ncee labs
Product Compliance Solutions

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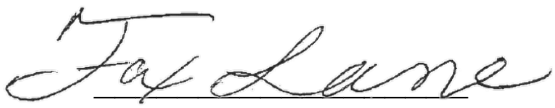
FCC/ISED Test Report

Prepared for:	**Amusement Connect LLC**
Address:	**7050 Universal Avenue Kansas City, MO 64120, USA**
Product:	**SmartMech**
FCC ID: **IC ID:**	**2BA2JGEN4** **30456-GEN4**
Test Report No:	**R20220216-20-E3C**
Approved by:	 **Fox Lane** **EMC Test Engineer**
DATE:	**January 25, 2024**
Total Pages:	**82**

REVISION PAGE

Rev. No.	Date	Description
0	31 August 2023	Issued by FLane Prepared by BWinter
A	5 January 2024	Added ISED Standards - FL
B	5 January 2024	Added FCC/IC IDs - FL
C	25 January 2024	Modified Page 1 and 5 - KV

CONTENTS

1.0 SUMMARY OF TEST RESULTS

The worst-case measurements were reported in this report. Summary of test results presented in this report correspond to the following section:

FCC Part 15.247
RSS-247 Issue 3

The EUT has been tested according to the following specifications:

(1) US Code of Federal Regulations, Title 47, Part 15
(2) ISED RSS-Gen, Issue 5
(3) ISED RSS-247, Issue 3

APPLIED STANDARDS AND REGULATIONS		
Standard Section	**Test Type**	**Result**
FCC Part 15.35 RSS Gen, Issue 5, Section 6.10	Duty Cycle	Pass
FCC Part 15.247(b)(3) RSS-247 Issue 3 Section 5.4(d)	Peak output power	Pass
FCC Part 15.247(a)(2) RSS-247 Issue 3 Section 5.2 (a)	Bandwidth	Pass
FCC Part 15.209 RSS-Gen Issue 5, Section 7.3	Receiver Radiated Emissions	Pass
FCC Part 15.209 (restricted bands), 15.247 (unrestricted) RSS-247 Issue 3 Section 5.5, RSS-Gen Issue 5, Section 8.9	Transmitter Radiated Emissions	Pass
FCC Part 15.247(e) RSS-247 Issue 3 Section 5.2 (b)	Power Spectral Density	Pass
FCC Part 15.209, 15.247(d) RSS-247 Issue 3 Section 5.5	Band Edge Measurement	Pass
FCC Part 15.207 RSS-Gen Issue 5, Section 8.8	Conducted Emissions	Pass

2.0 EUT DESCRIPTION

2.1 EQUIPMENT UNDER TEST

Summary and Operating Condition:

EUT	SmartMech
FCC ID	2BA2JGEN4
IC ID	30456-GEN4
EUT Received	17 July 2023 (Conducted) 17 July 2023 (Radiated)
EUT Tested	18 July 2023- 22 August 2023
Serial No.	NCEE 011234 (Radiated Measurements) NCEE 011233 (Conducted Measurements)
Operating Band	2400 – 2483.5 MHz
Device Type	☐ GMSK ☐ GFSK ☐ BT BR ☐ BT EDR 2MB ☐ BT EDR 3MB ☒ 802.11x
Power Supply / Voltage	12VDC Power Supply (SN 00077 was used during conducted emissions)

NOTE: For more detailed features description, please refer to the manufacturer's specifications or user's manual.

2.2 DESCRIPTION OF TEST MODES

The operating range of the EUT is dependent on the device type found in section 2.1:

Data Rates:

Modulation	Low/High Data rate
802.11b	1MB/11MB
802.11g	6MB/54MB
802.11n	MCS0/MCS7

For 802.11x Transmissions:

Channel	Frequency
Low	2412 MHz
Mid	2437 MHz
High	2462 MHz

These are the only representative channels tested in the frequency range according to FCC Part 15.31. See the operational description for a list of all channel frequencies and designations.

