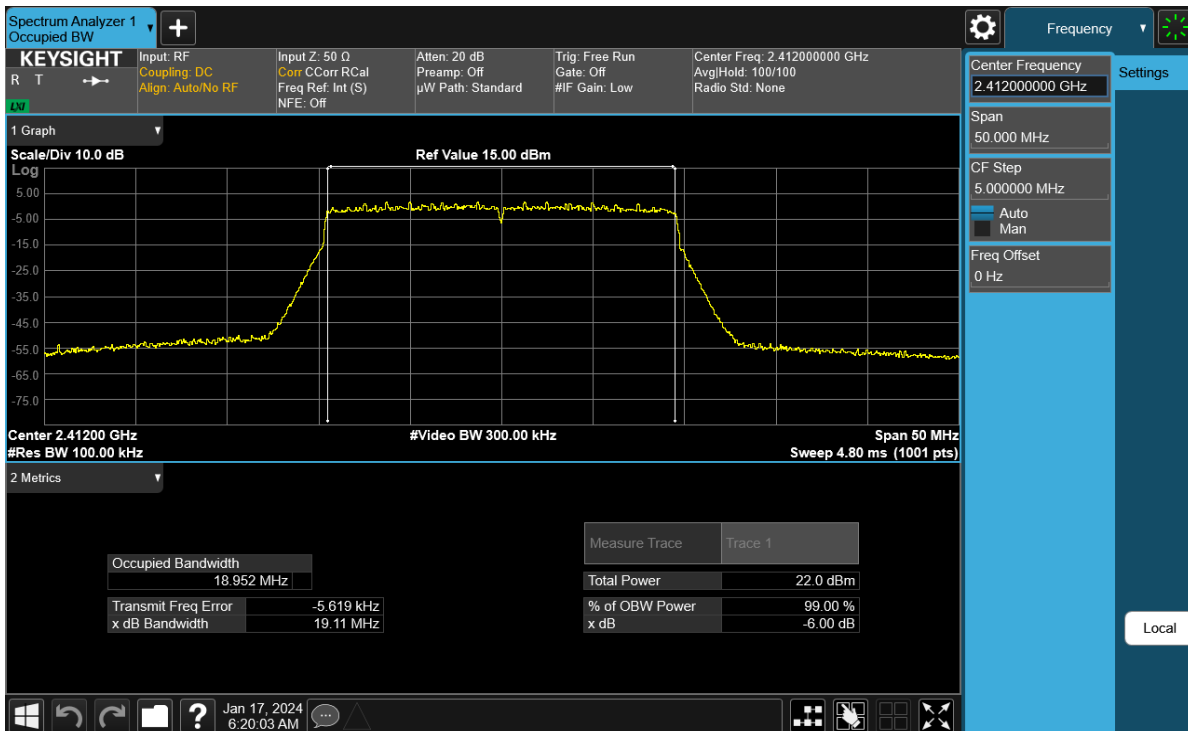
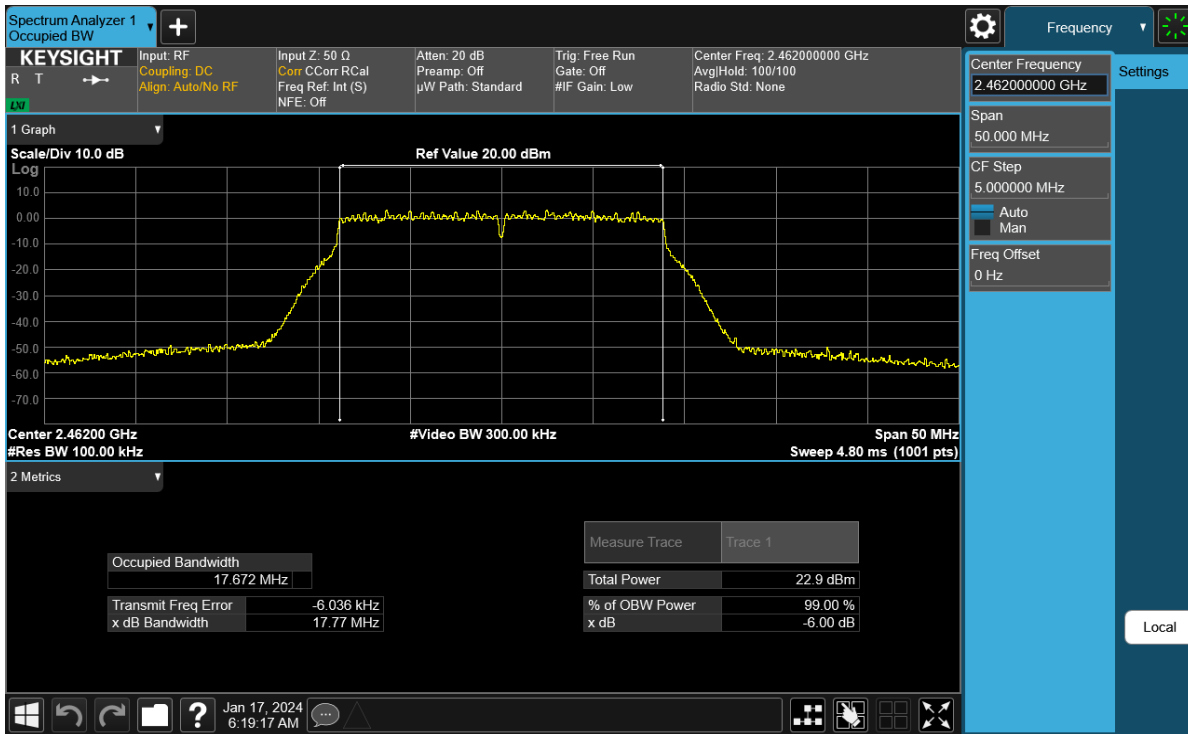


FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 32 of 583

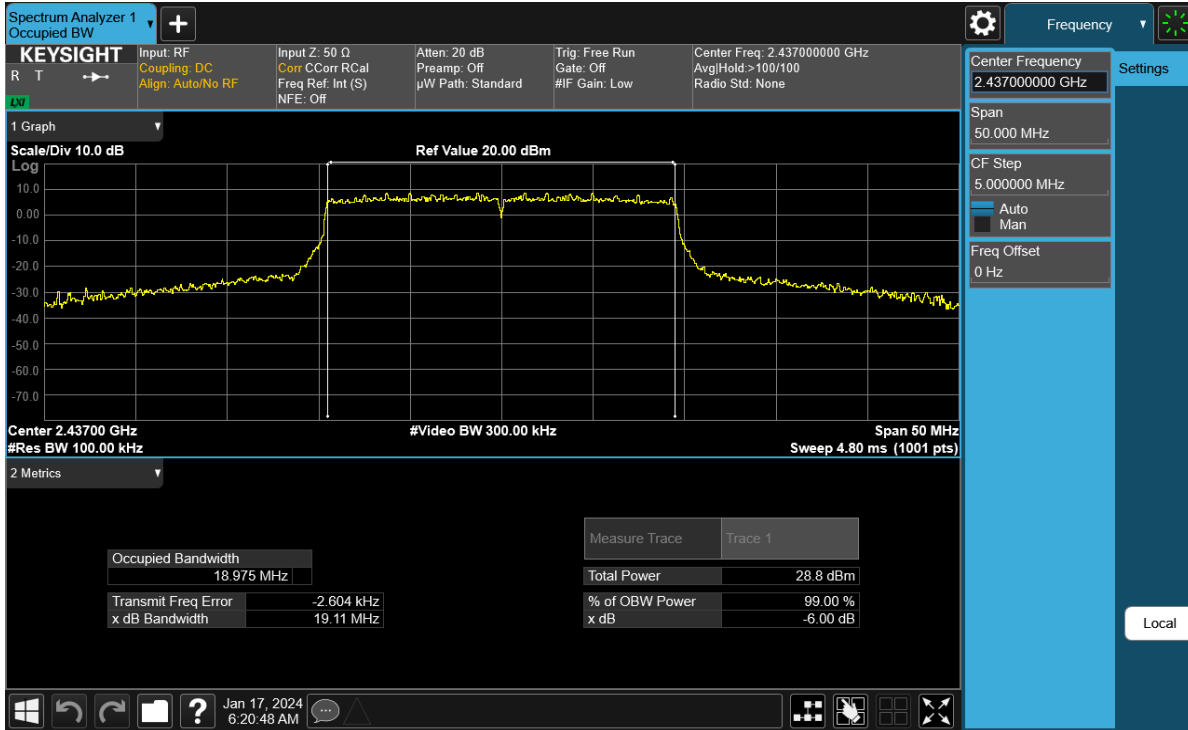




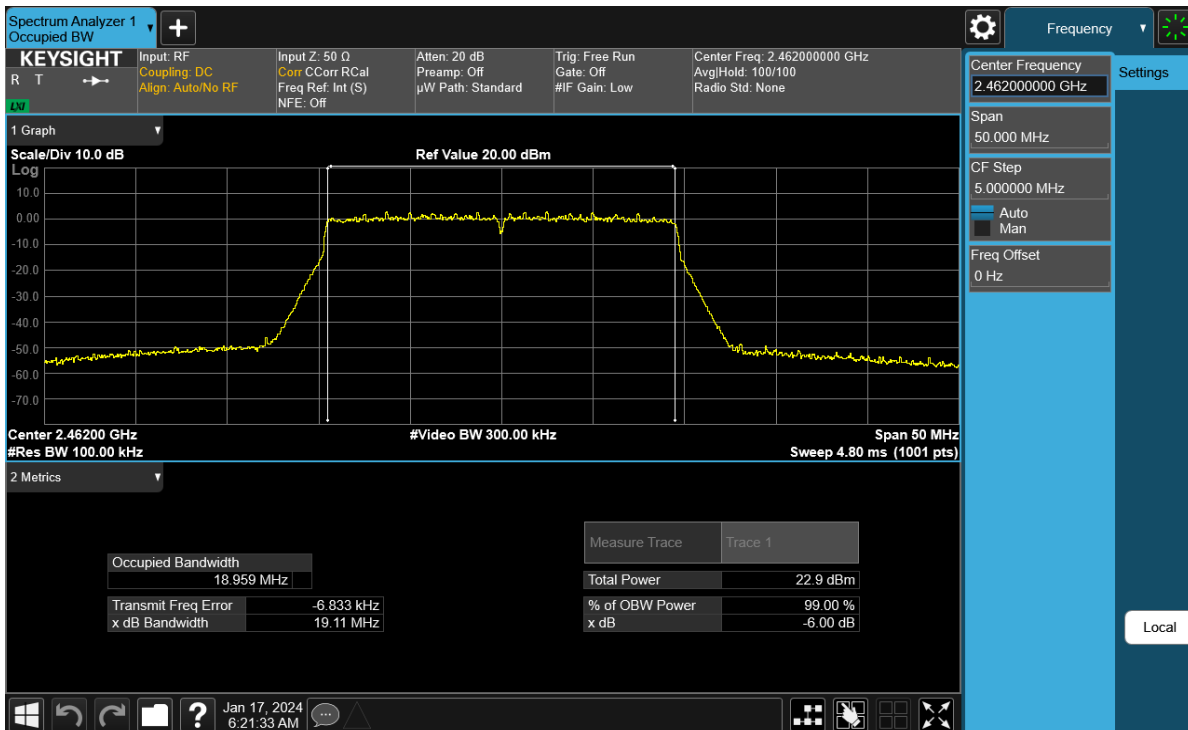
FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 33 of 583



FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 34 of 583



Plot 7-29. 6 dB BW and 99% OBW Plot Antenna WF8 (802.11ax (SU - 2.4GHz) – Ch. 6) – MCS9



Plot 7-30. 6 dB BW and 99% OBW Plot Antenna WF8 (802.11ax (SU - 2.4GHz) – Ch. 11) – MCS9

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 35 of 583

## 7.2.2 Antenna WF7 6 dB BW and 99% OBW Measurements

Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 6dB Bandwidth [MHz]	Minimum 6dB Bandwidth [MHz]	Pass/Fail
2412	1	g	12	16.57	15.88	0.50	Pass
2437	6	g	12	16.45	16.43	0.50	Pass
2462	11	g	12	16.57	16.36	0.50	Pass
2412	1	n	19.5/21.7 (MCS2)	17.71	17.34	0.50	Pass
2437	6	n	19.5/21.7 (MCS2)	17.67	17.58	0.50	Pass
2462	11	n	19.5/21.7 (MCS2)	17.70	17.56	0.50	Pass
2412	1	ax (SU)	24/25.8 (MCS2)	18.91	18.93	0.50	Pass
2437	6	ax (SU)	24/25.8 (MCS2)	18.92	19.02	0.50	Pass
2462	11	ax (SU)	24/25.8 (MCS2)	18.93	18.91	0.50	Pass

**Table 7-5. Conducted Bandwidth Measurements Antenna WF7 (Low Data Rate)**

Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 6dB Bandwidth [MHz]	Minimum 6dB Bandwidth [MHz]	Pass/Fail
2412	1	g	24	16.47	16.52	0.50	Pass
2437	6	g	24	16.46	16.51	0.50	Pass
2462	11	g	24	16.45	16.52	0.50	Pass
2412	1	n	39/43.3 (MCS4)	17.66	17.73	0.50	Pass
2437	6	n	39/43.3 (MCS4)	17.66	17.73	0.50	Pass
2462	11	n	39/43.3 (MCS4)	17.65	17.73	0.50	Pass
2412	1	ax (SU)	49/51.6 (MCS4)	18.91	19.08	0.50	Pass
2437	6	ax (SU)	49/51.6 (MCS4)	18.93	19.07	0.50	Pass
2462	11	ax (SU)	49/51.6 (MCS4)	18.93	19.09	0.50	Pass

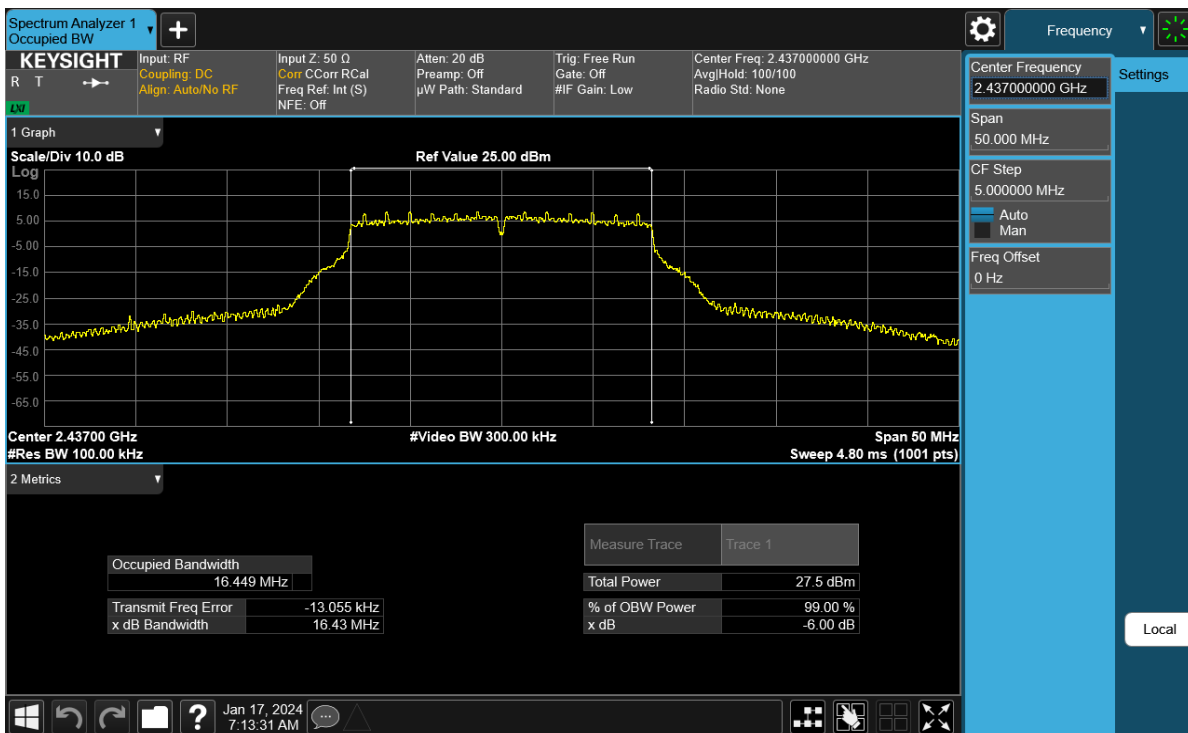
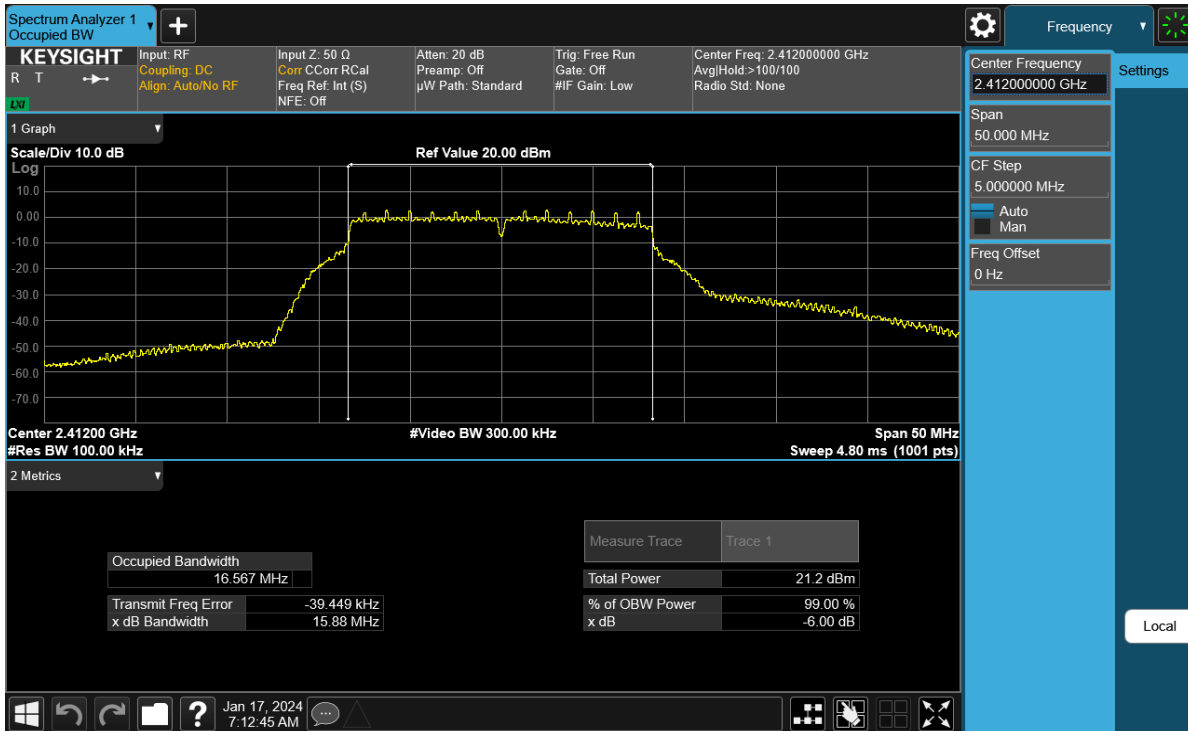
**Table 7-6. Conducted Bandwidth Measurements Antenna WF7 (Mid Data Rate)**

Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 6dB Bandwidth [MHz]	Minimum 6dB Bandwidth [MHz]	Pass/Fail
2412	1	b	11	12.80	8.69	0.50	Pass
2437	6	b	11	12.73	8.50	0.50	Pass
2462	11	b	11	12.80	9.52	0.50	Pass
2412	1	g	54	16.48	16.55	0.50	Pass
2437	6	g	54	16.51	16.53	0.50	Pass
2462	11	g	54	16.47	16.54	0.50	Pass
2412	1	n	65/72.2 (MCS7)	17.68	17.77	0.50	Pass
2437	6	n	65/72.2 (MCS7)	17.71	17.77	0.50	Pass
2462	11	n	65/72.2 (MCS7)	17.68	17.76	0.50	Pass
2412	1	ax (SU)	81/86 (MCS9)	18.95	19.11	0.50	Pass
2437	6	ax (SU)	81/86 (MCS9)	18.99	19.12	0.50	Pass
2462	11	ax (SU)	81/86 (MCS9)	18.94	19.12	0.50	Pass

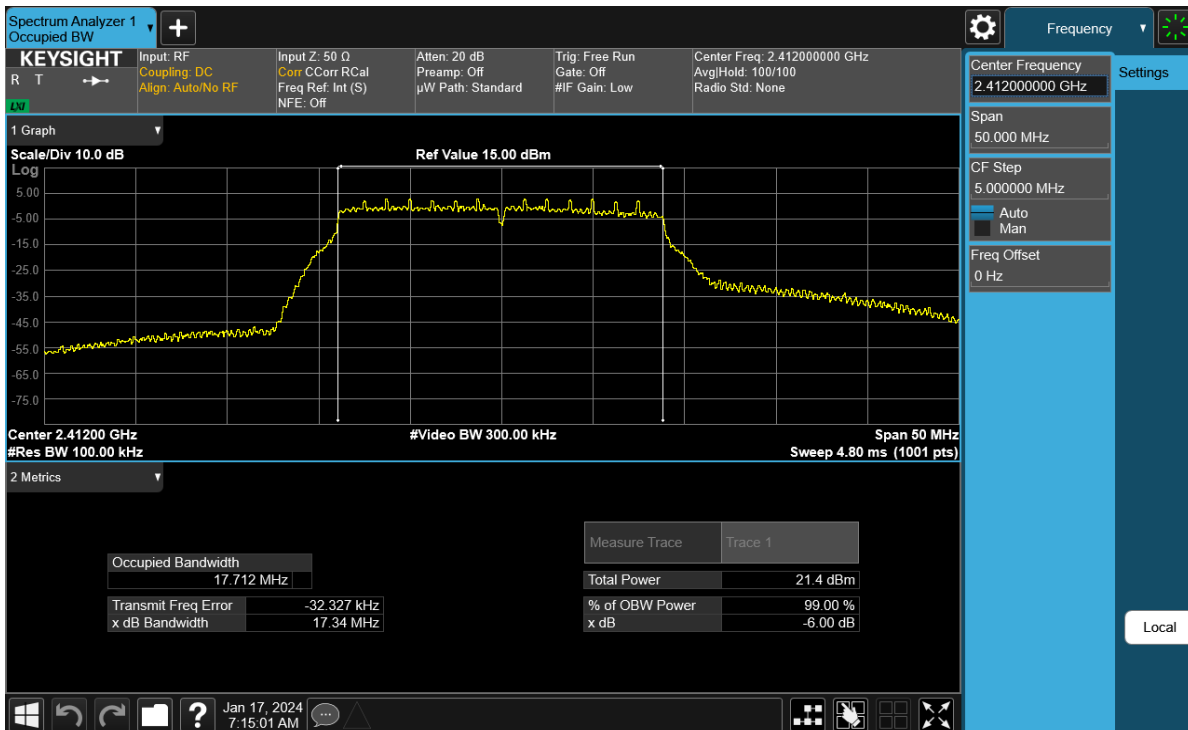
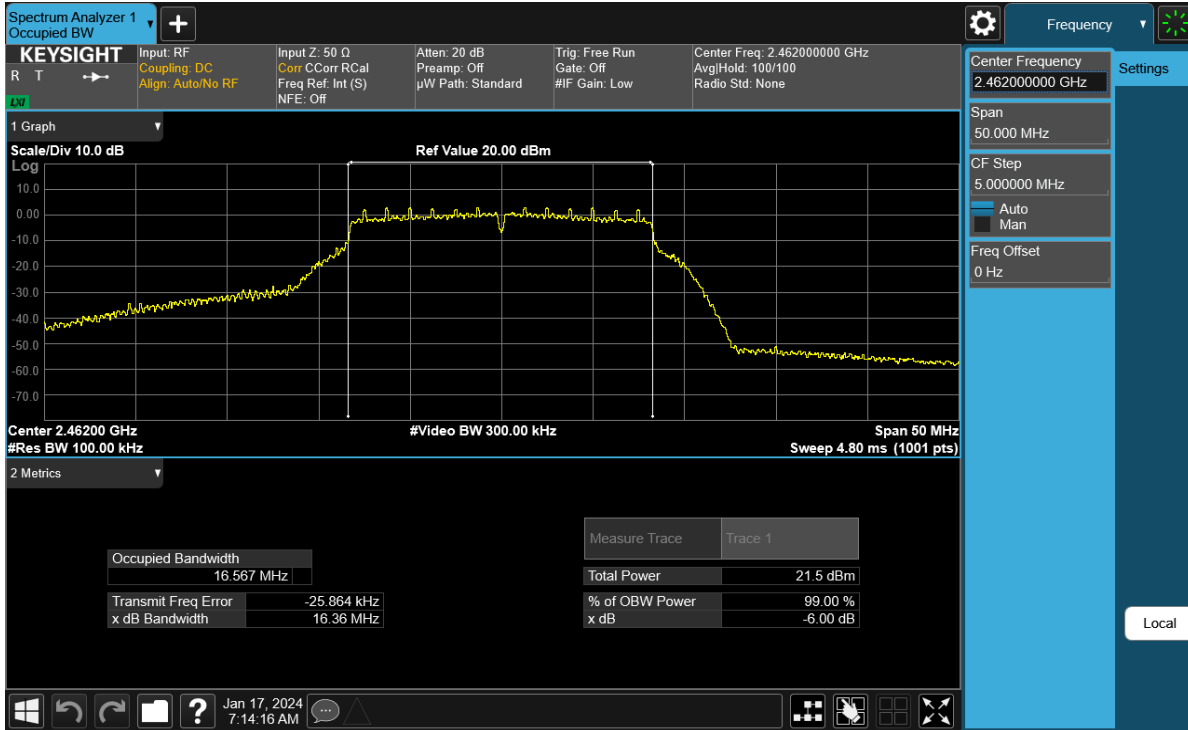
**Table 7-7. Conducted Bandwidth Measurements Antenna WF7 (High Data Rate)**

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 36 of 583

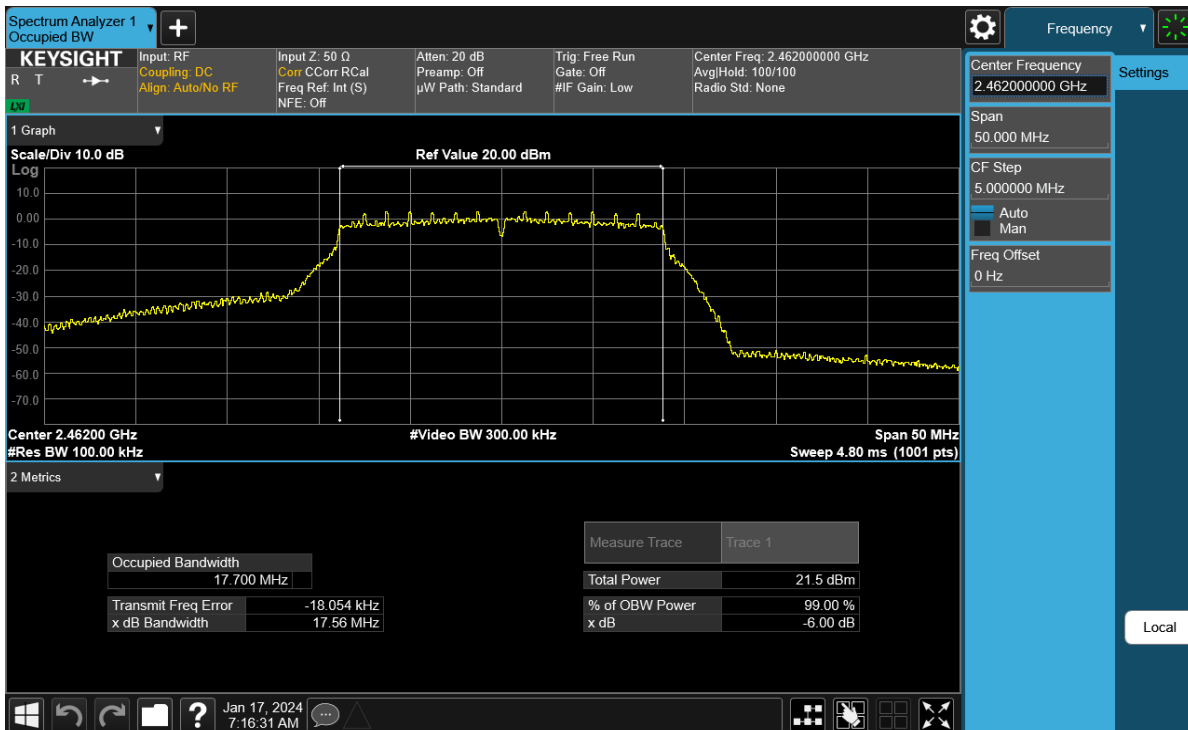
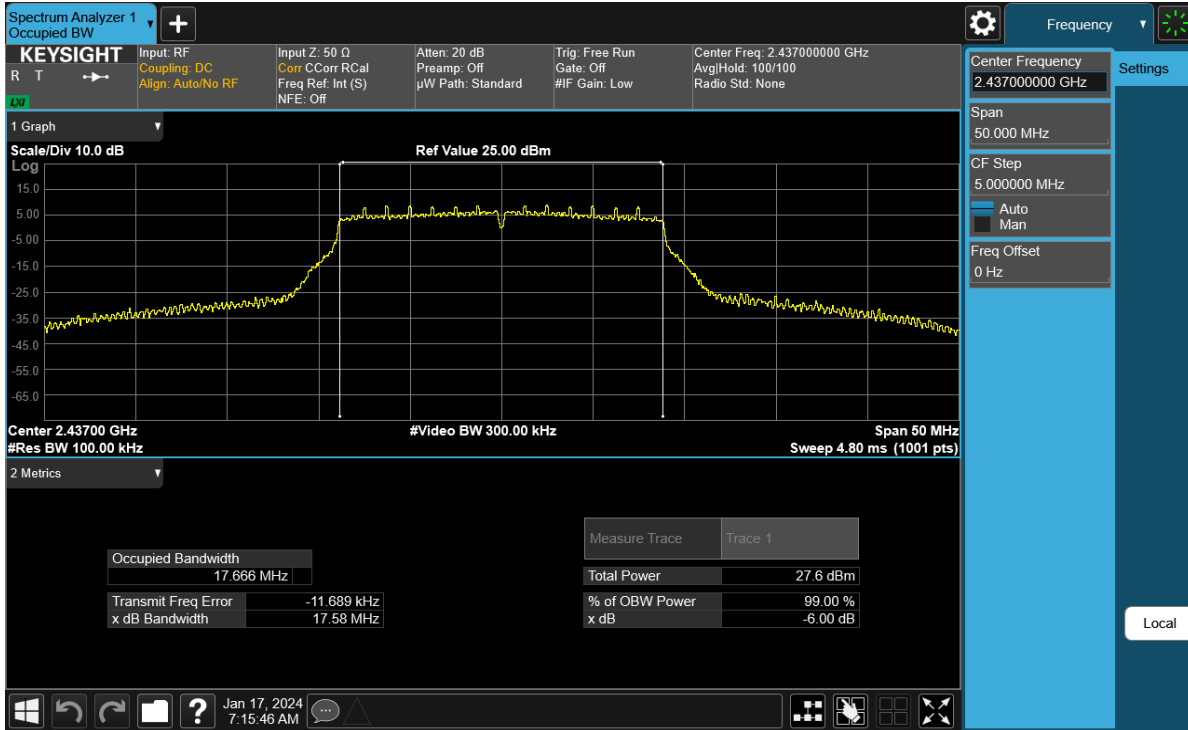
Low Rate



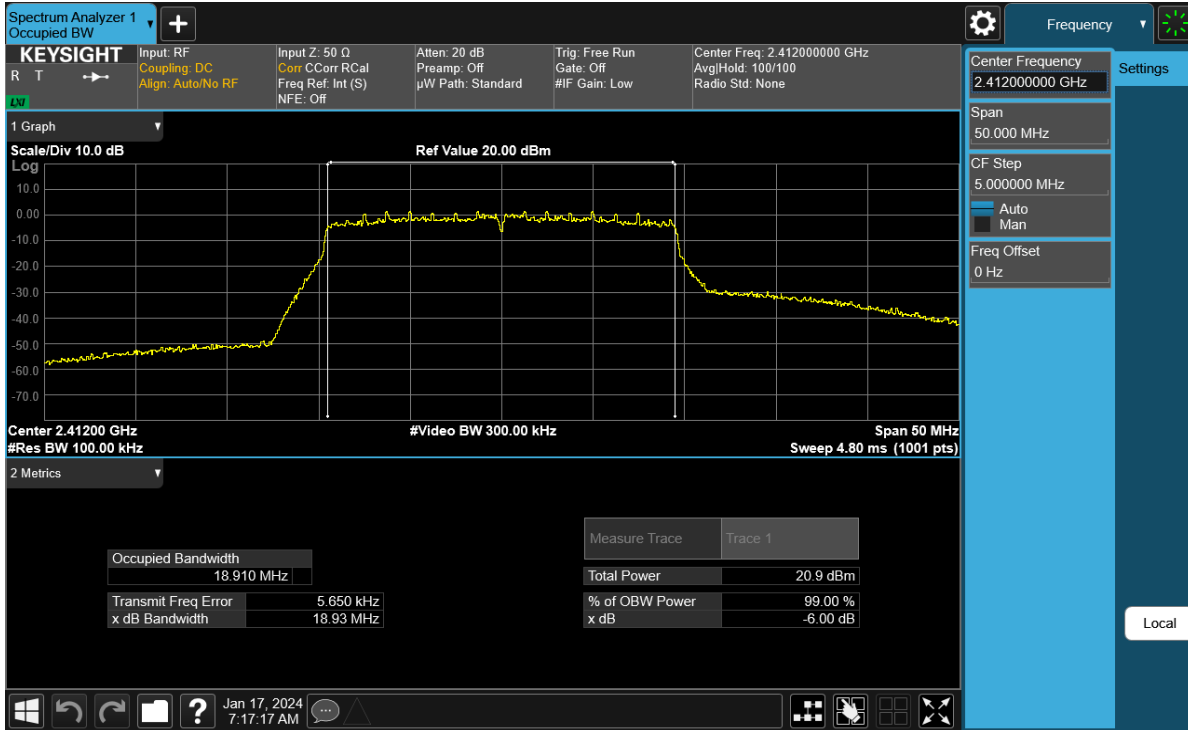
FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 37 of 583



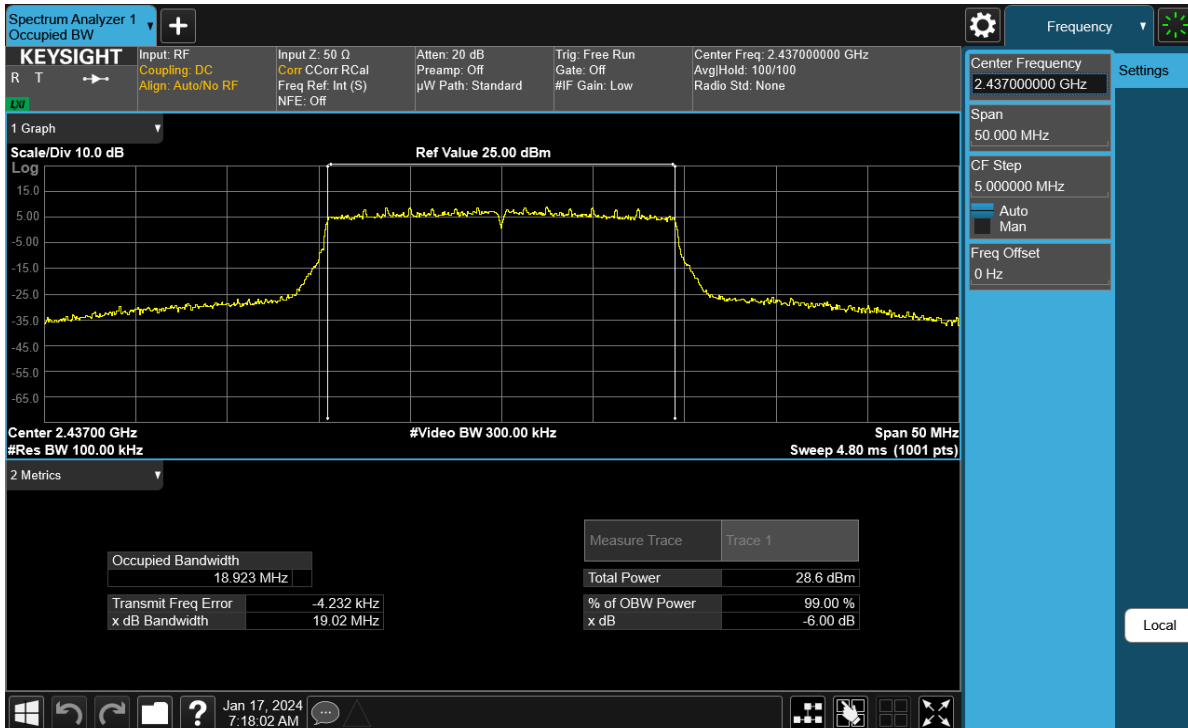
FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 38 of 583



FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 39 of 583



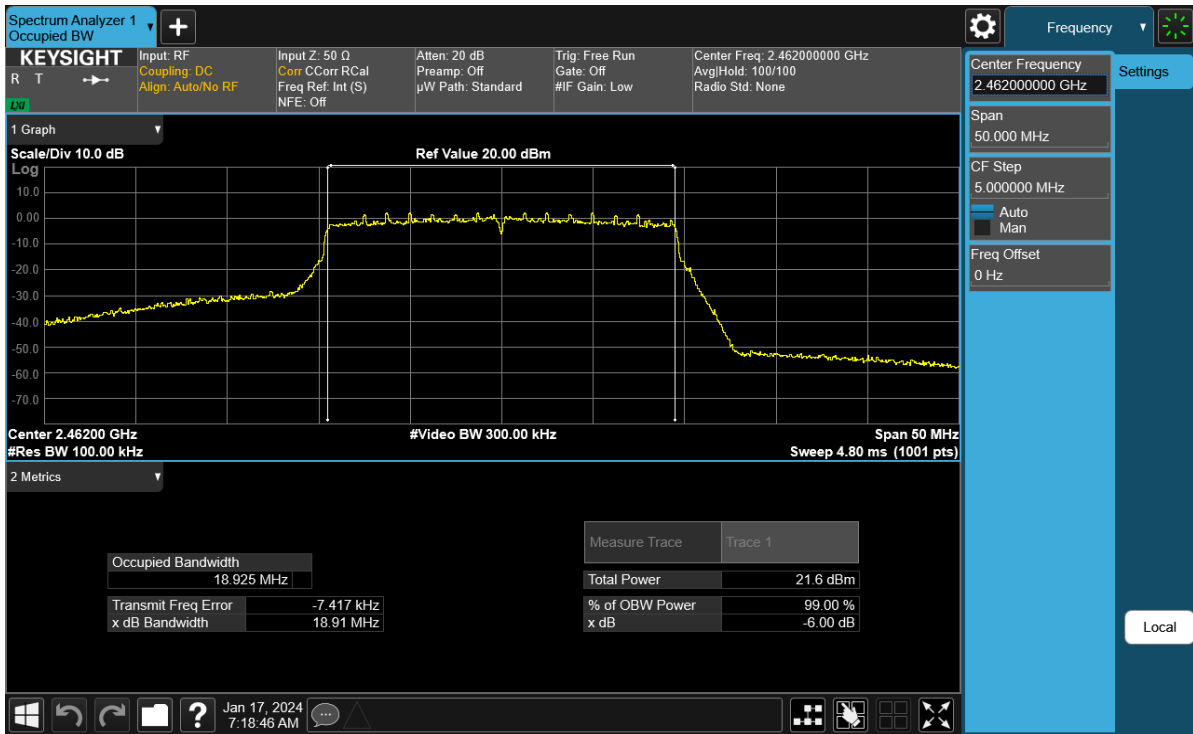
Plot 7-37. 6 dB BW and 99% OBW Plot Antenna WF7 (802.11ax (SU - 2.4GHz) – Ch. 1) – MCS2



Plot 7-38. 6 dB BW and 99% OBW Plot Antenna WF7 (802.11ax (SU - 2.4GHz) – Ch. 6) – MCS2

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 40 of 583

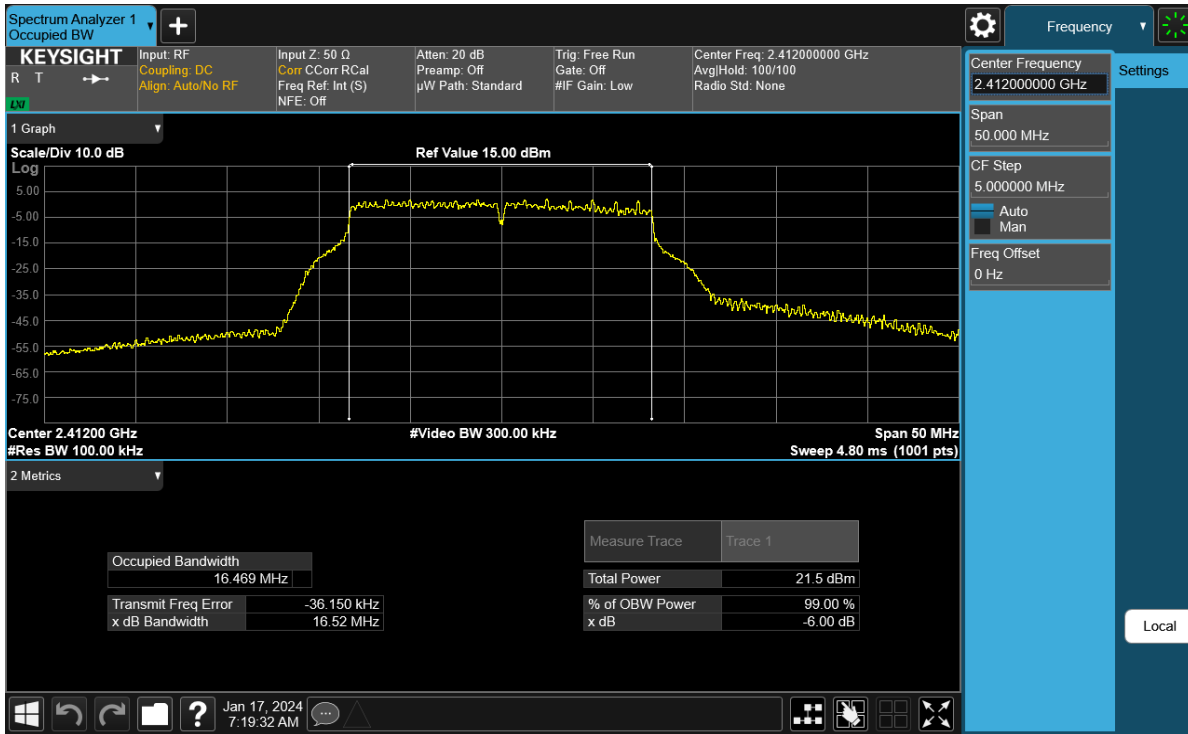




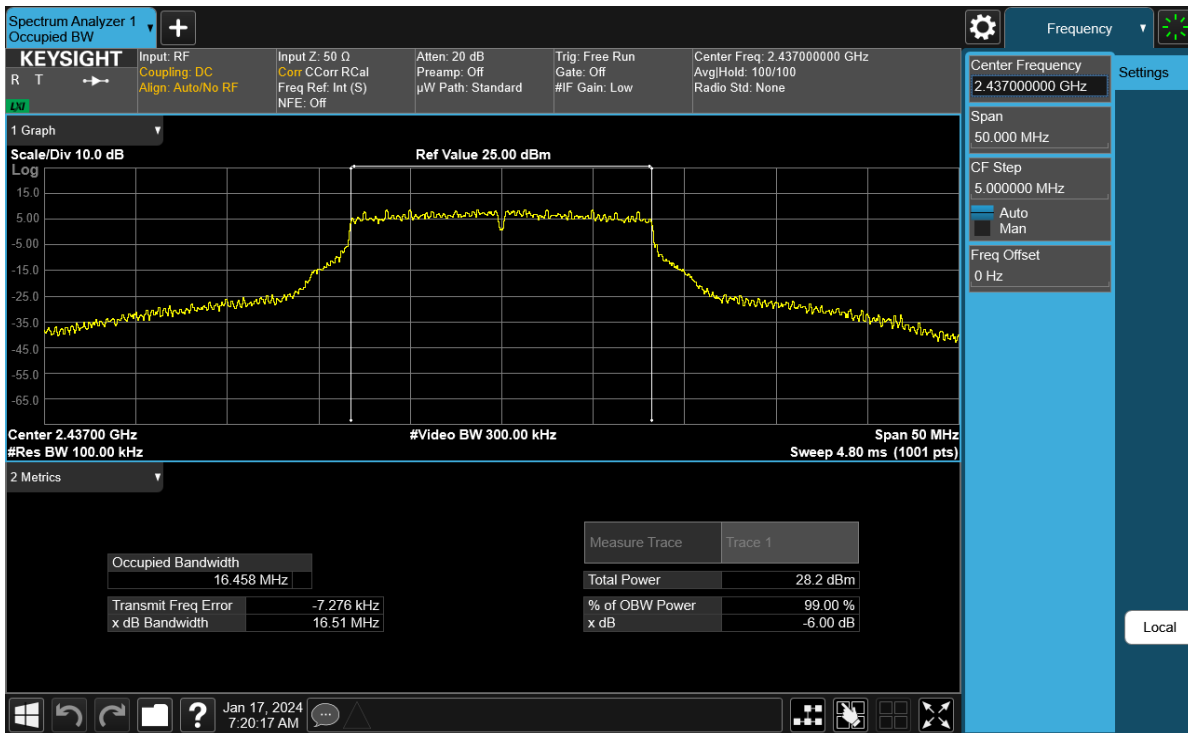
Plot 7-39. 6 dB BW and 99% OBW Plot Antenna WF7 (802.11ax (SU - 2.4GHz) – Ch. 11) – MCS2

FCC ID: BCGA2836 IC: 579C-A2836	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device
		Page 41 of 583

Mid Rate

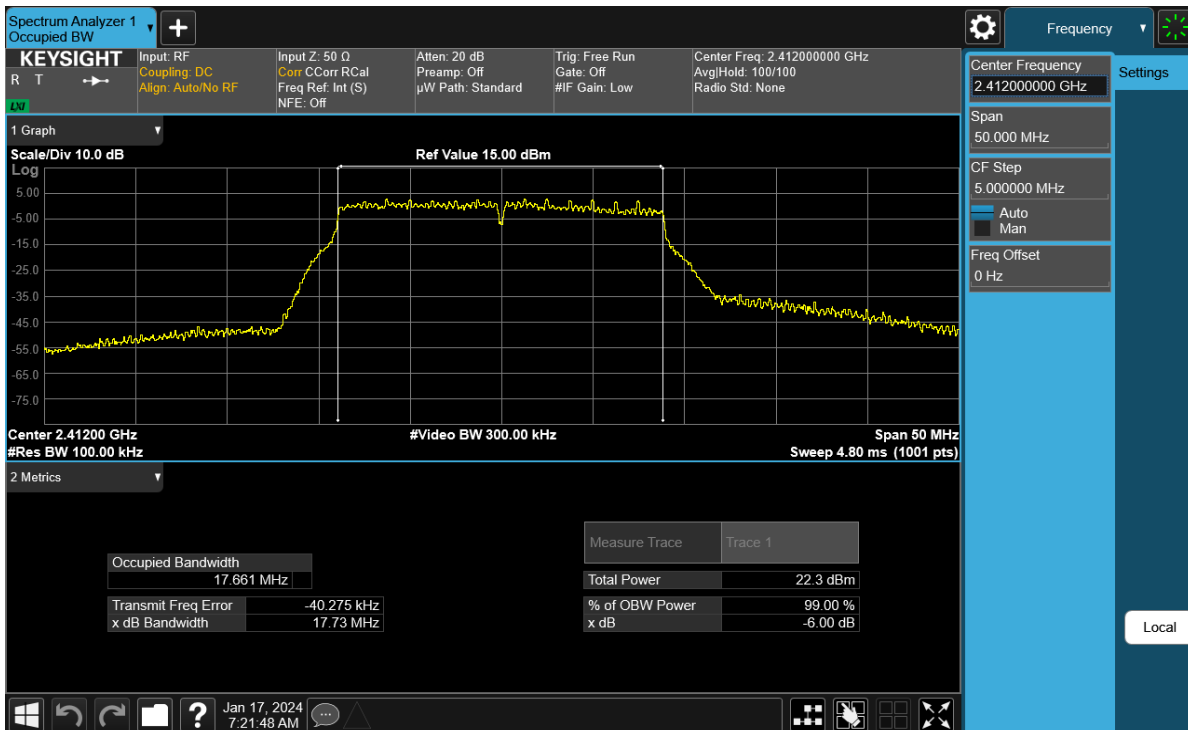
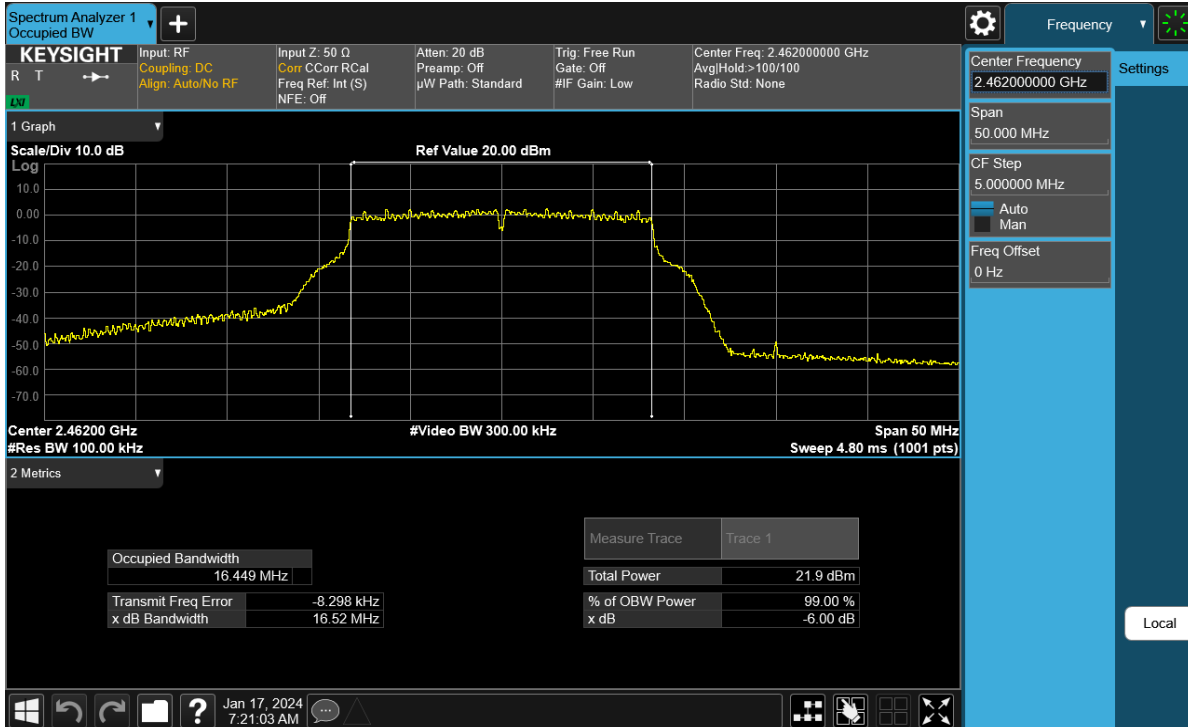