2.3 DESCRIPTION OF SUPPORT UNITS

NCEE Power Supply for Conducted Emissions, SN00077.

3.0 LABORATORY AND GENERAL TEST DESCRIPTION

3.1 LABORATORY DESCRIPTION

All testing was performed at the following Facility:

The Nebraska Center for Excellence in Electronics (NCEE Labs)
4740 Discovery Drive
Lincoln, NE 68521

A2LA Certificate Number:	1953.01
FCC Accredited Test Site Designation No:	US1060
Industry Canada Test Site Registration No:	4294A-1
NCC CAB Identification No:	US0177

Environmental conditions varied slightly throughout the tests.

3.2 TEST PERSONNEL

No.	PERSONNEL	TITLE	ROLE
1	Fox Lane	Test Engineer	Review and Report
2	Blake Winter	Test Engineer	Testing and Report

Notes:
All personnel are permanent staff members of NCEE Labs. No testing or review was sub-contracted or performed by sub-contracted personnel.

3.3 TEST EQUIPMENT

DESCRIPTION AND MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CALIBRATION DATE	CALIBRATION DUE DATE
Keysight MXE Signal Analyzer (44GHz)**	N9038A	MY59050109	July 17, 2023	July 17, 2025
Keysight MXE Signal Analyzer (26.5GHz)**	N9038A	MY56400083	July 17, 2023	July 17, 2025
Keysight EXA Signal Analyzer**	N9010A	MY56070862	July 18, 2023	July 18, 2025
SunAR RF Motion	JB1	A082918-1	July 26, 2022	July 26, 2023
SunAR RF Motion	JB1	A091418	July 26, 2023	July 26, 2024
EMCO Horn Antenna**	3115	00218655	July 21, 2022	July 21, 2024
Com-Power LISN, Single Phase**	LI-220C	20070017	July 18, 2022	July 18, 2024
8447F POT H64 Preamplifier*	8447F POT H64	3113AD4667	March 21, 2022	March 21, 2024
Agilent 87405A Preamplifier	87405A	3207A01838	June 5, 2023	June 5, 2025
Rohde & Schwarz Preamplifier**	TS-PR18	3545700803	August 22, 2022	August 22, 2024
Trilithic High Pass Filter*	6HC330	23042	March 21, 2022	March 21, 2024
ETS – Lindgren- VSWR on 10m Chamber***	10m Semi-anechoic chamber-VSWR	4740 Discovery Drive	July 30, 2020	July 30, 2024
NCEE Labs-NSA on 10m Chamber*	10m Semi-anechoic chamber-NSA	NCEE-001	May 25, 2022	May 25, 2024
TDK Emissions Lab Software	V11.25	700307	NA	NA
RF Cable (preamplifier to antenna)*	MFR-57500	01-07-002	March 21, 2022	March 21, 2024
RF Cable (antenna to 10m chamber bulkhead)*	FSCM 64639	01E3872	September 24, 2021	September 24, 2023
RF Cable (10m chamber bulkhead to control room bulkhead)*	FSCM 64639	01E3864	September 24, 2021	September 24, 2023
RF Cable (control room bulkhead to test receiver)*	FSCM 64639	01F1206	September 24, 2021	September 24, 2023
N connector bulkhead (10m chamber)*	PE9128	NCEEBH1	September 24, 2021	September 24, 2023
N connector bulkhead (control room)*	PE9128	NCEEBH2	September 24, 2021	September 24, 2023

*Internal Characterization
**2 Year Cal Cycle
***4 Year Cal Cycle
Testing was performed during calibration cycle of equipment.

Notes:
All equipment is owned by NCEE Labs and stored permanently at NCEE Labs facilities.