Plot 7-40. 6 dB BW and 99% OBW Plot Antenna WF7 (802.11g – Ch. 1) – 24Mbps

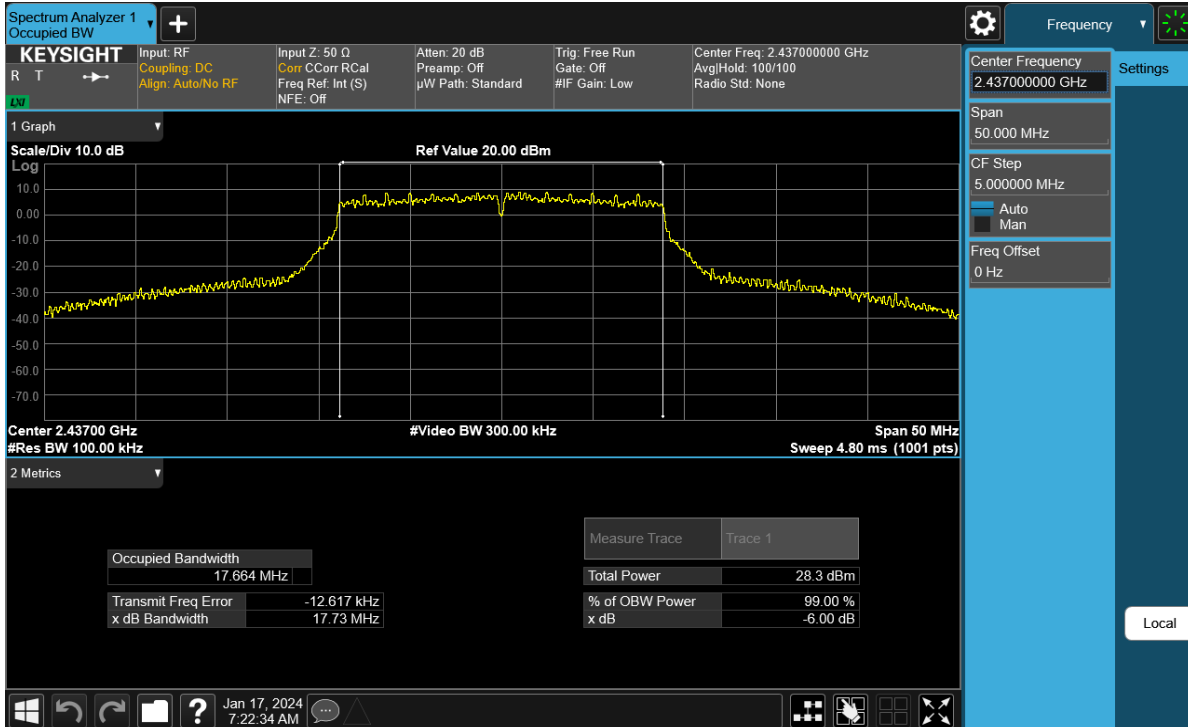


Plot 7-41. 6 dB BW and 99% OBW Plot Antenna WF7 (802.11g – Ch. 6) – 24Mbps

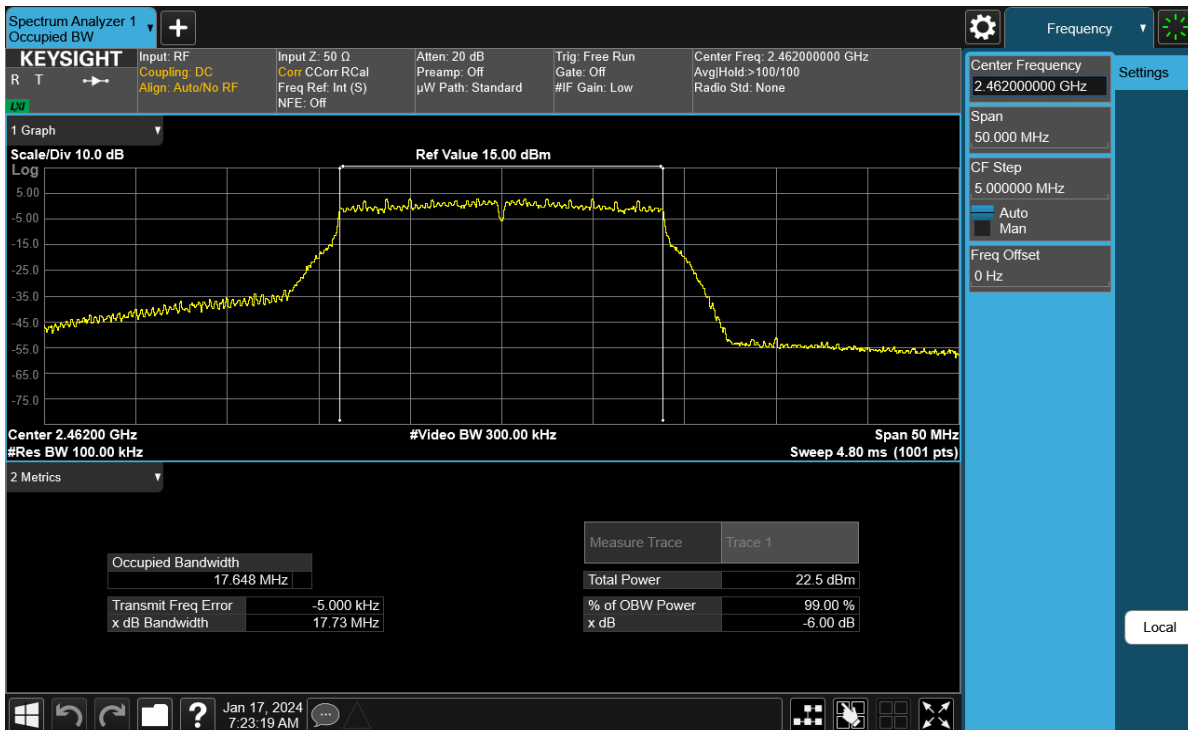
FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 42 of 583



FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 43 of 583

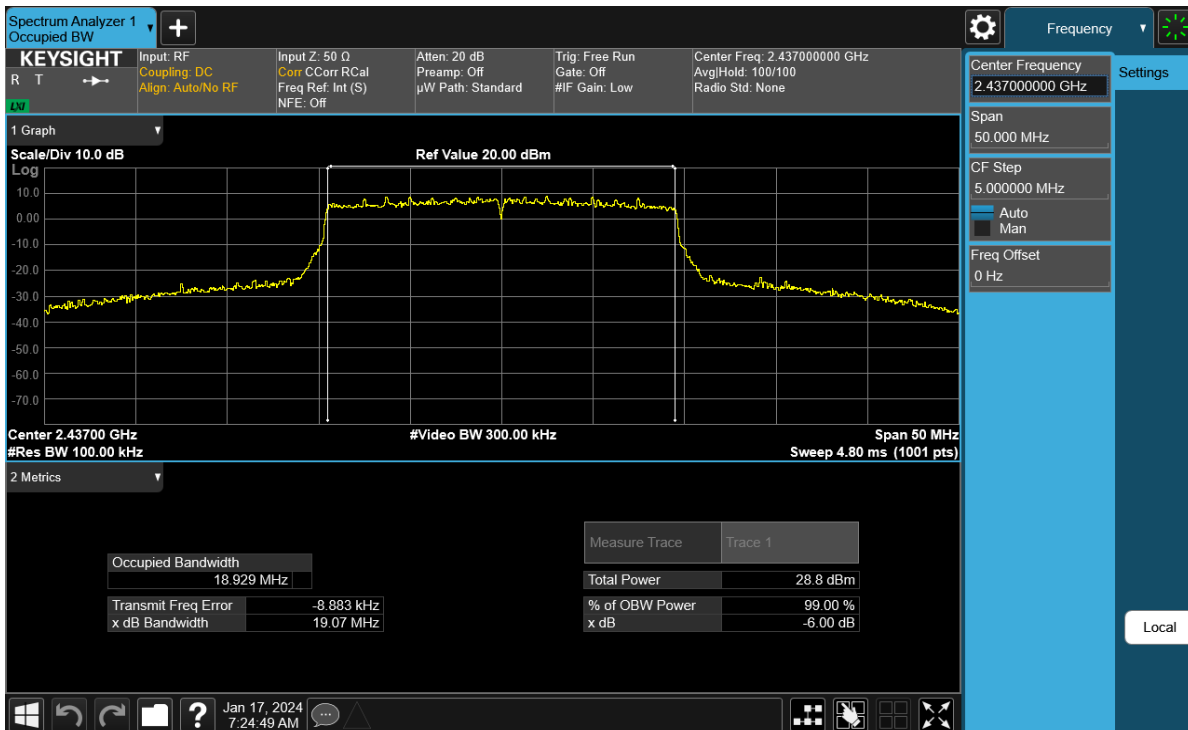
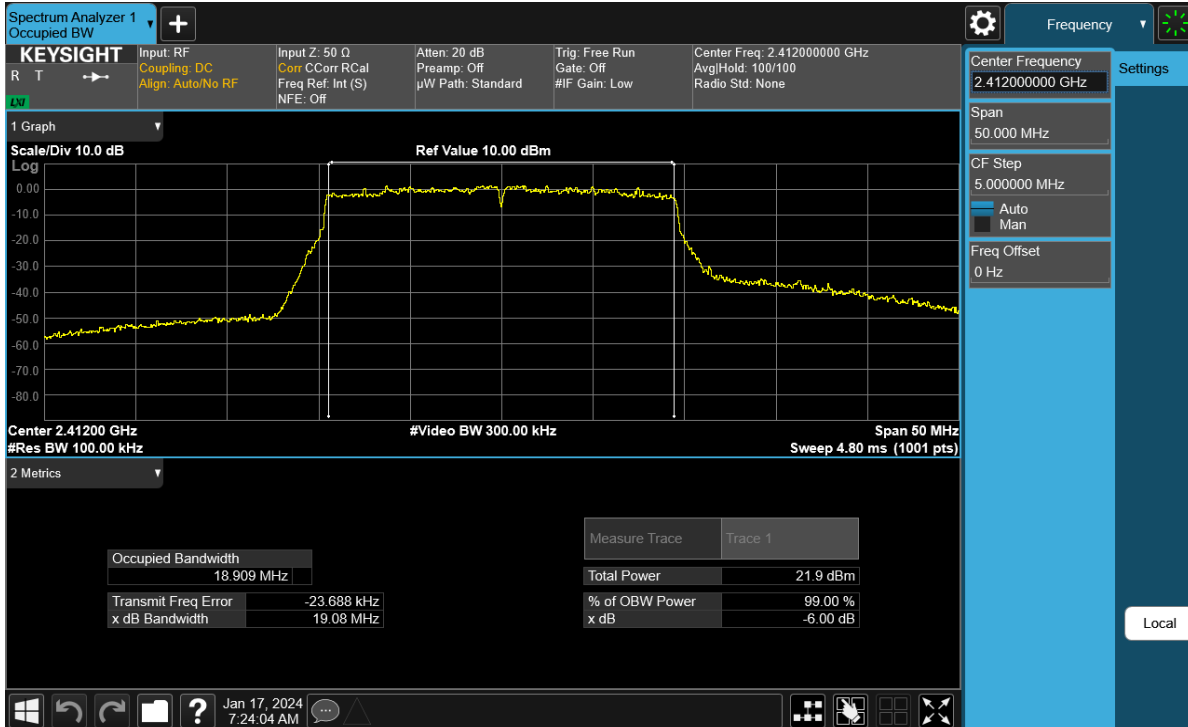


**Plot 7-44. 6 dB BW and 99% OBW Plot Antenna WF7 (802.11n (2.4GHz) – Ch. 6) – MCS4**

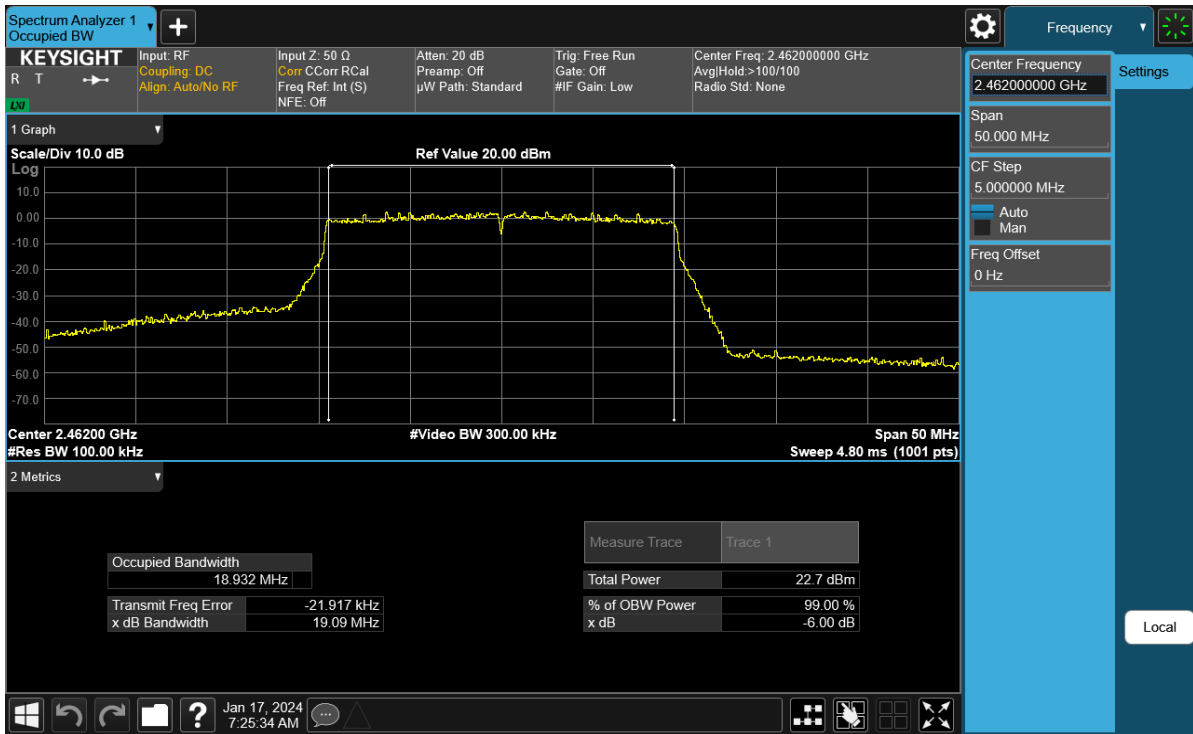


**Plot 7-45. 6 dB BW and 99% OBW Plot Antenna WF7 (802.11n (2.4GHz) – Ch. 11) – MCS4**

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 44 of 583



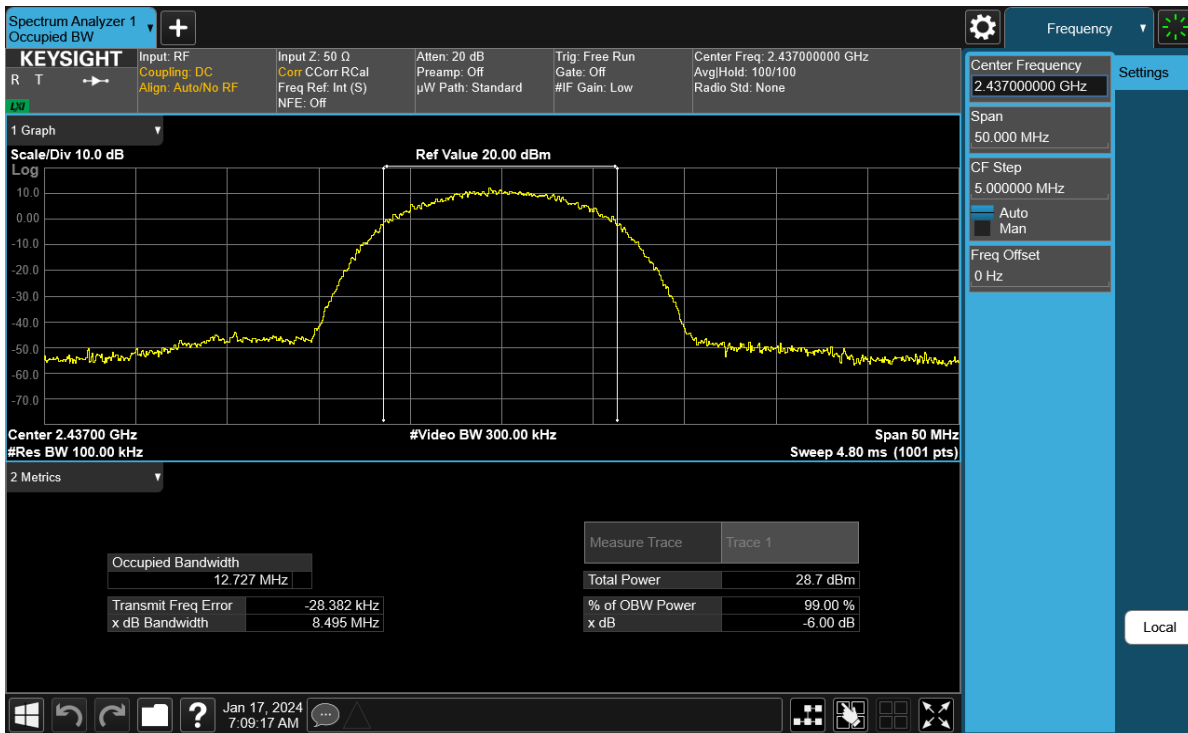
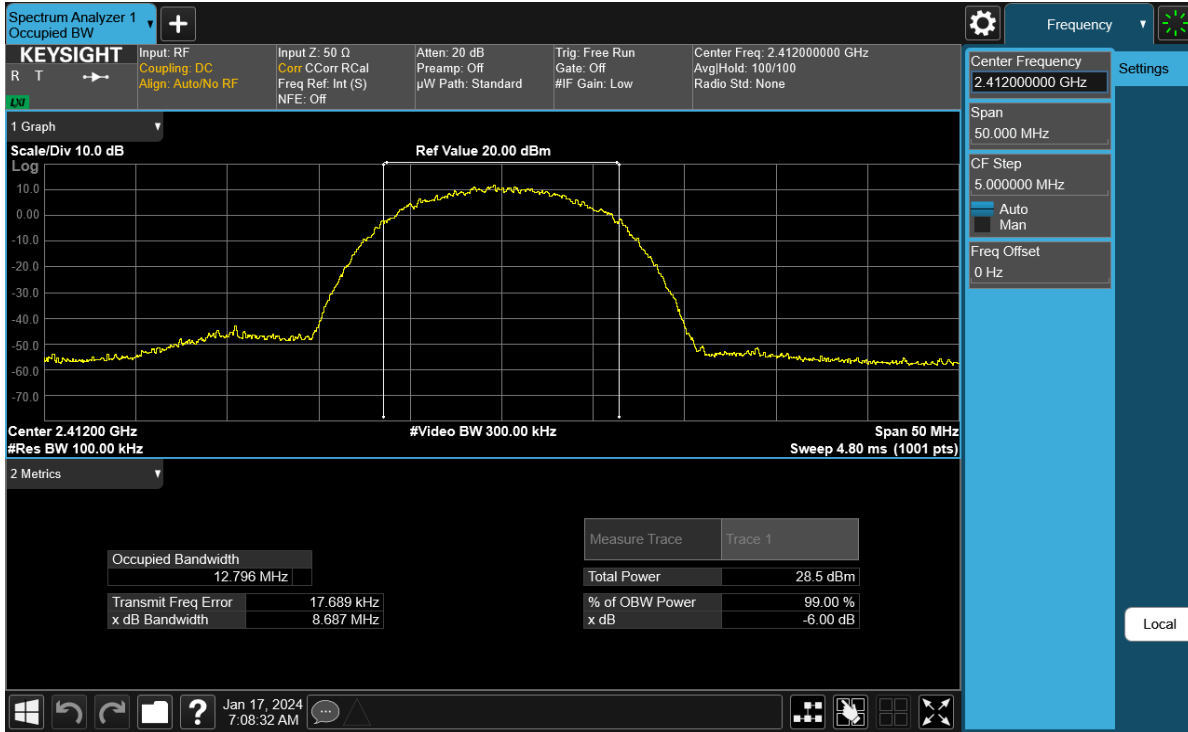
FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 45 of 583



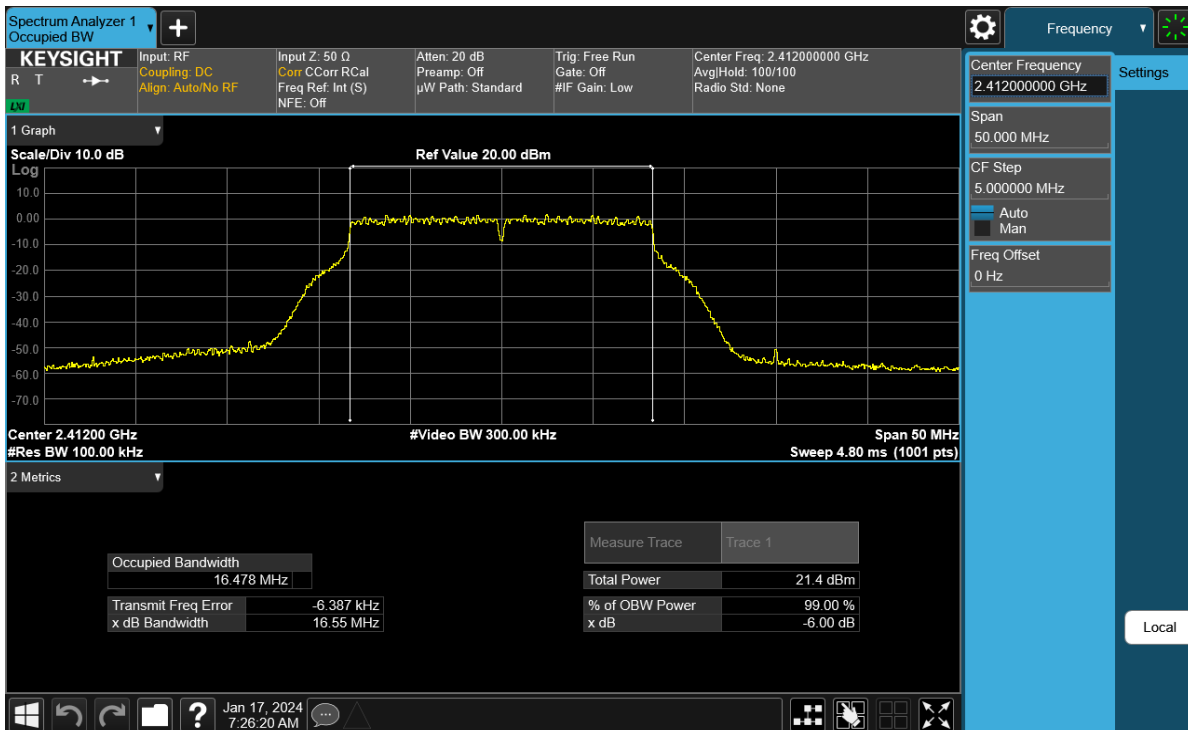
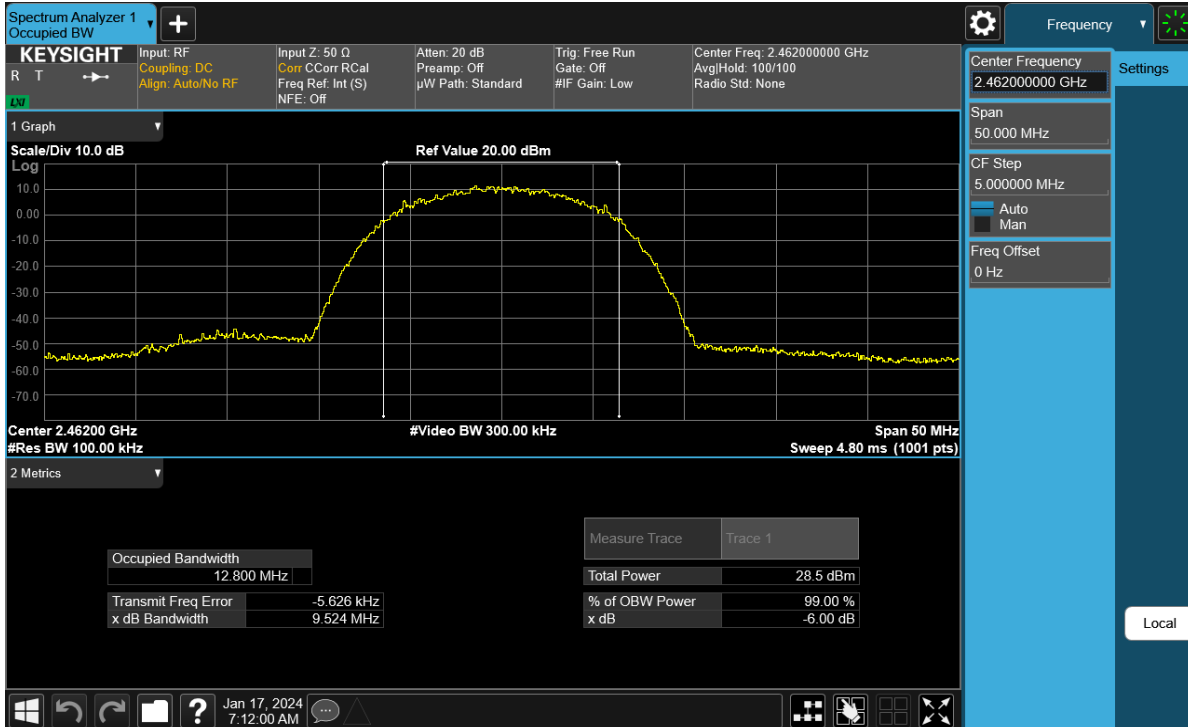
Plot 7-48. 6 dB BW and 99% OBW Plot Antenna WF7 (802.11ax (SU - 2.4GHz) – Ch. 11) – MCS4

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device		Page 46 of 583

### High Rate

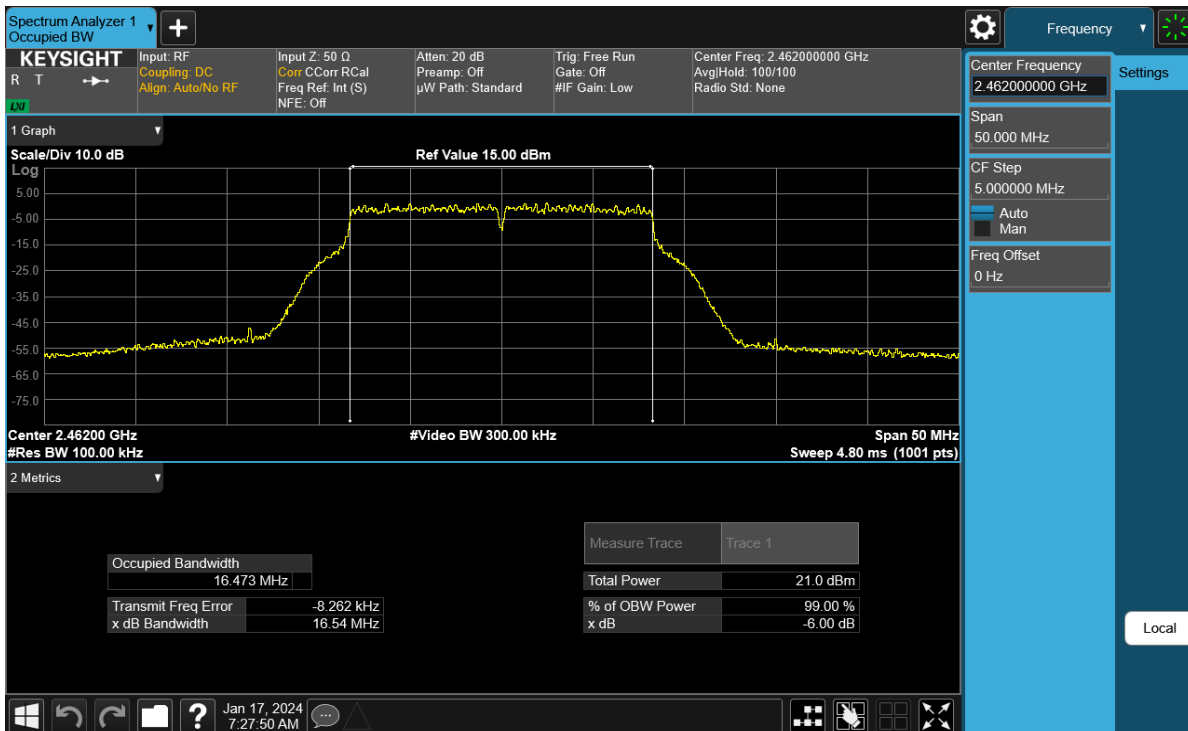
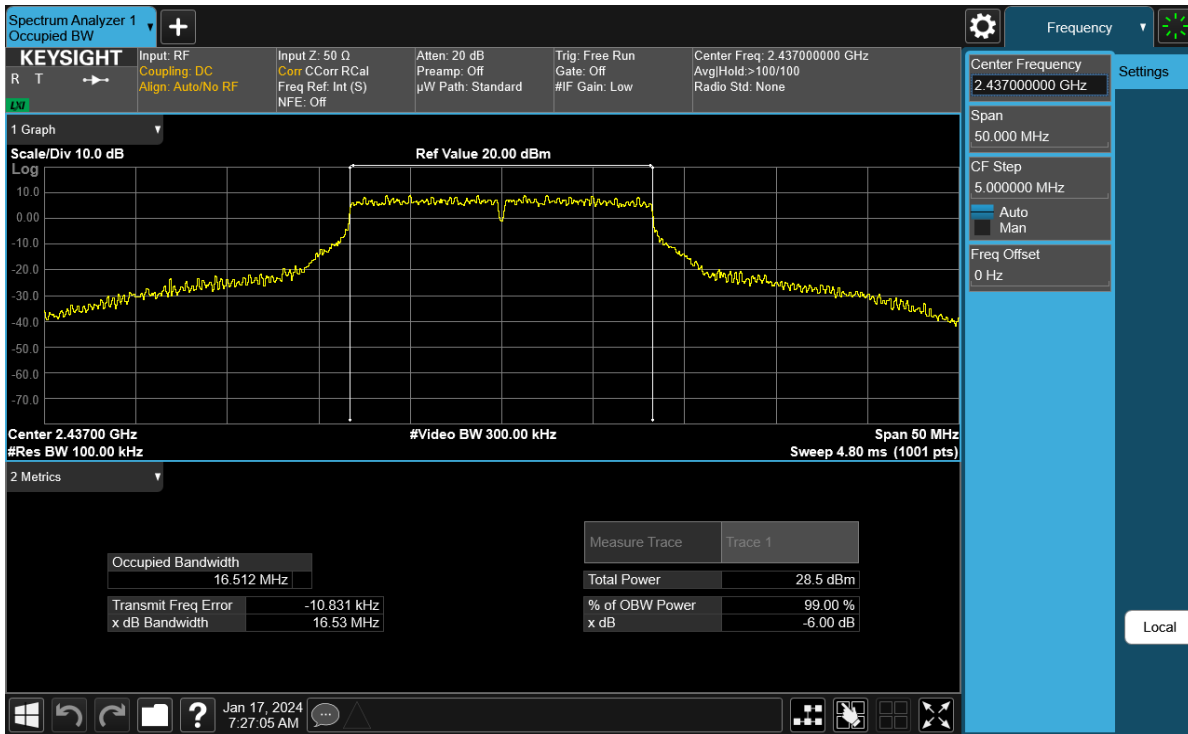


FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 47 of 583

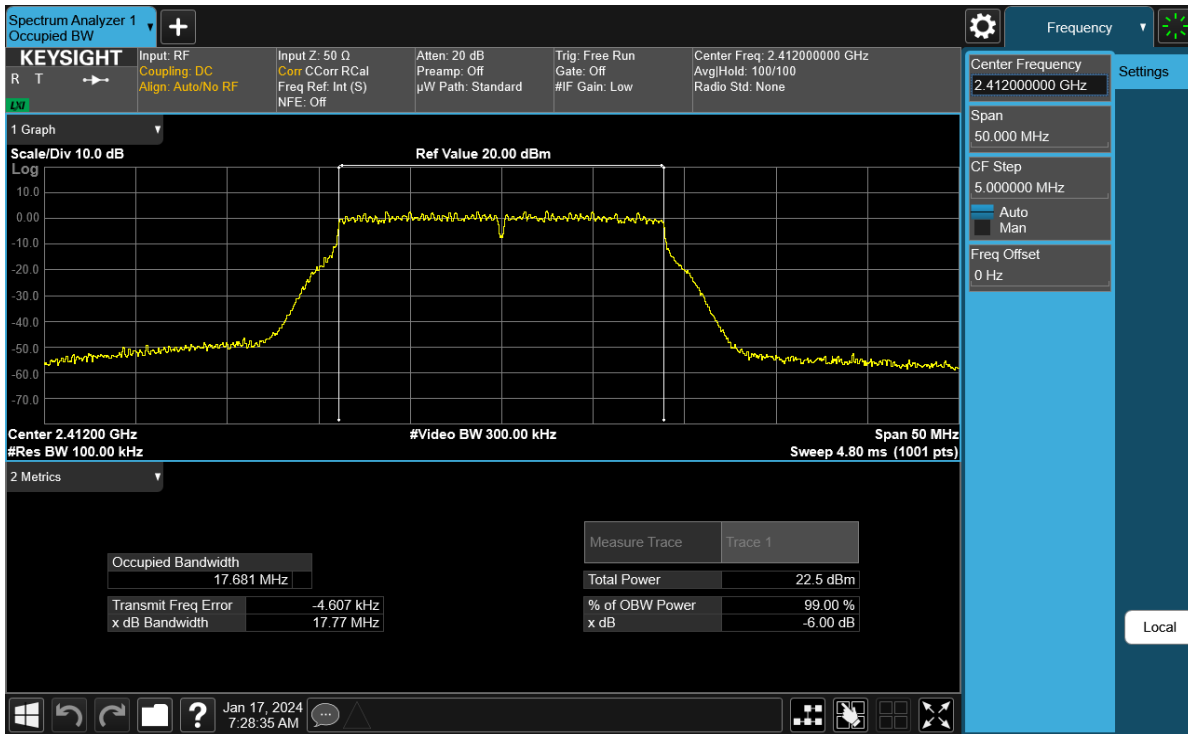


FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 48 of 583

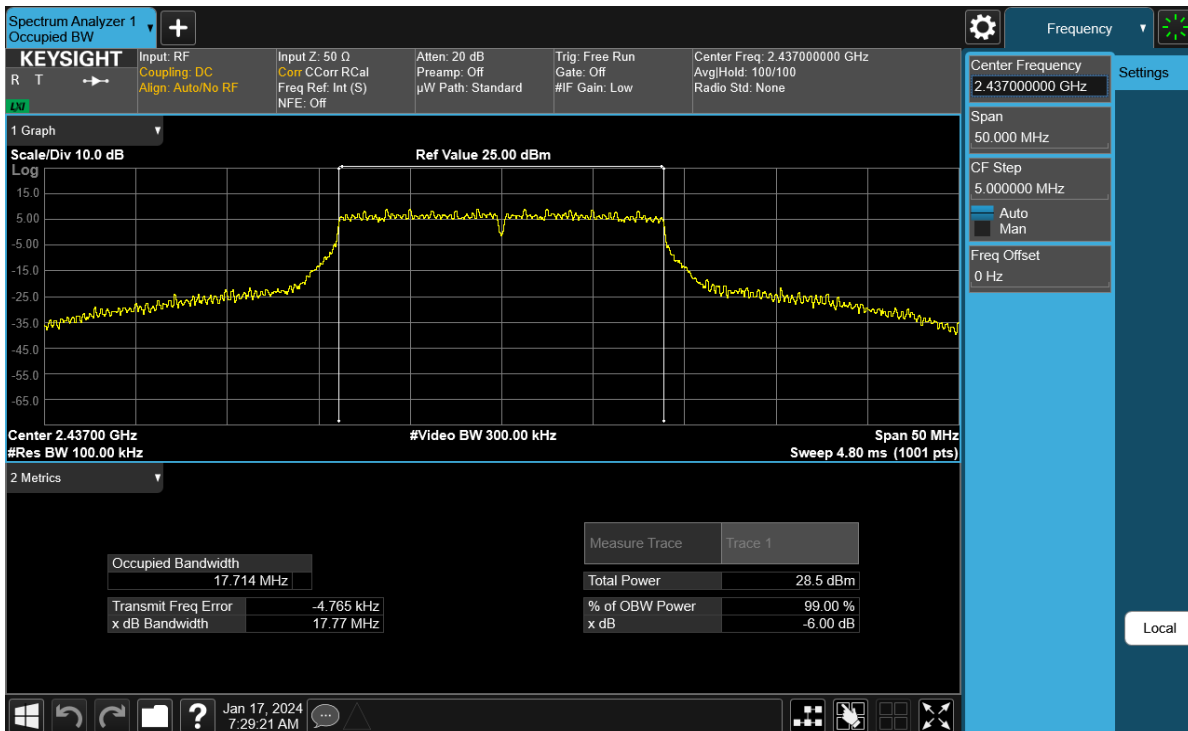




FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 49 of 583

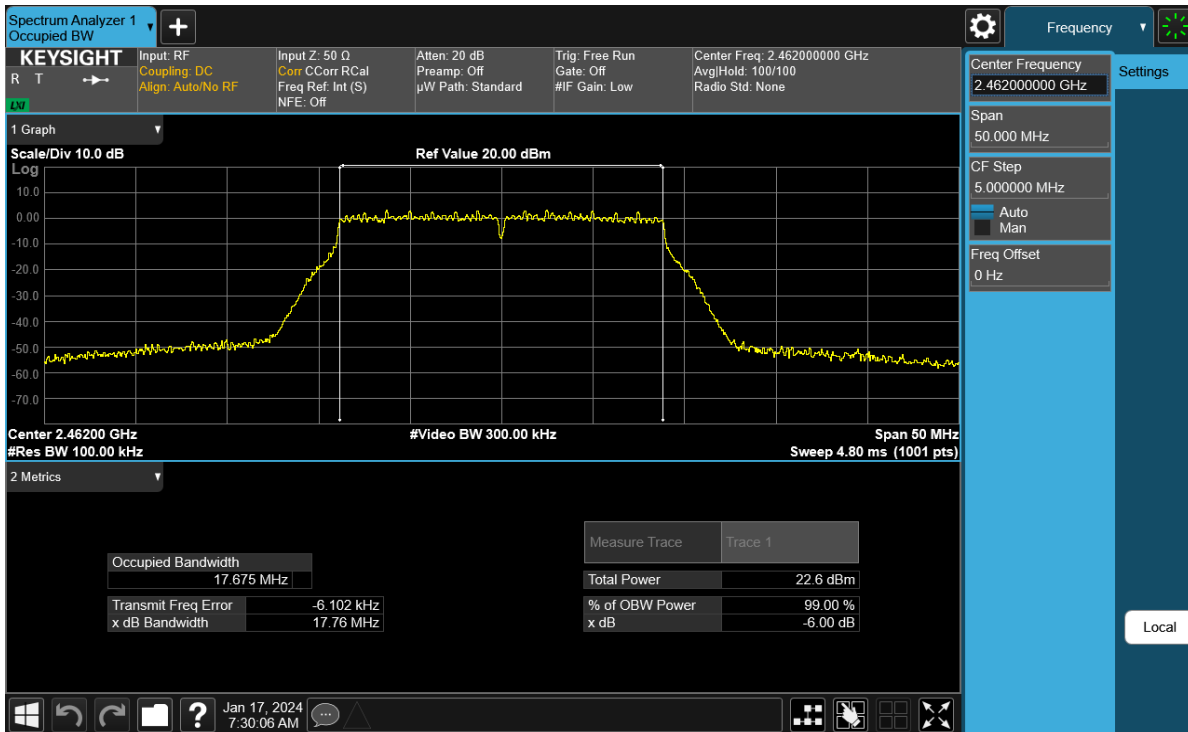


Plot 7-55. 6 dB BW and 99% OBW Plot Antenna WF7 (802.11n (2.4GHz) – Ch. 1) – MCS7

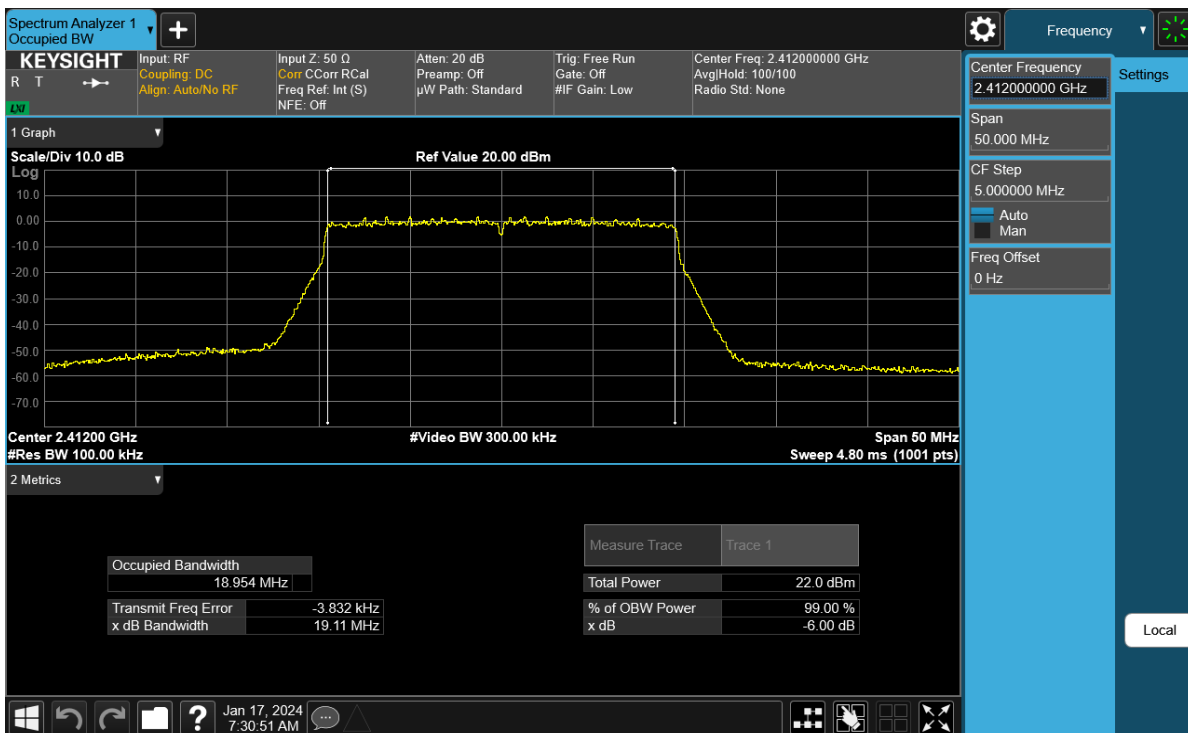


Plot 7-56. 6 dB BW and 99% OBW Plot Antenna WF7 (802.11n (2.4GHz) – Ch. 6) – MCS7

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 50 of 583

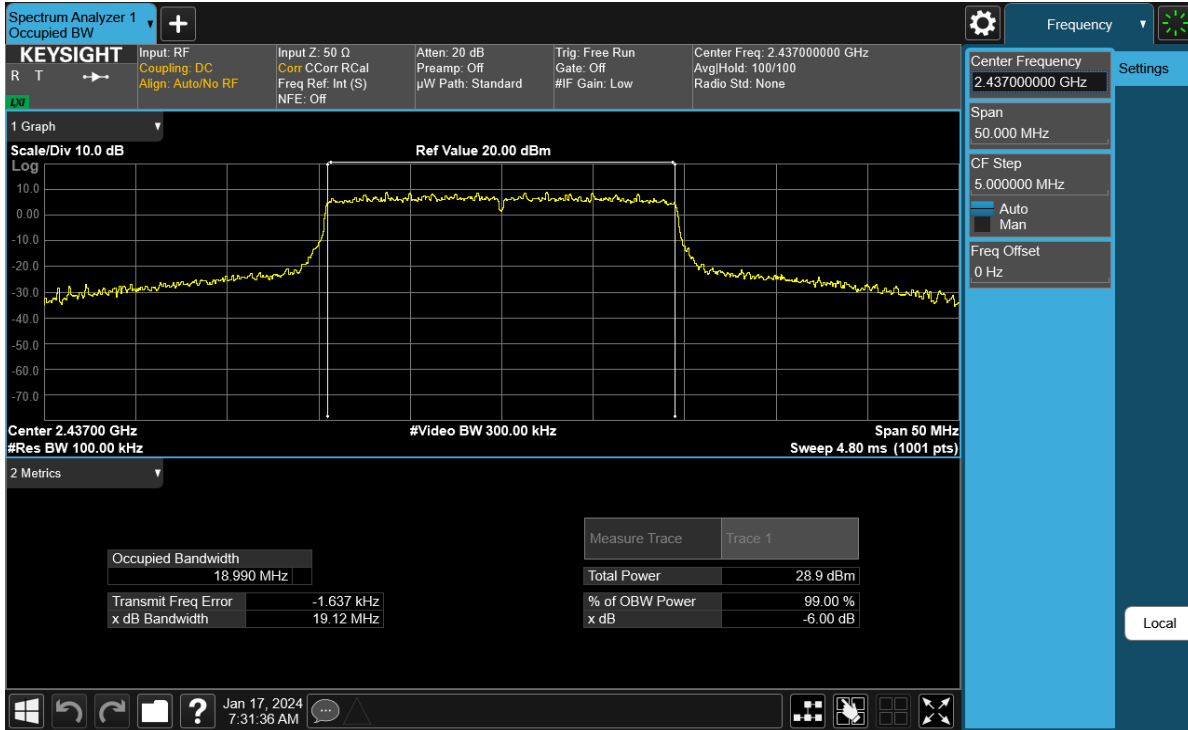


Plot 7-57. 6 dB BW and 99% OBW Plot Antenna WF7 (802.11n (2.4GHz) – Ch. 11) – MCS7

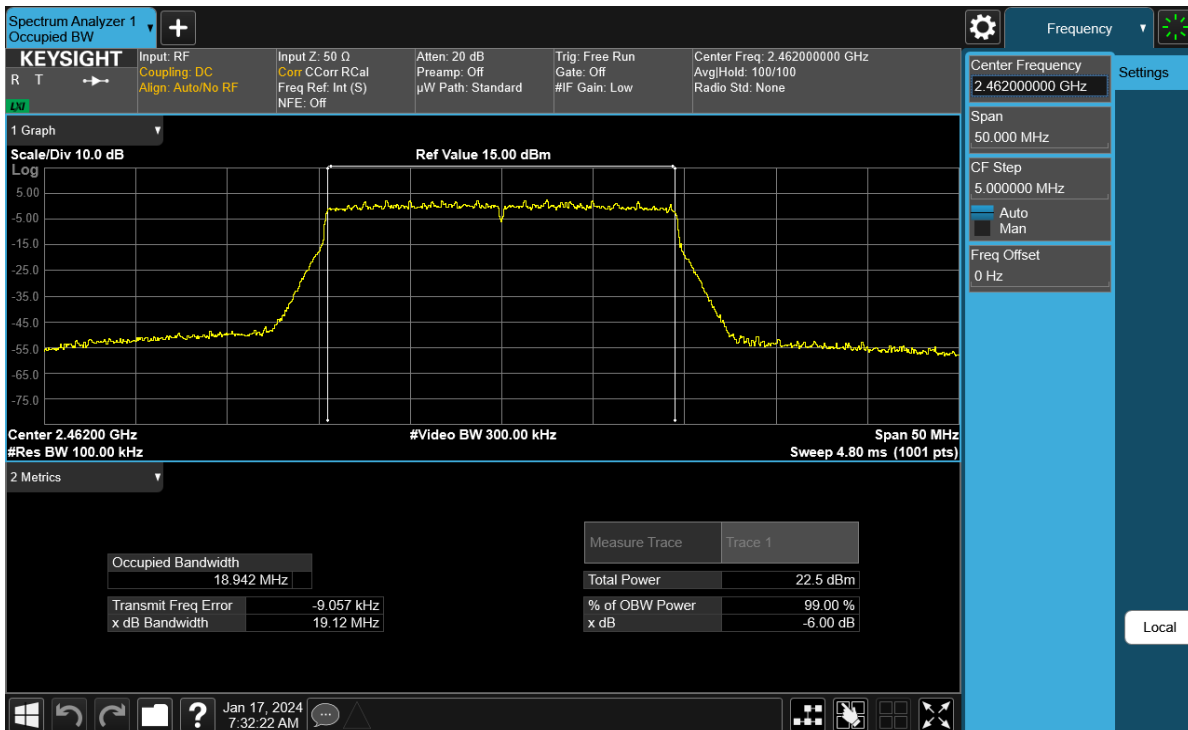


Plot 7-58. 6 dB BW and 99% OBW Plot Antenna WF7 (802.11ax (SU - 2.4GHz) – Ch. 1) – MCS9

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 51 of 583



Plot 7-59. 6 dB BW and 99% OBW Plot Antenna WF7 (802.11ax (SU - 2.4GHz) – Ch. 6) – MCS9



Plot 7-60. 6 dB BW and 99% OBW Plot Antenna WF7 (802.11ax (SU - 2.4GHz) – Ch. 11) – MCS9

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 52 of 583

### 7.2.3 Antenna WF9 6 dB BW and 99% OBW Measurements

Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 6dB Bandwidth [MHz]	Minimum 6dB Bandwidth [MHz]	Pass/Fail
2412	1	g	12	16.56	16.12	0.50	Pass
2437	6	g	12	16.46	16.43	0.50	Pass
2462	11	g	12	16.56	16.37	0.50	Pass
2412	1	n	19.5/21.7 (MCS2)	17.73	17.02	0.50	Pass
2437	6	n	19.5/21.7 (MCS2)	17.66	17.60	0.50	Pass
2462	11	n	19.5/21.7 (MCS2)	17.69	17.31	0.50	Pass
2412	1	ax (SU)	24/25.8 (MCS2)	18.92	18.94	0.50	Pass
2437	6	ax (SU)	24/25.8 (MCS2)	18.92	19.05	0.50	Pass
2462	11	ax (SU)	24/25.8 (MCS2)	18.93	18.98	0.50	Pass