3.4 GENERAL TEST PROCEDURE AND SETUP FOR RADIO MEASUREMNTS

Measurement type presented in this report (Please see the checked box below):

Conducted ☒

The conducted measurements were performed by connecting the output of the transmitter directly into a spectrum analyzer using an impedance matched cable and connector soldered to the EUT in place of the antenna. The information regarding resolution bandwidth, video bandwidth, span and the detector used can be found in the graphs provided in Appendix C. All the radio measurements were performed using the sections from ANSI C63.10, details about the section used can be found in the spectrum analyzer titles on the graph.

Figure 1 - Bandwidth Measurements Test Setup

Radiated ☒

All the radiated measurements were taken at a distance of 3m from the EUT. The information regarding resolution bandwidth, video bandwidth, span and the detector used can be found in the graphs provided in Appendix C. All the radio measurements were performed using the sections from ANSI C63.10, details about the section used can be found in the spectrum analyzer titles on the graph.

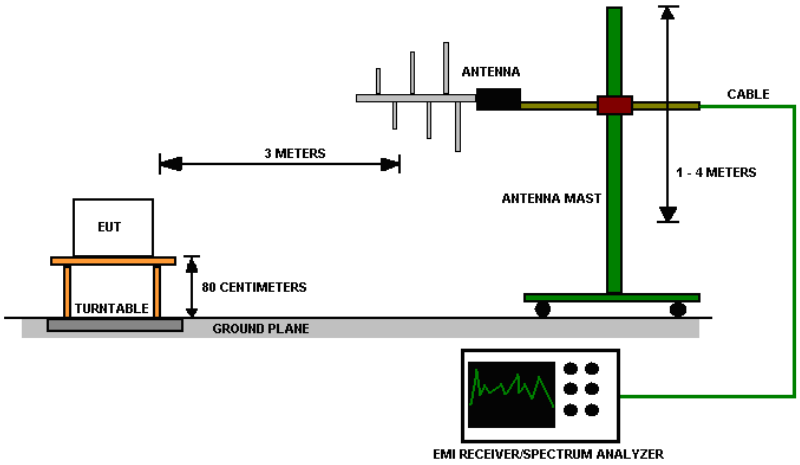


Figure 2 - Radiated Emissions Test Setup

4.0 RESULTS

DTS Radio Measurements Low Data Rate							
CHANNEL	**Transmitter**	**Occupied Bandwidth (MHz)**	**6 dB Bandwidth (MHz)**	**AVERAGE OUTPUT POWER (dBm)**	**AVERAGE OUTPUT POWER (mW)**	**PSD (dBm)**	**RESULT**
Low	802.11 b	13.11	9.11	7.52	5.65	-14.69	Pass
Mid	802.11 b	13.13	8.88	6.25	4.22	-16.17	Pass
High	802.11 b	13.14	8.81	5.79	3.89	-18.00	Pass
Low	802.11 g	17.12	16.51	5.27	3.37	-18.77	Pass
Mid	802.11 g	17.07	16.61	6.21	4.18	-19.12	Pass
High	802.11 g	17.06	16.51	5.27	3.37	-19.10	Pass
Low	802.11 n	18.02	17.83	5.49	3.54	-18.34	Pass
Mid	802.11 n	18.02	17.85	5.92	3.91	-17.16	Pass
High	802.11 n	18.02	17.76	5.74	3.75	-17.01	Pass
Occupied Bandwidth = N/A; 6dB Bandwidth Limit = 500 kHz				Output Power Limit = 30 dBm; PSD Limit = 8 dBm			

Unrestricted Band-Edge Low Data Rate							
CHANNEL	**Mode**	**Band edge /Measurement Frequency (MHz)**	**Relative Highest out of band level (dBµV)**	**Relative Fundamental (dBµV)**	**Delta (dB)**	**Min Delta (dB)**	**Result**
Low	802.11 b	2400.00	57.33	106.69	49.36	30	Pass
Low	802.11 g	2400.00	62.62	101.99	39.37	30	Pass
Low	802.11 n	2400.00	61.81	102.27	40.46	30	Pass
High	802.11 b	2483.50	50.41	102.57	52.16	30	Pass
High	802.11 g	2483.50	52.22	98.93	46.71	30	Pass
High	802.11 n	2483.50	53.23	99.02	45.79	30	Pass