**Table 7-8. Conducted Bandwidth Measurements Antenna WF9 (Low Data Rate)**

Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 6dB Bandwidth [MHz]	Minimum 6dB Bandwidth [MHz]	Pass/Fail
2412	1	g	24	16.46	16.52	0.50	Pass
2437	6	g	24	16.47	16.53	0.50	Pass
2462	11	g	24	16.45	16.52	0.50	Pass
2412	1	n	39/43.3 (MCS4)	17.66	17.75	0.50	Pass
2437	6	n	39/43.3 (MCS4)	17.67	17.73	0.50	Pass
2462	11	n	39/43.3 (MCS4)	17.65	17.74	0.50	Pass
2412	1	ax (SU)	49/51.6 (MCS4)	18.92	19.11	0.50	Pass
2437	6	ax (SU)	49/51.6 (MCS4)	18.92	19.05	0.50	Pass
2462	11	ax (SU)	49/51.6 (MCS4)	18.92	19.10	0.50	Pass

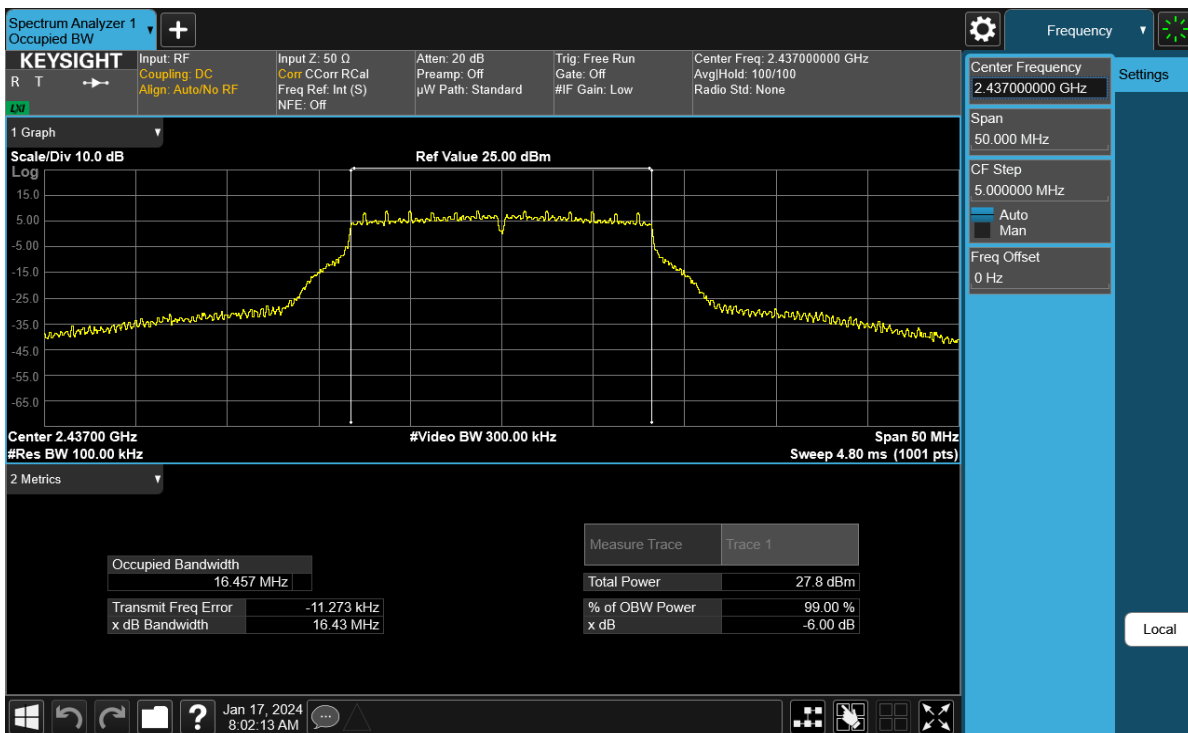
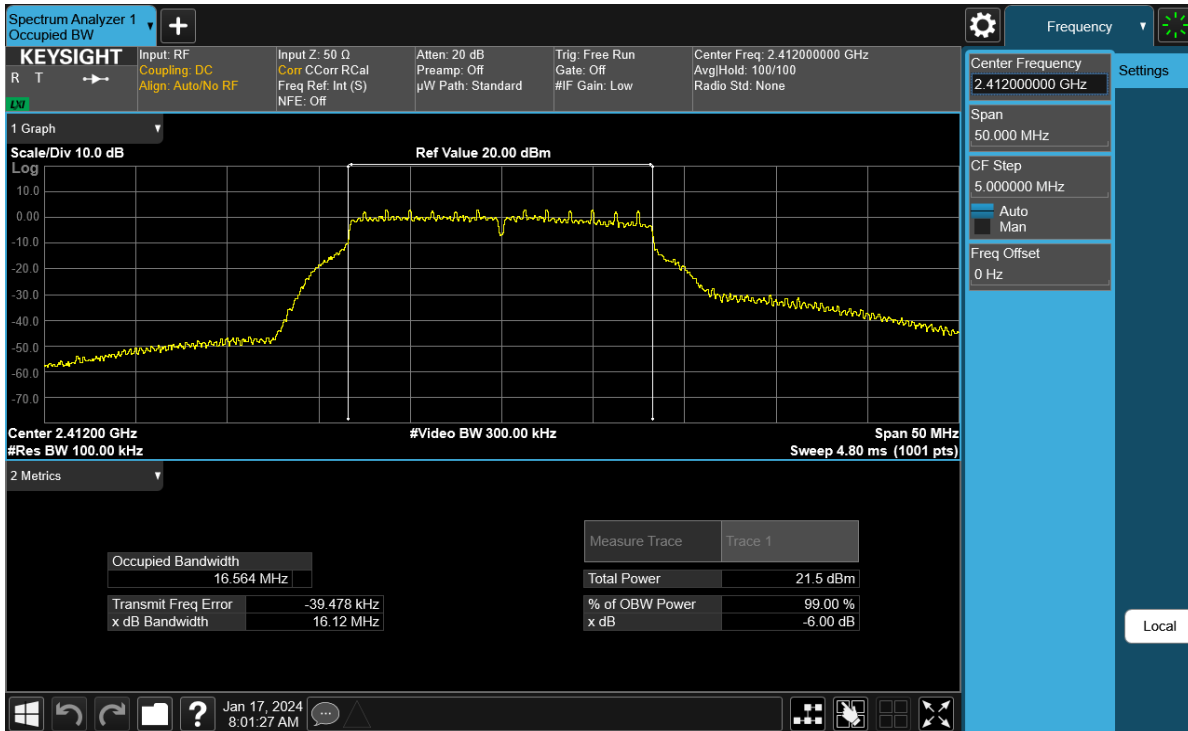
**Table 7-9. Conducted Bandwidth Measurements Antenna WF9 (Mid Data Rate)**

Frequency [MHz]	Channel	802.11 MODE	Data Rate [Mbps]	Measured 99% Occupied Bandwidth [MHz]	Measured 6dB Bandwidth [MHz]	Minimum 6dB Bandwidth [MHz]	Pass/Fail
2412	1	b	11	12.81	8.61	0.50	Pass
2437	6	b	11	12.79	8.85	0.50	Pass
2462	11	b	11	12.78	9.08	0.50	Pass
2412	1	g	54	16.48	16.55	0.50	Pass
2437	6	g	54	16.51	16.54	0.50	Pass
2462	11	g	54	16.47	16.54	0.50	Pass
2412	1	n	65/72.2 (MCS7)	17.69	17.78	0.50	Pass
2437	6	n	65/72.2 (MCS7)	17.72	17.77	0.50	Pass
2462	11	n	65/72.2 (MCS7)	17.68	17.78	0.50	Pass
2412	1	ax (SU)	81/86 (MCS9)	18.96	19.11	0.50	Pass
2437	6	ax (SU)	81/86 (MCS9)	18.96	19.09	0.50	Pass
2462	11	ax (SU)	81/86 (MCS9)	18.97	19.13	0.50	Pass

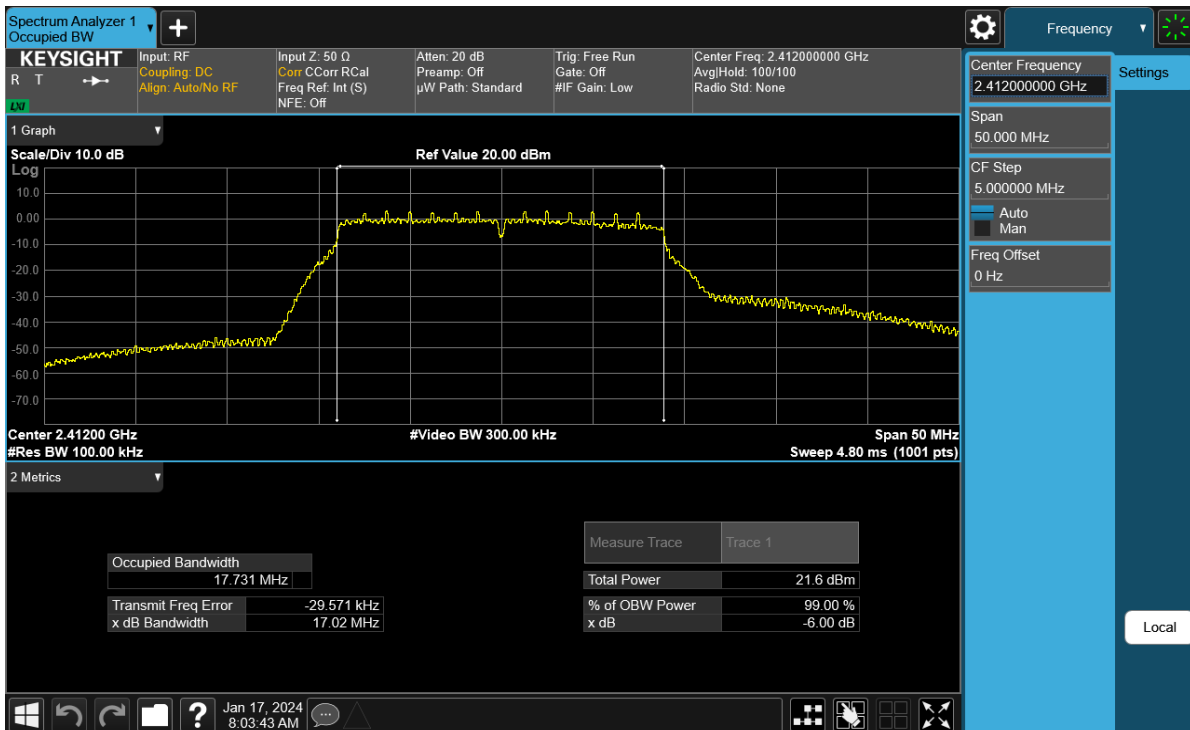
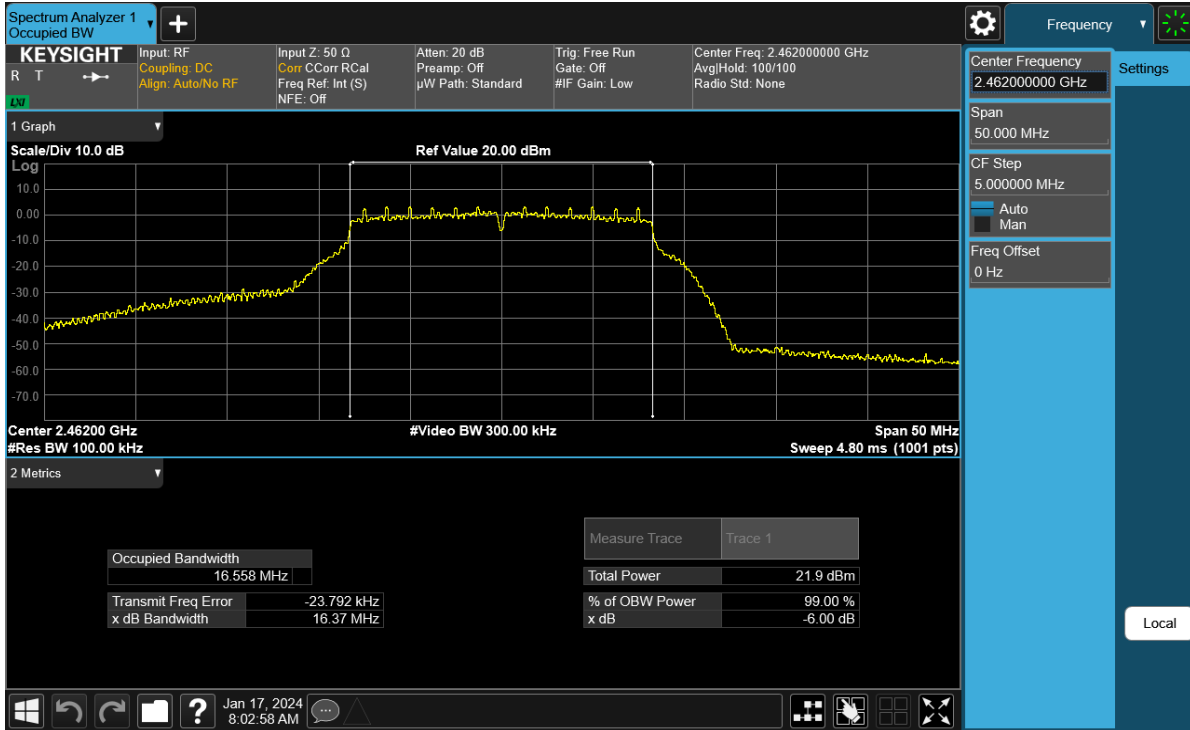
**Table 7-10. Conducted Bandwidth Measurements Antenna WF9 (High Data Rate)**

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 53 of 583

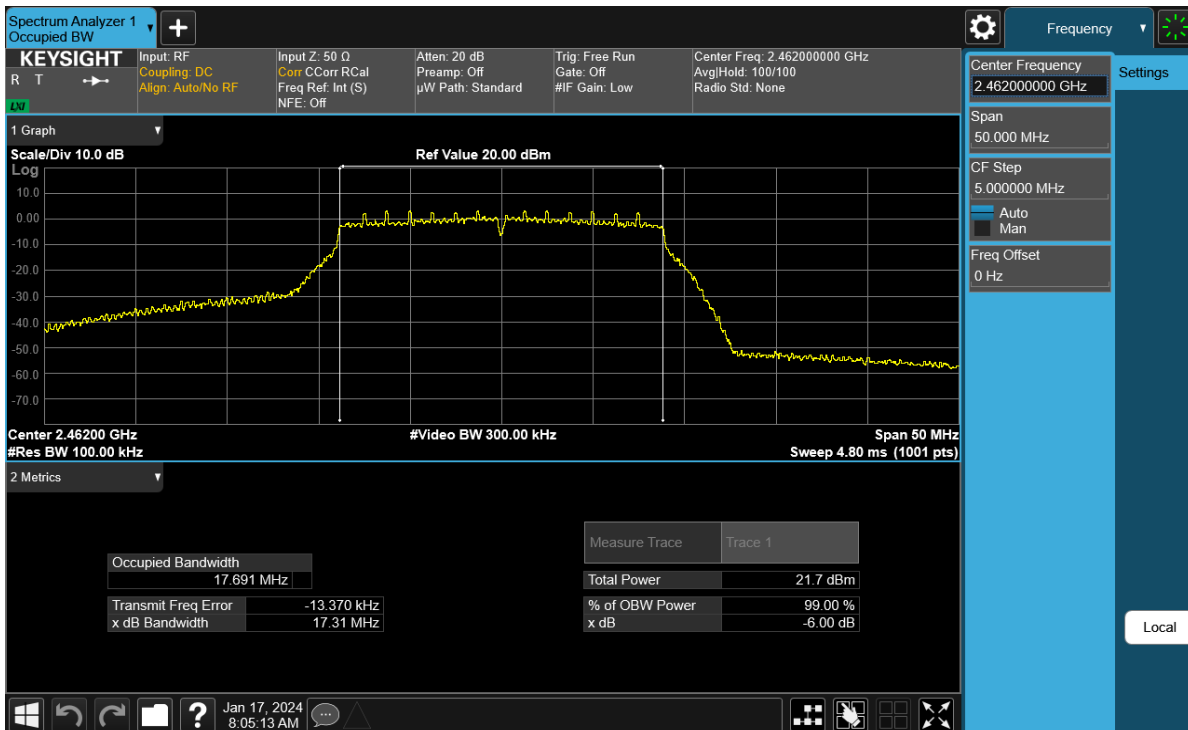
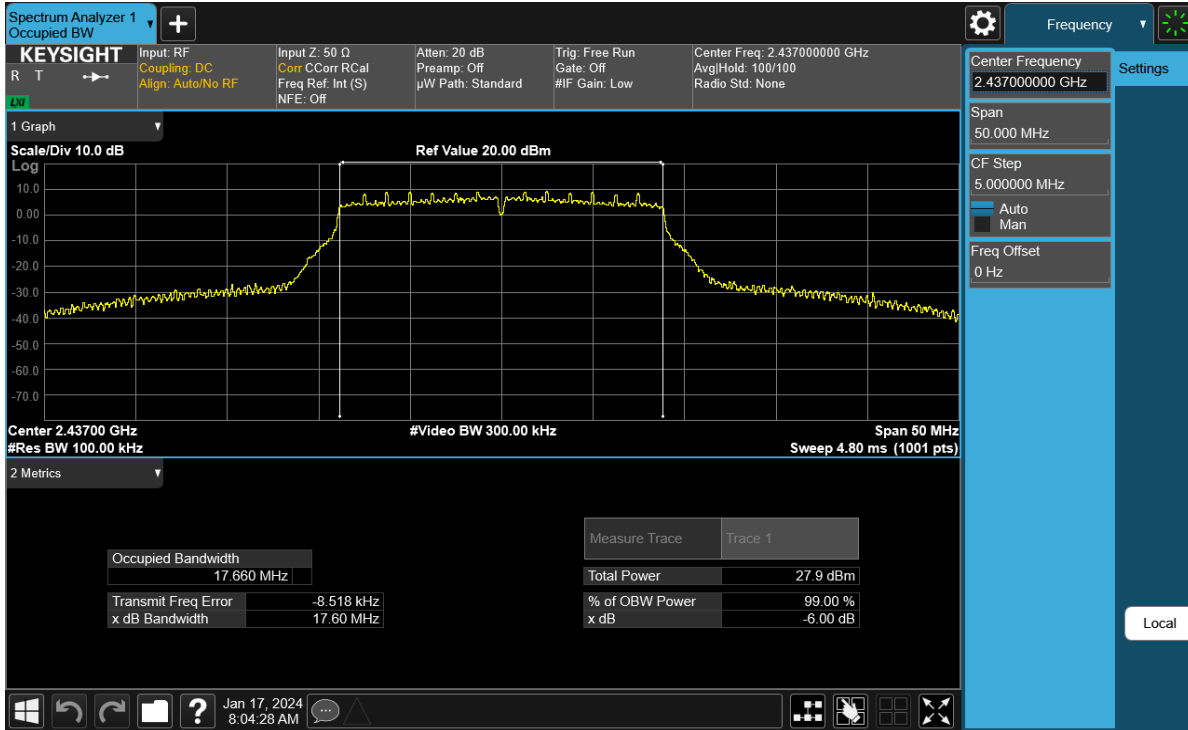
Low Rate



FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 54 of 583

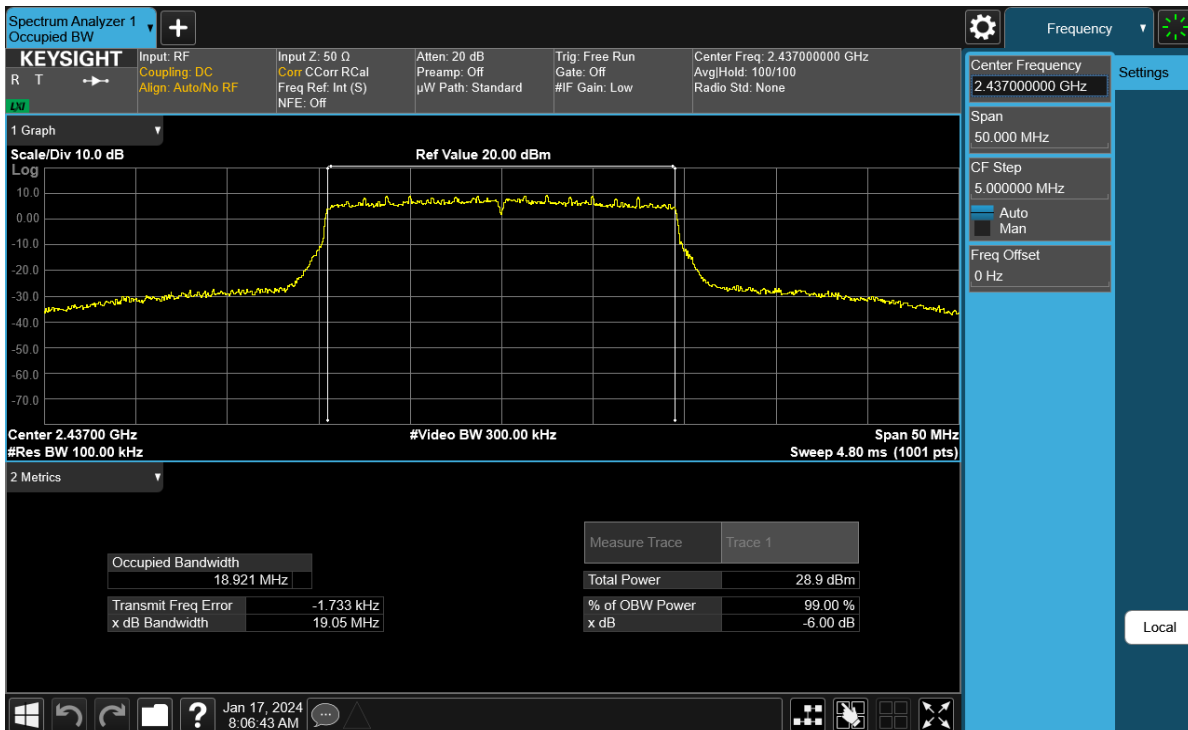
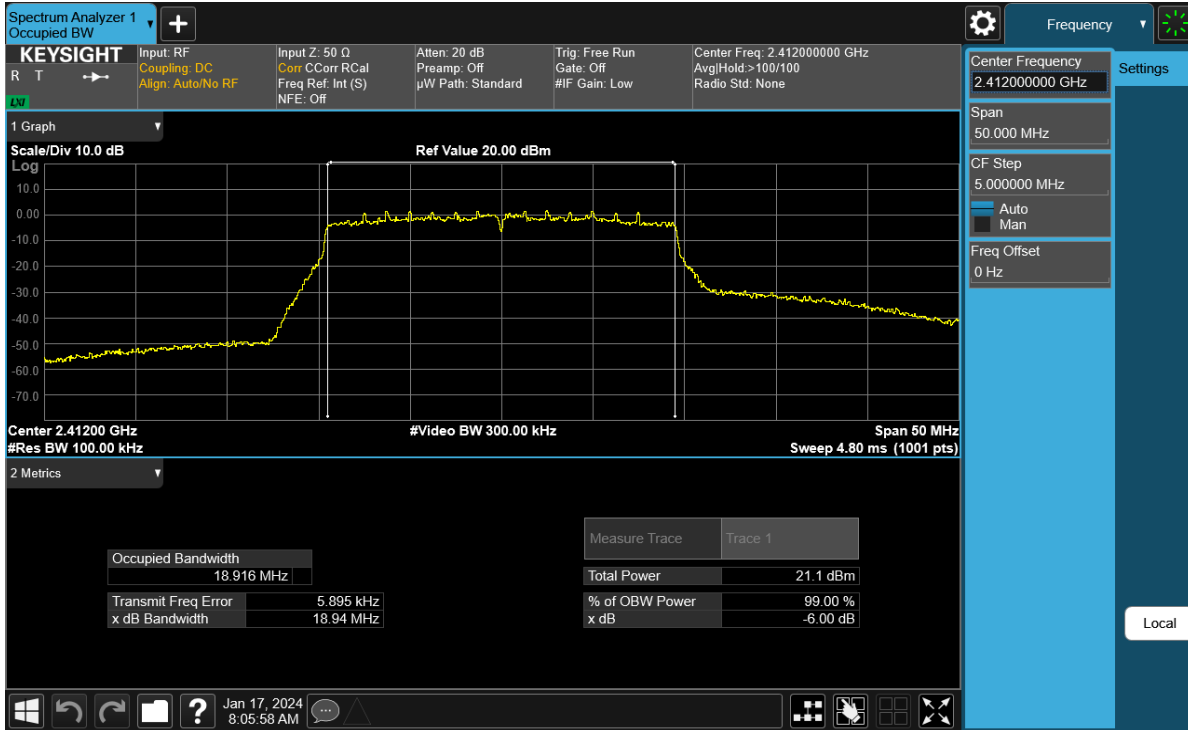


FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 55 of 583

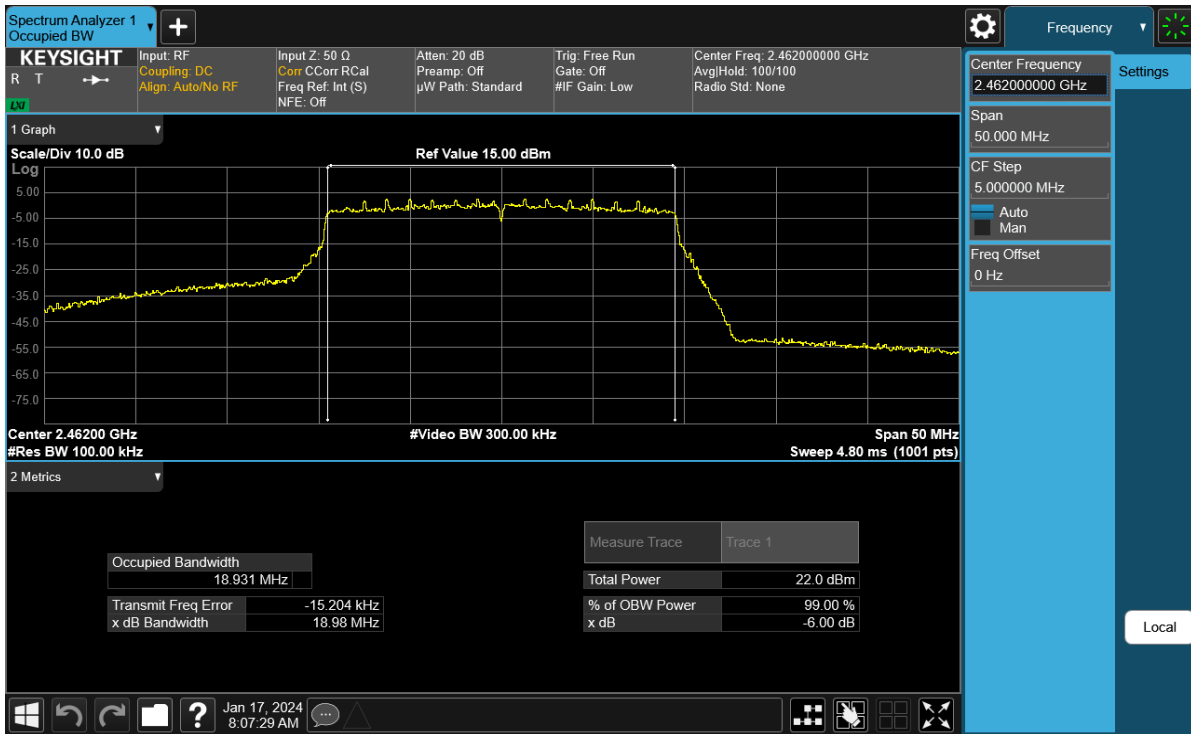


FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 56 of 583





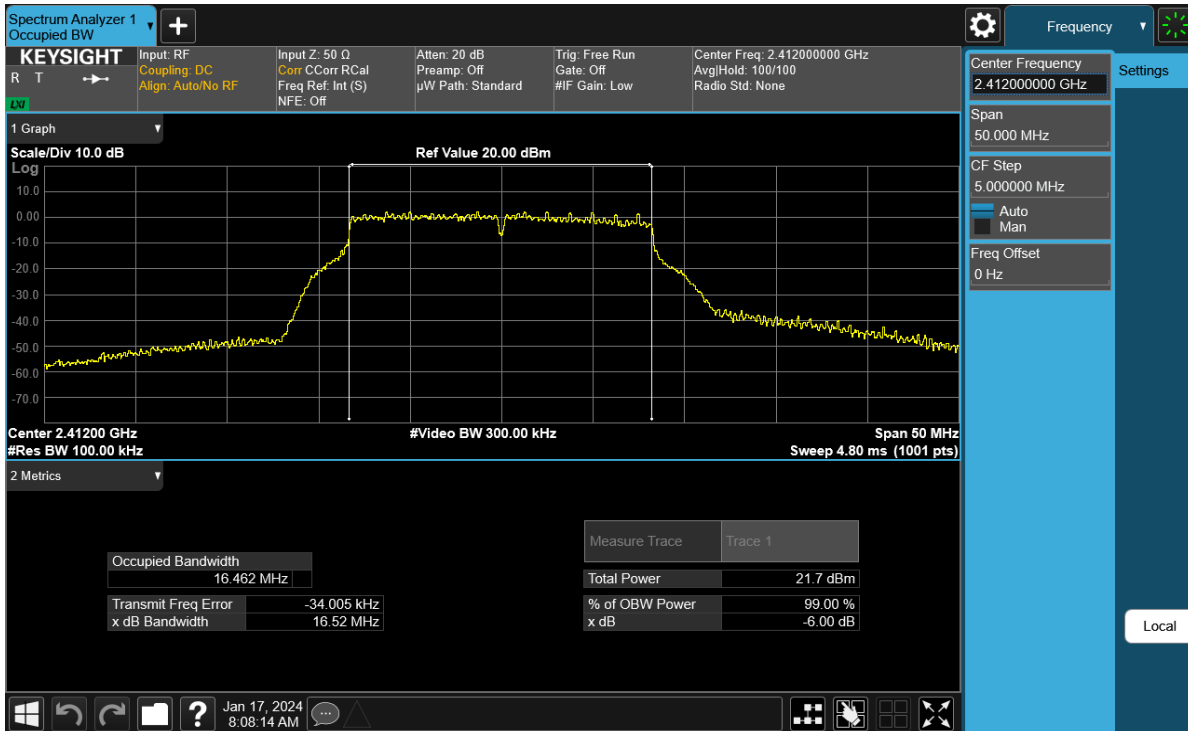
FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 57 of 583



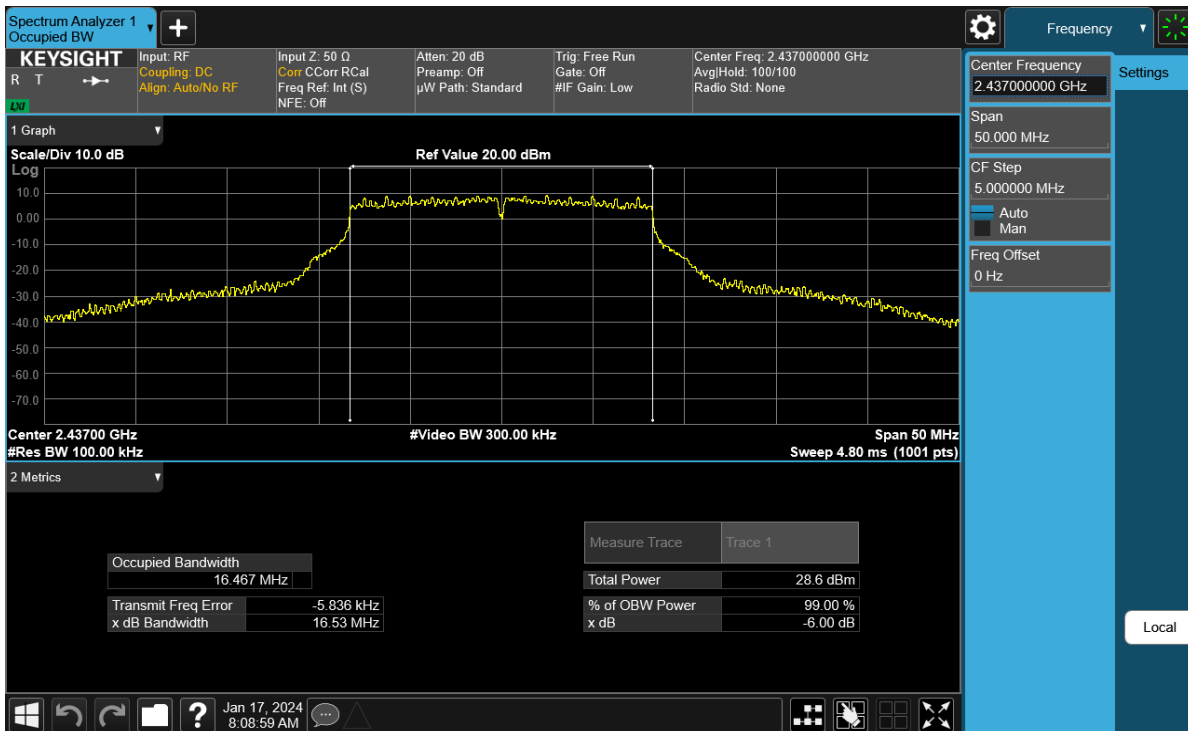
Plot 7-69. 6 dB BW and 99% OBW Plot Antenna WF9 (802.11ax (SU - 2.4GHz) – Ch. 11) – MCS2

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 58 of 583

Mid Rate

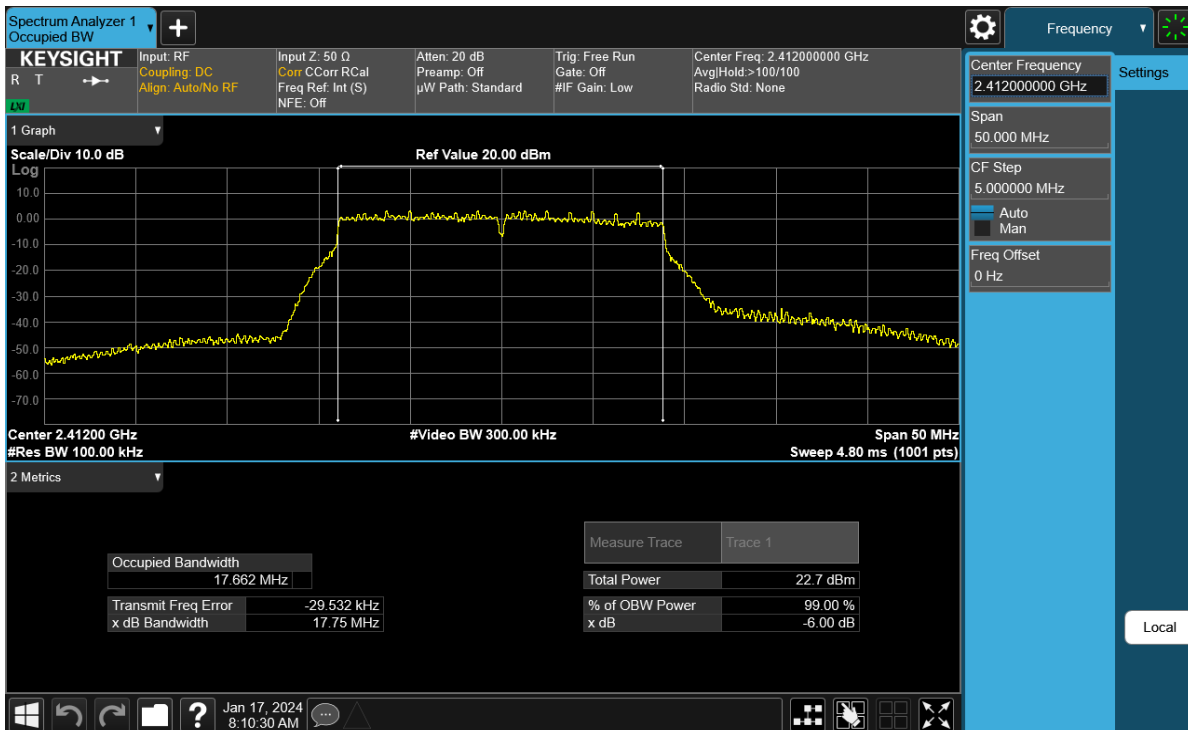
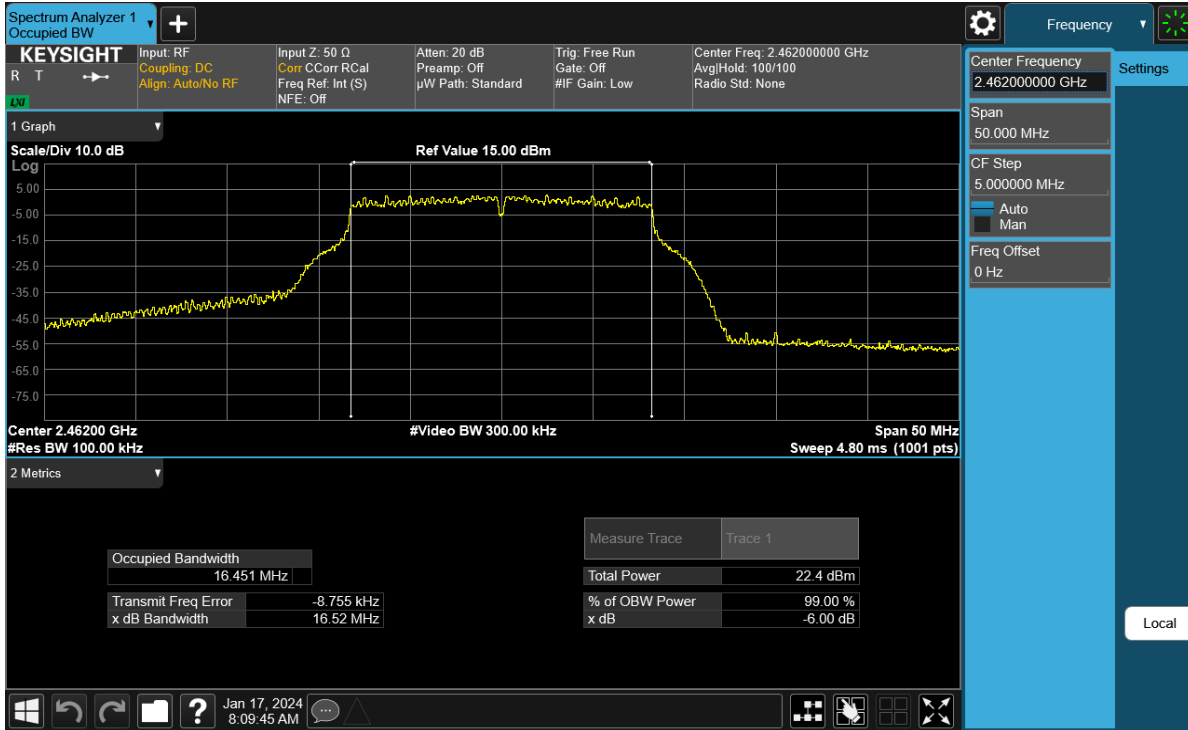


Plot 7-70. 6 dB BW and 99% OBW Plot Antenna WF9 (802.11g – Ch. 1) – 24Mbps

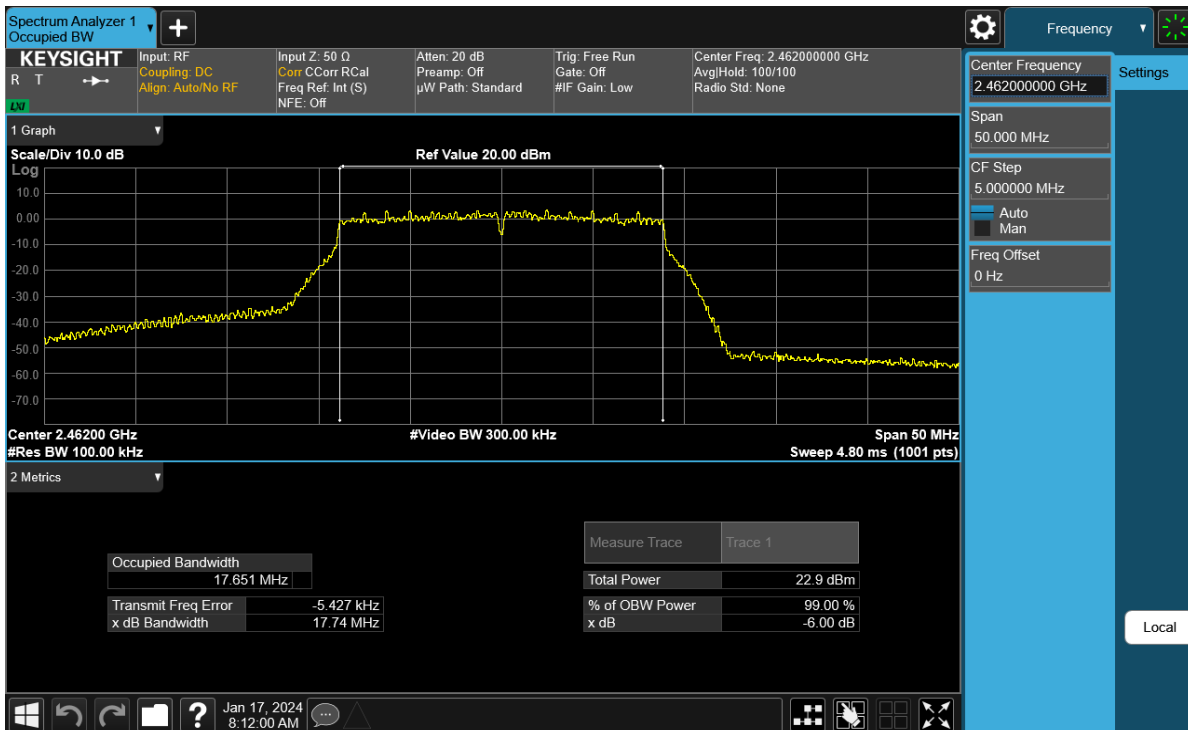
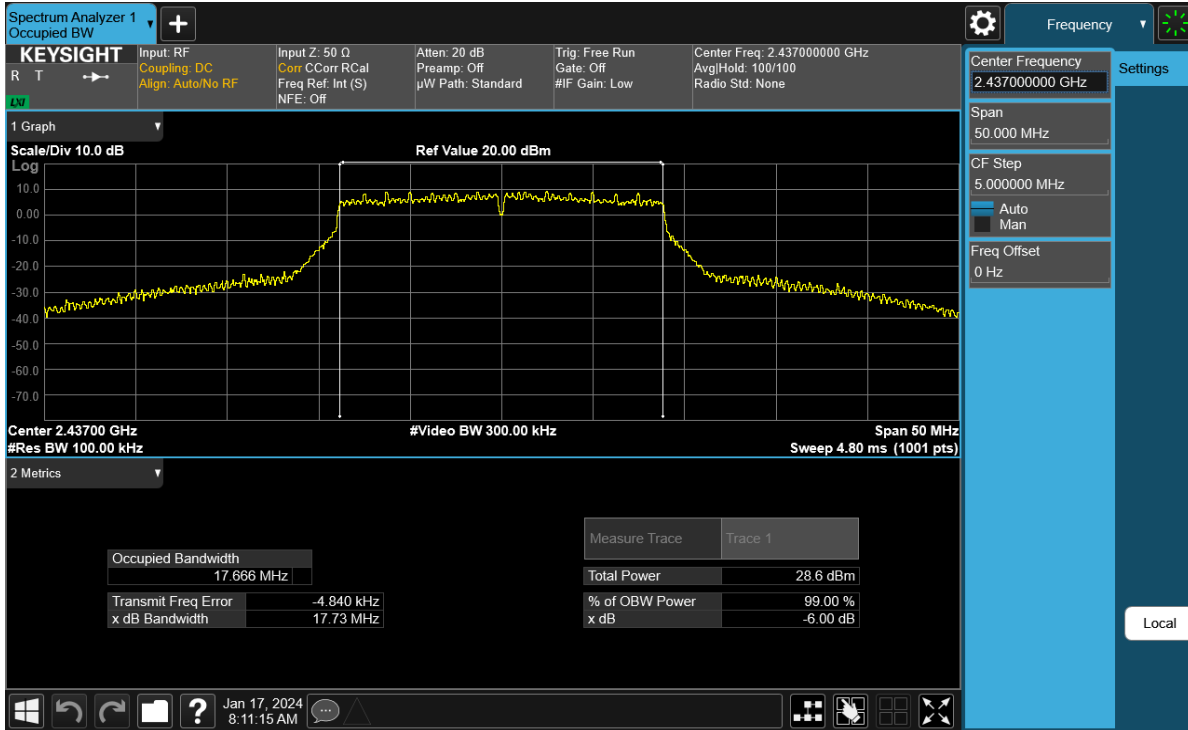


Plot 7-71. 6 dB BW and 99% OBW Plot Antenna WF9 (802.11g – Ch. 6) – 24Mbps

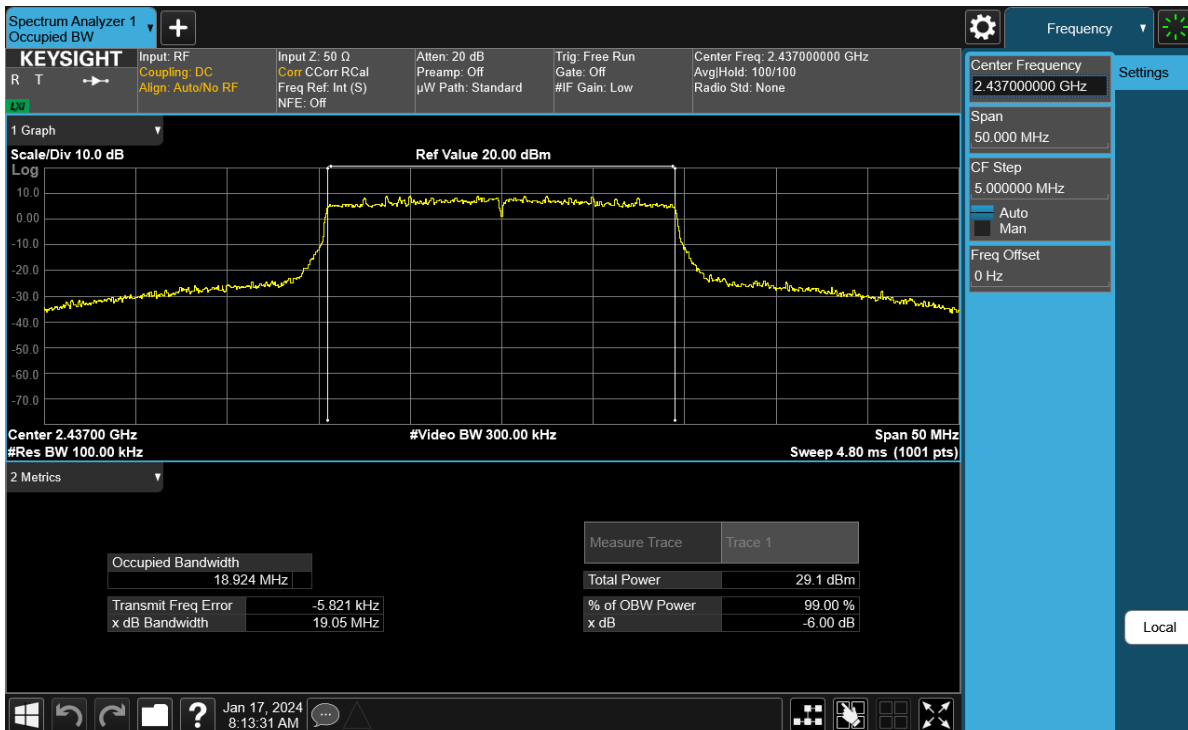
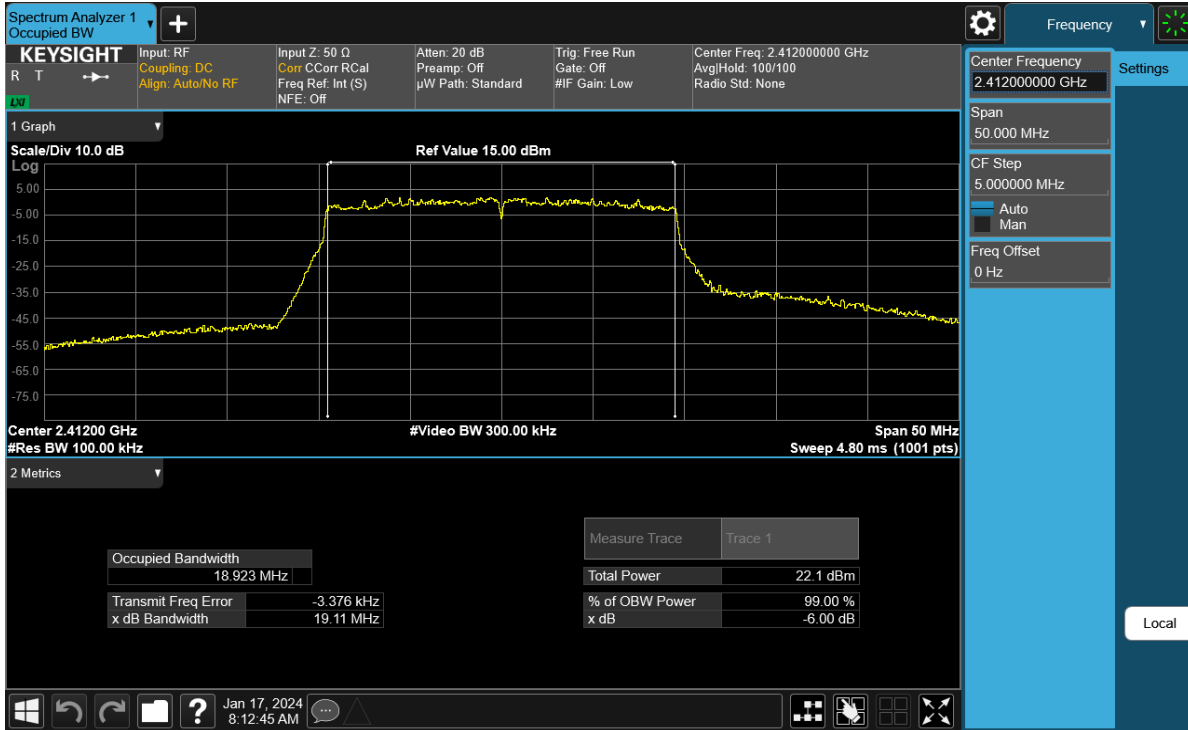
FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 59 of 583



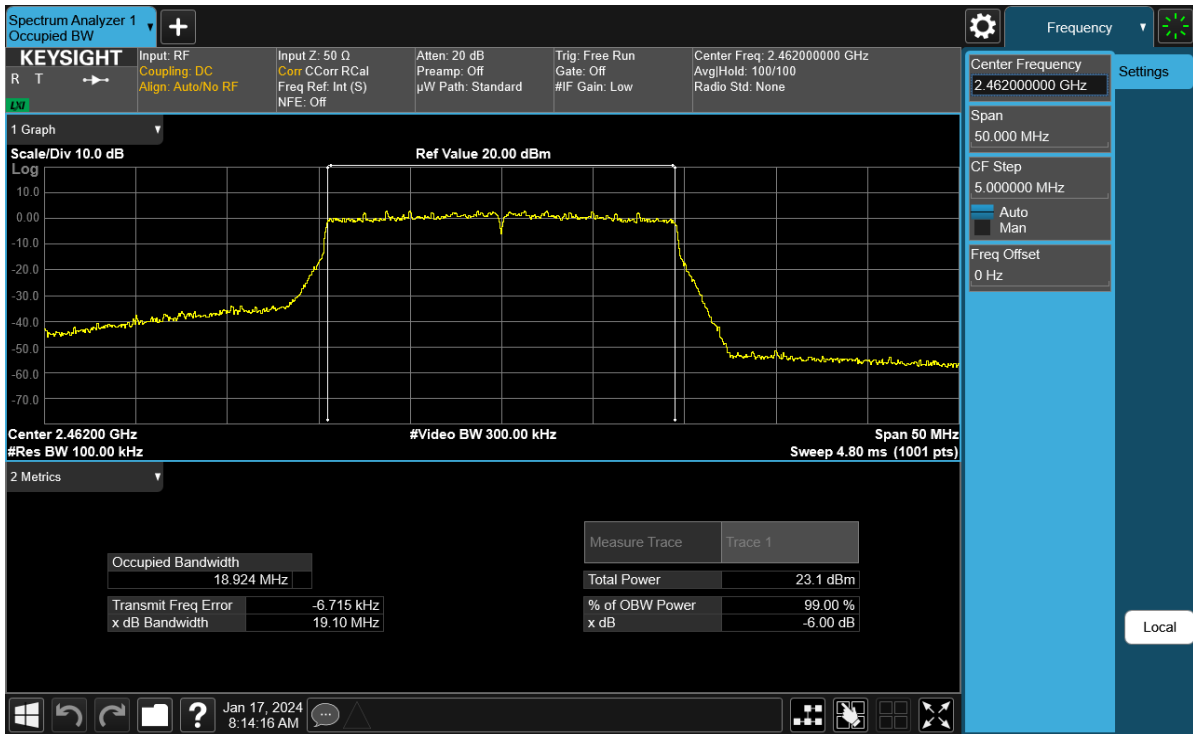
FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 60 of 583



FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 61 of 583



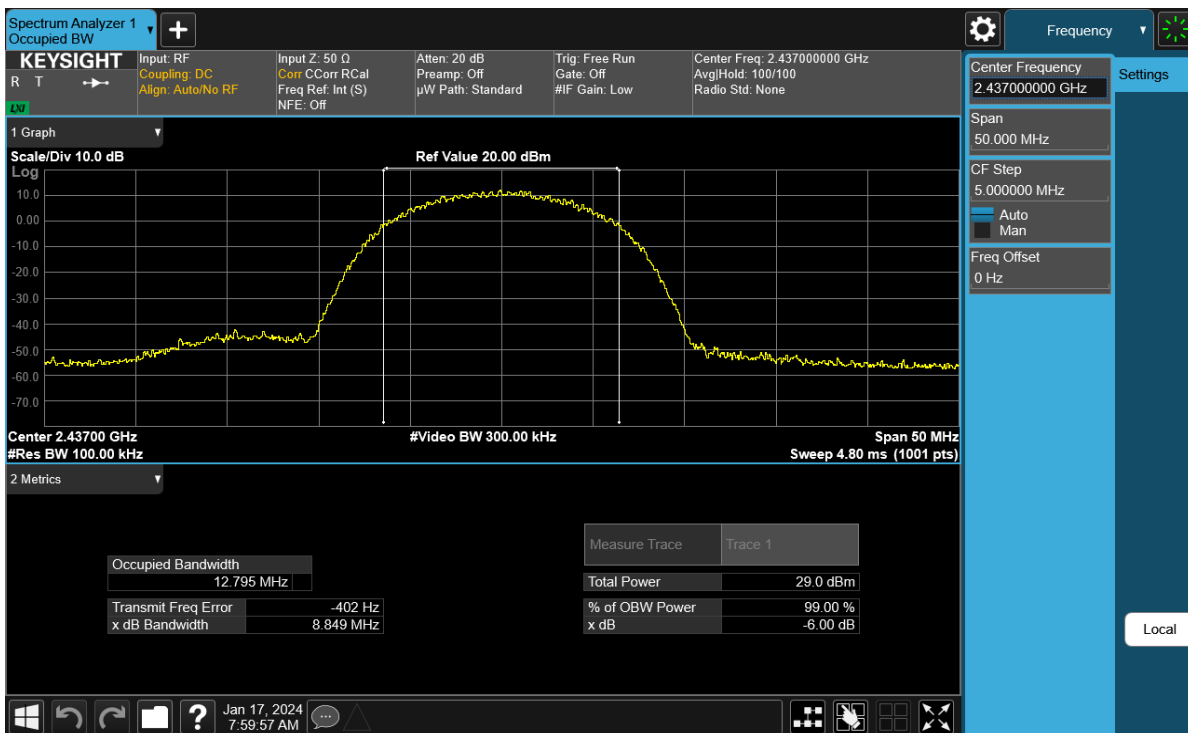
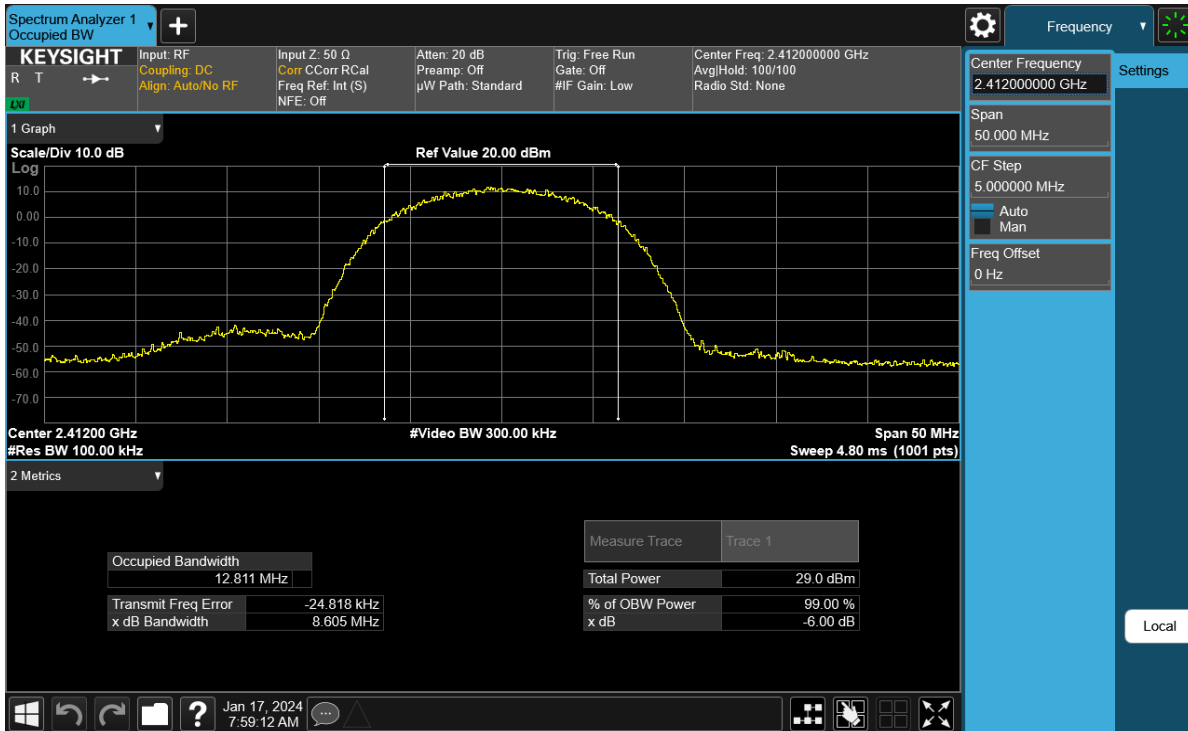
FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 62 of 583



Plot 7-78. 6 dB BW and 99% OBW Plot Antenna WF9 (802.11ax (SU - 2.4GHz) - Ch. 11) - MCS4

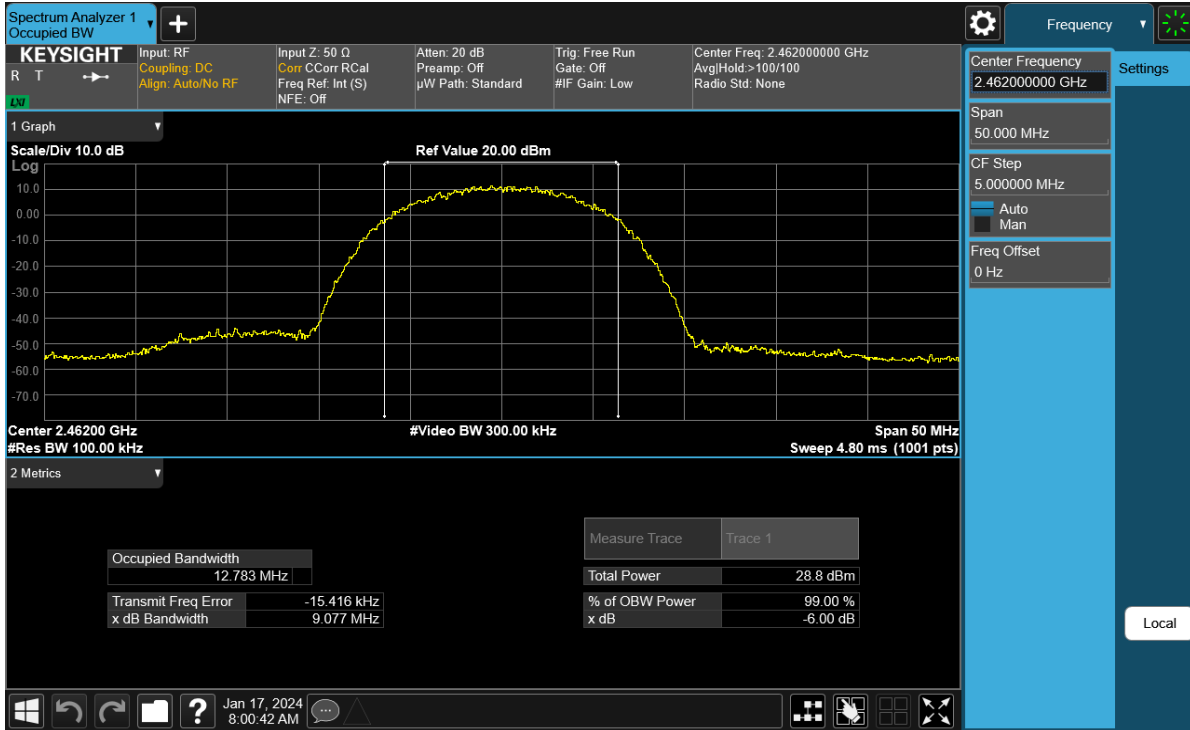
FCC ID: BCGA2836 IC: 579C-A2836	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device
		Page 63 of 583

### High Rate

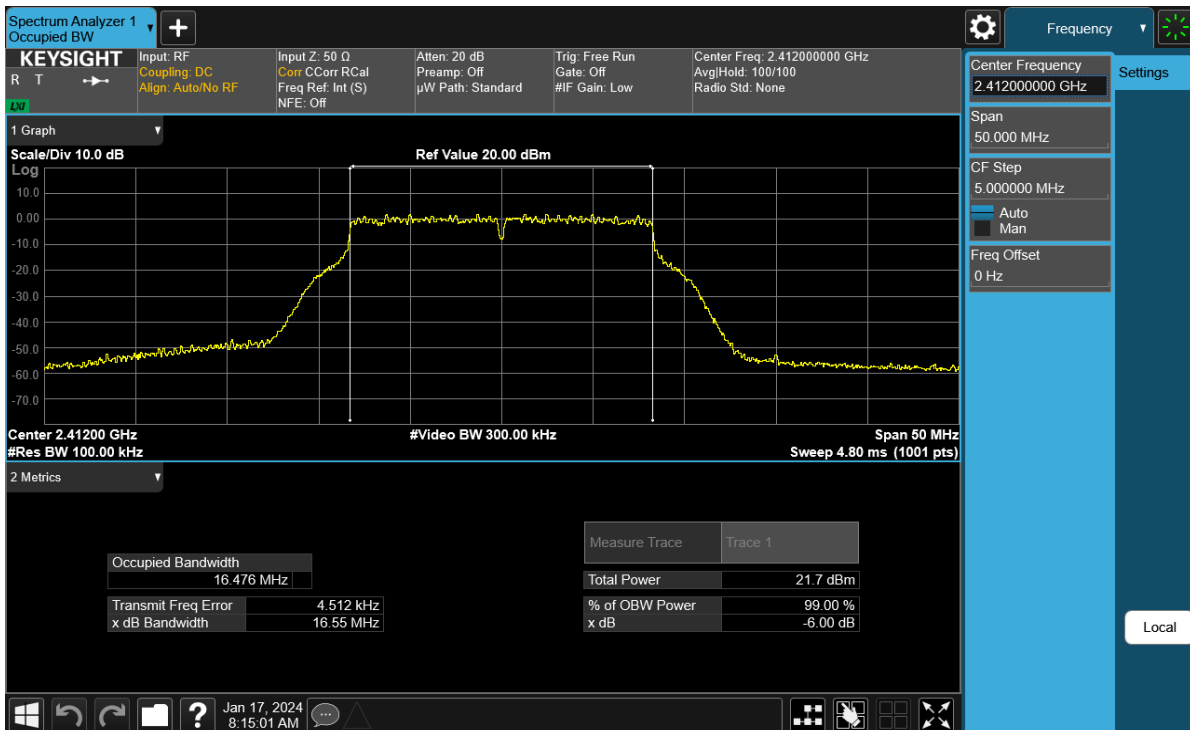


FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 64 of 583



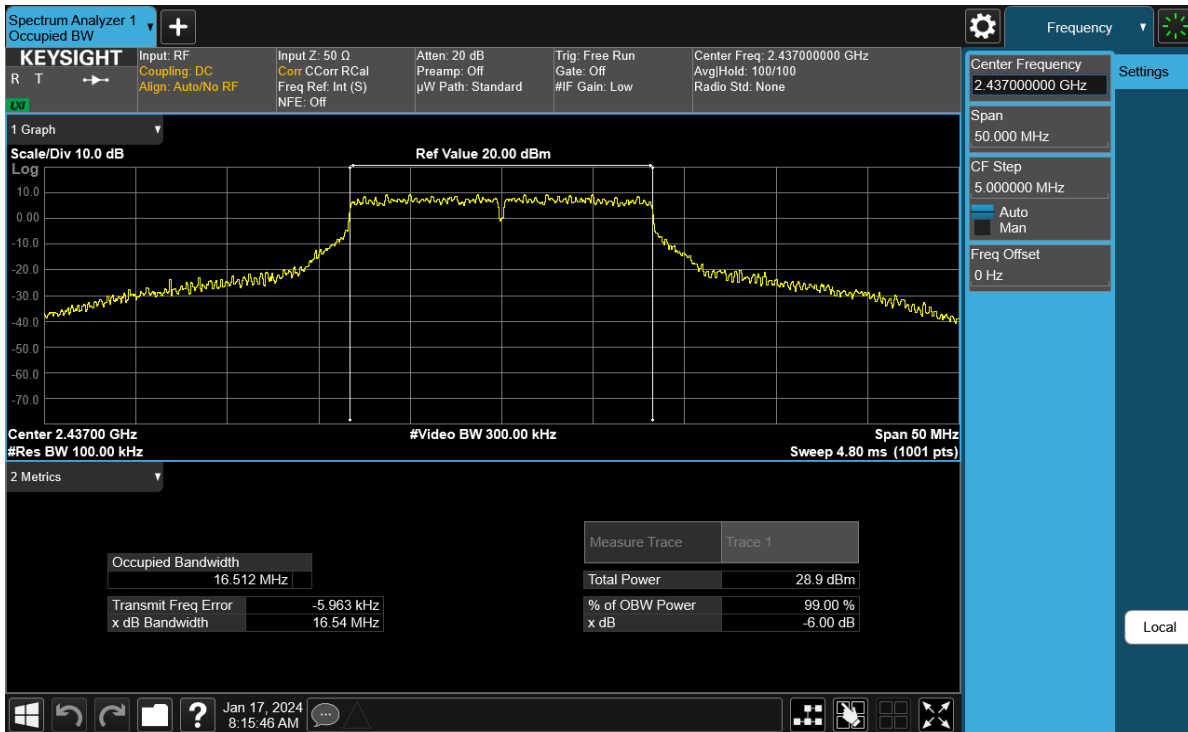


Plot 7-81. 6 dB BW and 99% OBW Plot Antenna WF9 (802.11b – Ch. 11) – 11Mbps

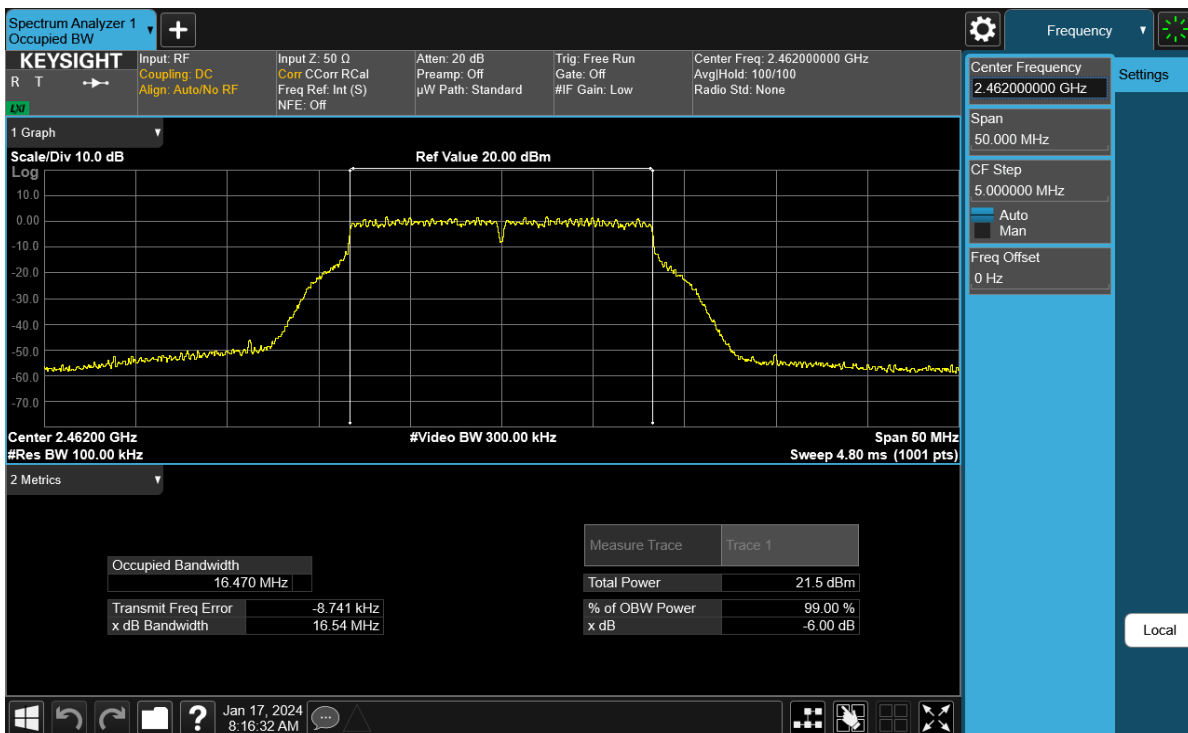


Plot 7-82. 6 dB BW and 99% OBW Plot Antenna WF9 (802.11g – Ch. 1) – 54Mbps

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 65 of 583

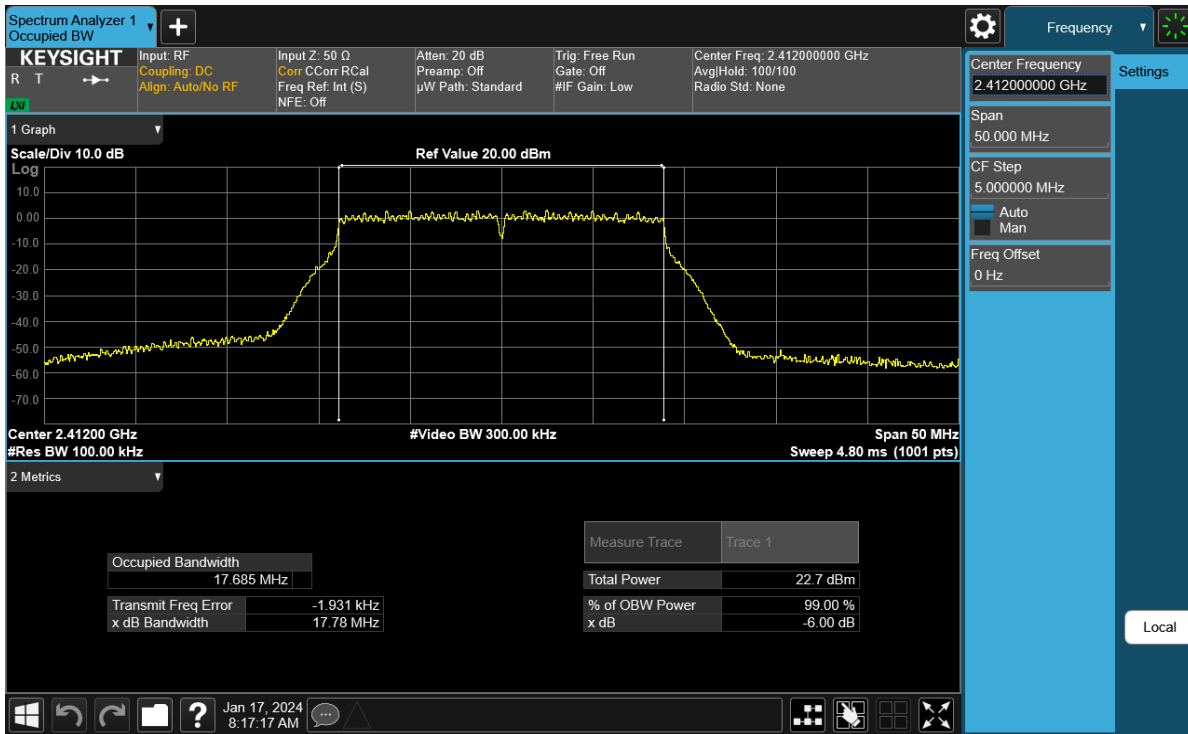


**Plot 7-83. 6 dB BW and 99% OBW Plot Antenna WF9 (802.11g – Ch. 6) – 54Mbps**

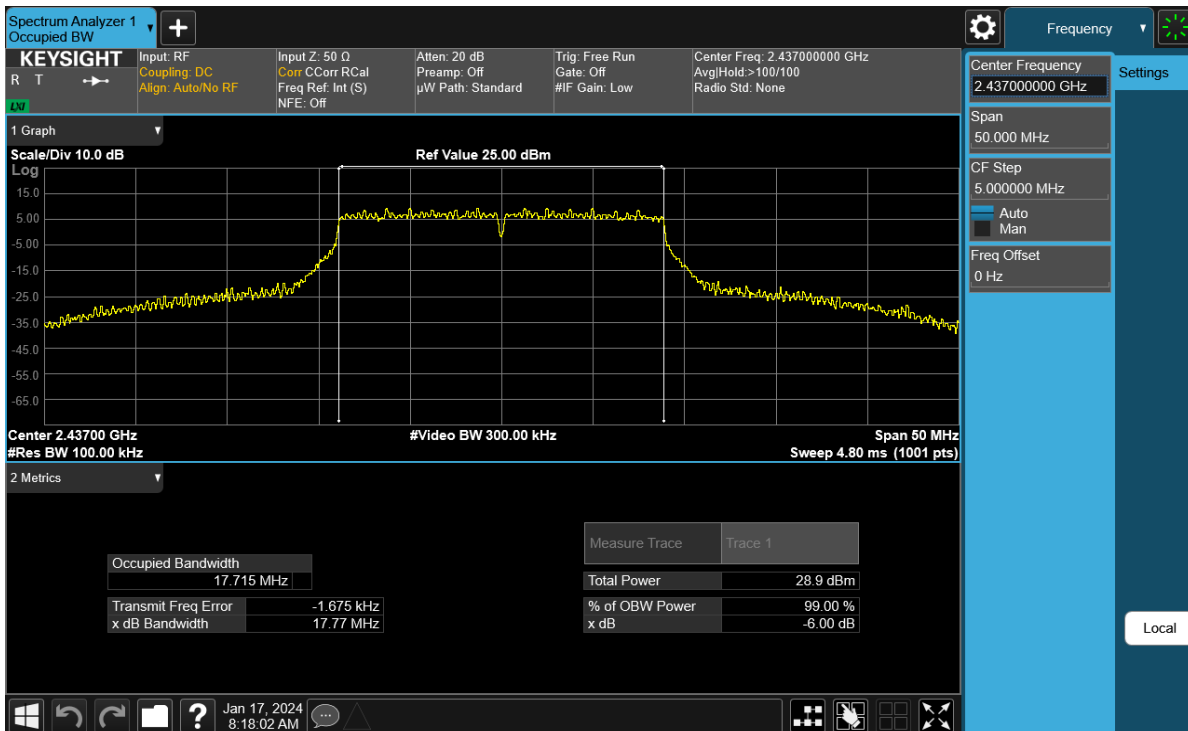


**Plot 7-84. 6 dB BW and 99% OBW Plot Antenna WF9 (802.11g – Ch. 11) – 54Mbps**

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 66 of 583

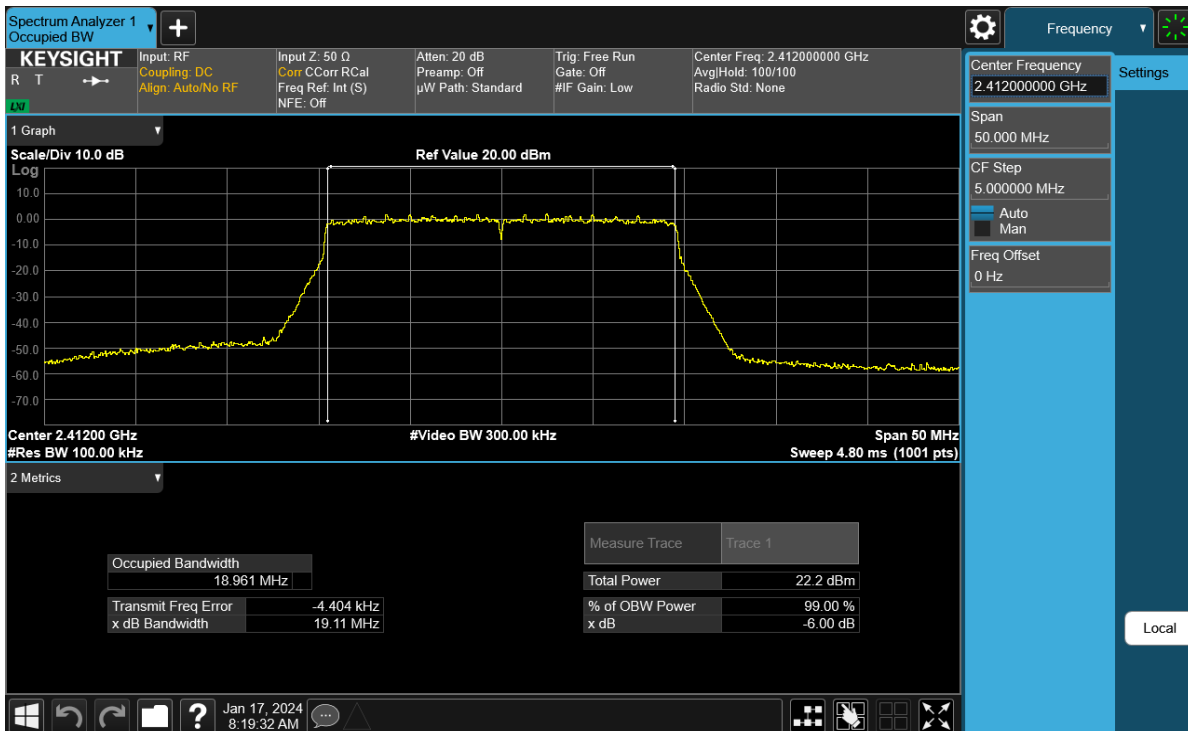
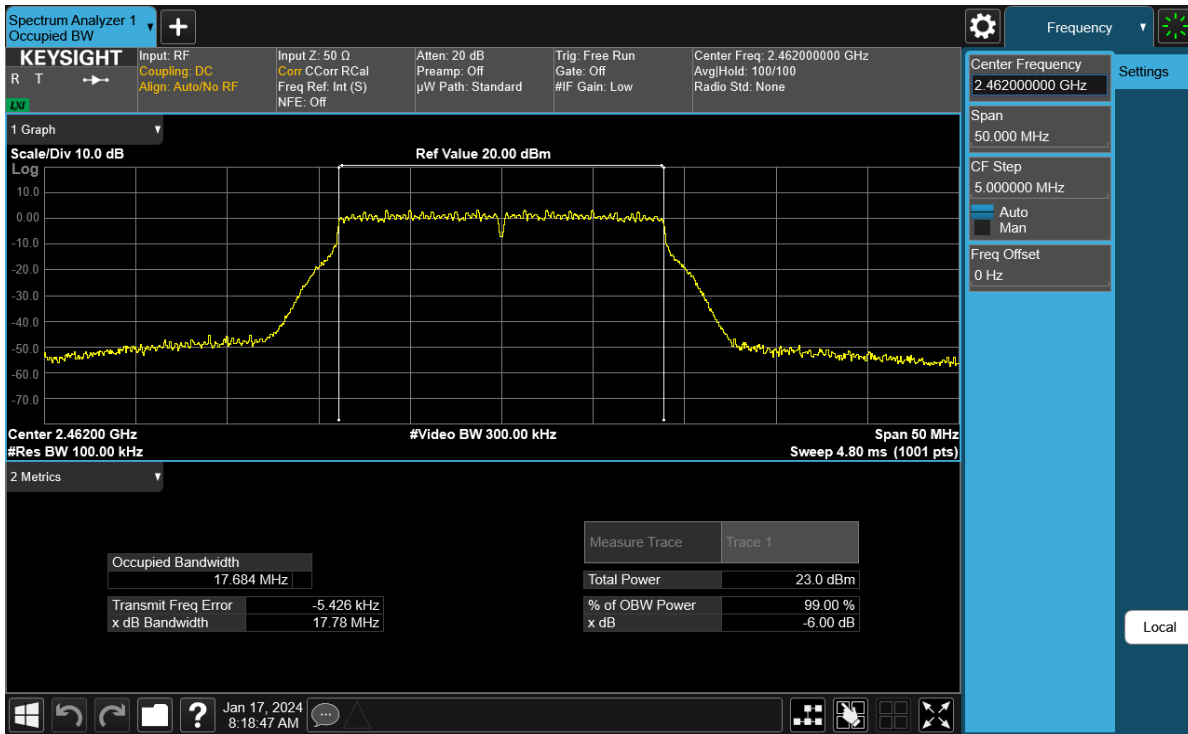


Plot 7-85. 6 dB BW and 99% OBW Plot Antenna WF9 (802.11n (2.4GHz) – Ch. 1) – MCS7

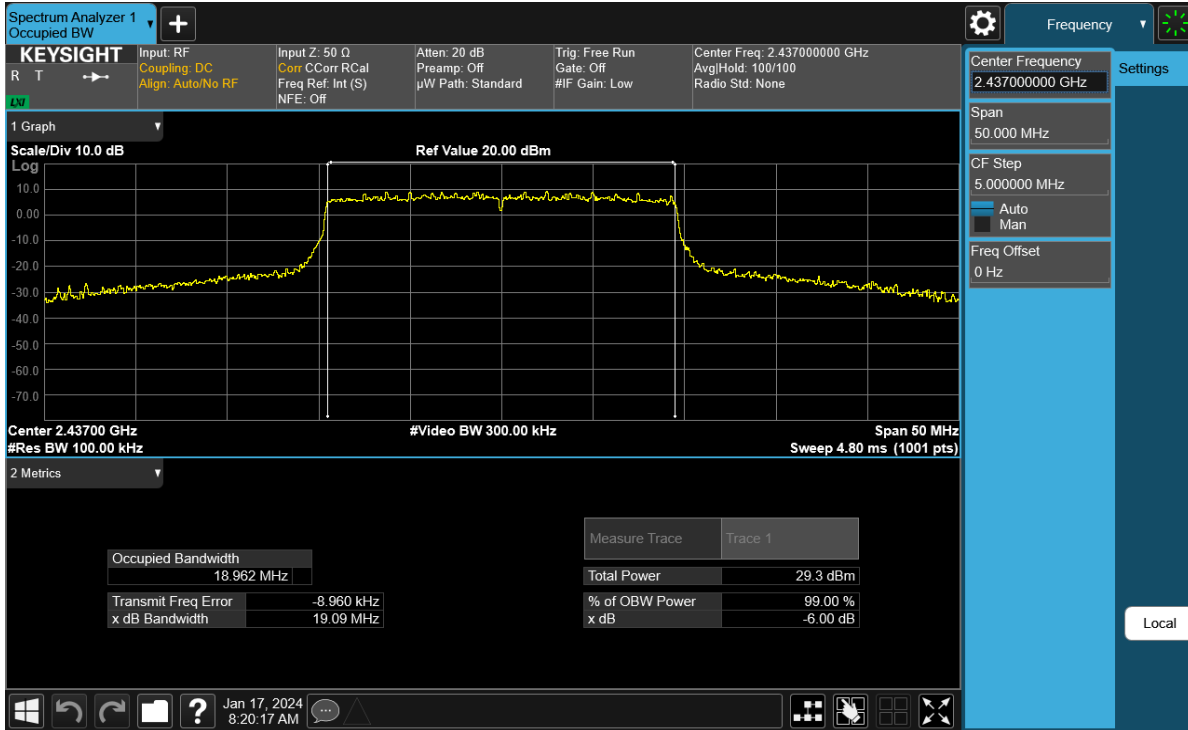


Plot 7-86. 6 dB BW and 99% OBW Plot Antenna WF9 (802.11n (2.4GHz) – Ch. 6) – MCS7

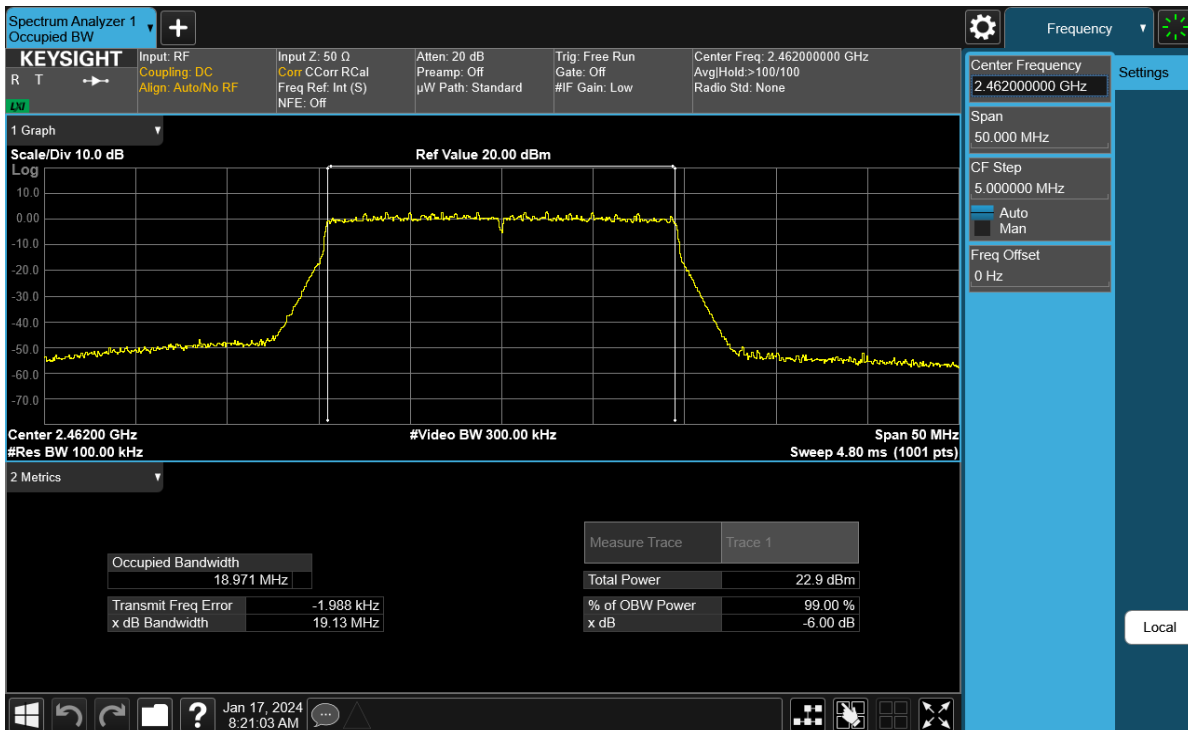
FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 67 of 583



FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 68 of 583



**Plot 7-89. 6 dB BW and 99% OBW Plot Antenna WF9 (802.11ax (SU - 2.4GHz) – Ch. 6) – MCS9**



**Plot 7-90. 6 dB BW and 99% OBW Plot Antenna WF9 (802.11ax (SU - 2.4GHz) – Ch. 11) – MCS9**

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 69 of 583

### 7.3 Output Power Measurement

**§15.247(b.3); RSS-247 [5.4]**

#### Test Overview and Limits

A transmitter antenna terminal of EUT is connected to the input of an RF power sensor. Measurement is made using a broadband power meter capable of making peak and average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

**The maximum peak conducted output power of digital modulation systems operating in the 2400-2483.5 MHz band is 1 Watt.**

**The conducted output power limit on paragraph above is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.**

**For DTSs employing digital modulation techniques operating in the band 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1 W. The e.i.r.p. shall not exceed 4 W.**

#### Test Procedure Used

ANSI C63.10-2013 – Subclause 11.9.1.3 PKPM1 Peak Power Method  
 KDB 558074 D01 v05r02 – Section 8.3.1.3 PKPM1 Peak-reading Power Meter Method  
 ANSI C63.10-2013 – Subclause 11.9.2.3.2 Method AVGPM-G  
 KDB 558074 D01 v05r02 – Section 8.3.2.3 Measurement using a Power Meter (PM)  
 ANSI C63.10-2013 – Subclause 14.2 Measure-and-Sum Technique  
 KDB 662911 D01 v02r01 – Section E)1) Measure-and-Sum Technique

#### Test Settings

##### Method PKPM1 (Peak Power Measurement)

Peak power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The pulse sensor employs a VBW = 50MHz so this method was only used for signals whose DTS bandwidth was less than or equal to 50MHz.

##### Method AVGPM-G (Average Power Measurement)

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

#### Test Setup

The EUT and measurement equipment were set up as shown in the diagrams below.



**Figure 7-2. Test Instrument & Measurement Setup for Power Meter Measurements**

#### Test Notes

1. For 802.11b, the worst case data rate was found to be 11Mbps.
2. 802.11ax does not support channel 13.

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 70 of 583

V 10.6 09/14/2023

### 7.3.1 Average Output Power Measurement

\$15.247(b.3); RSS-247 [5.4]

#### Low Rate

Freq [MHz]	Channel	Detector	Conducted Power [dBm]			Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
			802.11g	802.11n	802.11ax (SU)						
2412	1	AVG	14.75	14.75	14.50	30.00	-15.25	3.50	18.25	36.02	-17.77
2417	2	AVG	19.40	19.30	18.29	30.00	-10.61	3.50	22.90	36.02	-13.13
2422	3	AVG	19.36	19.39	19.42	30.00	-10.58	3.50	22.92	36.02	-13.10
2427	4	AVG	19.99	19.95	19.98	30.00	-10.01	3.50	23.49	36.02	-12.53
2432	5	AVG	19.80	19.91	19.86	30.00	-10.10	3.50	23.41	36.02	-12.62
2437	6	AVG	19.72	19.59	19.81	30.00	-10.19	3.50	23.31	36.02	-12.71
2442	7	AVG	19.66	19.57	19.75	30.00	-10.25	3.50	23.25	36.02	-12.77
2447	8	AVG	19.86	19.95	19.50	30.00	-10.05	3.50	23.45	36.02	-12.57
2452	9	AVG	19.43	19.44	19.46	30.00	-10.54	3.50	22.96	36.02	-13.06
2457	10	AVG	19.28	19.28	17.42	30.00	-10.72	3.50	22.78	36.02	-13.24
2462	11	AVG	15.40	15.36	14.31	30.00	-14.61	3.50	18.90	36.02	-17.13
2467	12	AVG	12.78	12.75	12.86	30.00	-17.14	3.50	16.36	36.02	-19.66
2472	13	AVG	8.40	8.40	-	30.00	-21.60	3.50	11.90	36.02	-24.12

**Table 7-11. Average Conducted Output Power Measurements Antenna WF8 – Low Data Rate**

Freq [MHz]	Channel	Detector	Conducted Power [dBm]			Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
			802.11g	802.11n	802.11ax (SU)						
2412	1	AVG	14.64	14.71	14.32	30.00	-15.29	3.00	17.71	36.02	-18.31
2417	2	AVG	19.70	19.75	18.50	30.00	-10.25	3.00	22.75	36.02	-13.27
2422	3	AVG	19.98	19.73	19.47	30.00	-10.02	3.00	22.98	36.02	-13.04
2427	4	AVG	20.31	20.39	19.91	30.00	-9.61	3.00	23.39	36.02	-12.63
2432	5	AVG	20.12	20.19	20.31	30.00	-9.69	3.00	23.31	36.02	-12.71
2437	6	AVG	20.07	20.00	20.06	30.00	-9.94	3.00	23.07	36.02	-12.96
2442	7	AVG	20.00	19.91	20.07	30.00	-9.93	3.00	23.07	36.02	-12.95
2447	8	AVG	19.92	20.02	19.38	30.00	-9.99	3.00	23.02	36.02	-13.01
2452	9	AVG	19.29	19.26	19.24	30.00	-10.71	3.00	22.29	36.02	-13.73
2457	10	AVG	19.37	19.35	17.47	30.00	-10.63	3.00	22.37	36.02	-13.65
2462	11	AVG	15.50	15.50	14.49	30.00	-14.50	3.00	18.50	36.02	-17.52
2467	12	AVG	12.77	13.00	12.91	30.00	-17.00	3.00	16.00	36.02	-20.02
2472	13	AVG	8.30	8.31	-	30.00	-21.69	3.00	11.31	36.02	-24.71

**Table 7-12. Average Conducted Output Power Measurements Antenna WF7 – Low Data Rate**

Freq [MHz]	Channel	Detector	Conducted Power [dBm]			Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
			802.11g	802.11n	802.11ax (SU)						
2412	1	AVG	14.51	14.51	14.46	30.00	-15.49	1.50	16.01	36.02	-20.01
2417	2	AVG	19.75	19.75	18.50	30.00	-10.25	1.50	21.25	36.02	-14.77
2422	3	AVG	20.17	20.15	19.43	30.00	-9.83	1.50	21.67	36.02	-14.35
2427	4	AVG	20.32	20.41	20.00	30.00	-9.59	1.50	21.91	36.02	-14.11
2432	5	AVG	20.26	20.36	20.29	30.00	-9.64	1.50	21.86	36.02	-14.16
2437	6	AVG	20.20	20.30	20.49	30.00	-9.51	1.50	21.99	36.02	-14.03
2442	7	AVG	20.14	20.24	20.44	30.00	-9.56	1.50	21.94	36.02	-14.08
2447	8	AVG	20.18	20.19	19.50	30.00	-9.81	1.50	21.69	36.02	-14.33
2452	9	AVG	19.58	19.53	19.33	30.00	-10.42	1.50	21.08	36.02	-14.94
2457	10	AVG	19.41	19.38	17.33	30.00	-10.59	1.50	20.91	36.02	-15.11
2462	11	AVG	15.49	15.44	14.30	30.00	-14.51	1.50	16.99	36.02	-19.03
2467	12	AVG	13.00	13.00	12.79	30.00	-17.00	1.50	14.50	36.02	-21.52
2472	13	AVG	8.42	8.41	-	30.00	-21.58	1.50	9.92	36.02	-26.10

**Table 7-13. Average Conducted Output Power Measurements Antenna WF9 – Low Data Rate**

FCC ID: BCGA2836 IC: 579C-A2836		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 71 of 583

Freq [MHz]	Channel	Detector	Conducted Power [dBm]			Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
			Ant WF8	Ant WF7	Summed						
2412	1	AVG	14.40	14.50	17.46	29.74	-12.28	6.26	23.72	36.02	-12.30
2417	2	AVG	18.00	18.00	21.01	29.74	-8.73	6.26	27.27	36.02	-8.75
2422	3	AVG	19.36	19.32	22.35	29.74	-7.39	6.26	28.61	36.02	-7.41
2427	4	AVG	19.99	20.21	23.11	29.74	-6.63	6.26	29.37	36.02	-6.65
2432	5	AVG	19.94	20.08	23.02	29.74	-6.72	6.26	29.28	36.02	-6.74
2437	6	AVG	19.89	20.11	23.01	29.74	-6.73	6.26	29.27	36.02	-6.75
2442	7	AVG	19.82	20.16	23.00	29.74	-6.74	6.26	29.26	36.02	-6.76
2447	8	AVG	19.83	20.00	22.93	29.74	-6.81	6.26	29.19	36.02	-6.83
2452	9	AVG	19.54	19.54	22.55	29.74	-7.19	6.26	28.81	36.02	-7.21
2457	10	AVG	19.00	18.76	21.89	29.74	-7.85	6.26	28.15	36.02	-7.87
2462	11	AVG	14.50	14.50	17.51	29.74	-12.23	6.26	23.77	36.02	-12.25
2467	12	AVG	12.26	12.40	15.34	29.74	-14.40	6.26	21.60	36.02	-14.42
2472	13	AVG	6.45	6.40	9.43	29.74	-20.31	6.26	15.69	36.02	-20.33

**Table 7-14. Average Conducted Output Power Measurements Primary CDD (802.11g) – Low Data Rate**

Freq [MHz]	Channel	Detector	Conducted Power [dBm]			Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
			Ant WF8	Ant WF7	Summed						
2412	1	AVG	14.33	14.40	17.37	29.74	-12.37	6.26	23.63	36.02	-12.39
2417	2	AVG	17.81	17.90	20.86	29.74	-8.88	6.26	27.12	36.02	-8.90
2422	3	AVG	19.32	19.25	22.30	29.74	-7.44	6.26	28.56	36.02	-7.46
2427	4	AVG	19.90	20.19	23.06	29.74	-6.68	6.26	29.32	36.02	-6.70
2432	5	AVG	19.83	19.88	22.87	29.74	-6.87	6.26	29.13	36.02	-6.89
2437	6	AVG	19.77	20.10	22.95	29.74	-6.79	6.26	29.21	36.02	-6.81
2442	7	AVG	19.73	20.04	22.90	29.74	-6.84	6.26	29.16	36.02	-6.86
2447	8	AVG	19.71	19.77	22.75	29.74	-6.99	6.26	29.01	36.02	-7.01
2452	9	AVG	19.61	19.45	22.54	29.74	-7.20	6.26	28.80	36.02	-7.22
2457	10	AVG	18.94	18.93	21.94	29.74	-7.80	6.26	28.20	36.02	-7.82
2462	11	AVG	14.29	14.50	17.41	29.74	-12.33	6.26	23.67	36.02	-12.35
2467	12	AVG	12.50	12.50	15.51	29.74	-14.23	6.26	21.77	36.02	-14.25
2472	13	AVG	6.50	6.28	9.40	29.74	-20.34	6.26	15.66	36.02	-20.36

**Table 7-15. Average Conducted Output Power Measurements Primary CDD (802.11n) – Low Data Rate**

Freq [MHz]	Channel	Detector	Conducted Power [dBm]			Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
			Ant WF8	Ant WF7	Summed						
2412	1	AVG	13.94	13.59	16.78	29.74	-12.96	6.26	23.04	36.02	-12.98
2417	2	AVG	17.50	17.46	20.49	29.74	-9.25	6.26	26.75	36.02	-9.27
2422	3	AVG	19.00	18.82	21.92	29.74	-7.82	6.26	28.18	36.02	-7.84
2427	4	AVG	19.09	19.10	22.11	29.74	-7.63	6.26	28.37	36.02	-7.65
2432	5	AVG	20.04	20.10	23.08	29.74	-6.66	6.26	29.34	36.02	-6.68
2437	6	AVG	19.99	20.12	23.07	29.74	-6.67	6.26	29.33	36.02	-6.69
2442	7	AVG	19.82	20.06	22.95	29.74	-6.79	6.26	29.21	36.02	-6.81
2447	8	AVG	19.25	19.03	22.15	29.74	-7.59	6.26	28.41	36.02	-7.61
2452	9	AVG	19.00	19.00	22.01	29.74	-7.73	6.26	28.27	36.02	-7.75
2457	10	AVG	17.29	17.35	20.33	29.74	-9.41	6.26	26.59	36.02	-9.43
2462	11	AVG	13.45	13.50	16.49	29.74	-13.25	6.26	22.75	36.02	-13.27
2467	12	AVG	12.33	12.40	15.37	29.74	-14.37	6.26	21.63	36.02	-14.39

**Table 7-16. Average Conducted Output Power Measurements Primary CDD (802.11ax - SU) – Low Data Rate**

FCC ID: BCGA2836 IC: 579C-A2836		<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>Approved by:</b> Technical Manager
Test Report S/N: 1C2311270067-03.BCG	Test Dates: 1/8/2024 - 3/15/2024	EUT Type: Tablet Device	Page 72 of 583