Radiated Peak Restricted Band-Edge Low Data Rate							
CHANNEL	**Mode**	**Band edge /Measurement Frequency (MHz)**	**Highest out of band level (dBµV /m @ 3m)**	**Measurement Type**	**Limit (dBµV/m @ 3m)**	**Margin**	**Result**
Low	802.11 b	2390.00	50.78	Peak	73.98	23.20	Pass
Low	802.11 g	2390.00	51.26	Peak	73.98	22.72	Pass
Low	802.11 n	2390.00	49.63	Peak	73.98	24.35	Pass
High	802.11 b	2483.50	52.25	Peak	73.98	21.73	Pass
High	802.11 g	2483.50	53.23	Peak	73.98	20.75	Pass
High	802.11 n	2483.50	52.91	Peak	73.98	21.07	Pass
*Limit shown is the peak limit taken from FCC Part 15.209							

Radiated Average Restricted Band-Edge Low Data Rate								
CHANNEL	**Mode**	**DCCF**	**Band edge/ Measurement Frequency (MHz)**	**Highest out of band level (dBµV /m @ 3m)**	**Measurement Type**	**Limit (dBuV/m @ 3m)**	**Margin**	**Result**
Low	802.11 b	NA	2390.00	40.69	Average	53.98	13.29	Pass
Low	802.11 g	0.19	2390.00	40.92	Average	53.98	13.06	Pass
Low	802.11 n	0.21	2390.00	41.13	Average	53.98	12.85	Pass
High	802.11 b	NA	2483.50	42.85	Average	53.98	11.13	Pass
High	802.11 g	0.19	2483.50	42.87	Average	53.98	11.11	Pass
High	802.11 n	0.21	2483.50	43.25	Average	53.98	10.73	Pass
*Limit shown is the average limit taken from FCC Part 15.209								

DTS Radio Measurements High Data Rate							
CHANNEL	**Transmitter**	**Occupied Bandwidth (MHz)**	**6 dB Bandwidth (MHz)**	**AVERAGE OUTPUT POWER (dBm)**	**AVERAGE OUTPUT POWER (mW)**	**PSD (dBm)**	**RESULT**
Low	802.11 b	13.02	9.96	6.75	4.73	-16.16	Pass
Mid	802.11 b	13.01	9.79	7.12	5.15	-15.47	Pass
High	802.11 b	13.03	9.86	6.12	4.09	-16.71	Pass
Low	802.11 g	16.82	16.64	1.78	1.51	-21.00	Pass
Mid	802.11 g	16.82	16.69	2.23	1.67	-19.92	Pass
High	802.11 g	16.80	16.69	2.06	1.61	-21.87	Pass
Low	802.11 n	17.86	17.90	1.15	1.30	-24.24	Pass
Mid	802.11 n	17.88	17.94	0.80	1.20	-23.91	Pass
High	802.11 n	17.88	17.93	-0.14	0.97	-24.52	Pass
Occupied Bandwidth = N/A; 6dB Bandwidth Limit = 500 kHz				Output Power Limit = 30 dBm; PSD Limit = 8 dBm			

Unrestricted Band-Edge High Data Rate							
CHANNEL	**Mode**	**Band edge /Measurement Frequency (MHz)**	**Relative Highest out of band level (dBuV)**	**Relative Fundamental (dBuV)**	**Delta (dB)**	**Min Delta (dB)**	**Result**
Low	802.11 b	2400.00	56.46	106.76	50.30	30	Pass
Low	802.11 g	2400.00	57.61	98.78	41.17	30	Pass
Low	802.11 n	2400.00	57.57	98.14	40.57	30	Pass
High	802.11 b	2483.50	52.11	104.68	52.57	30	Pass
High	802.11 g	2483.50	50.75	97.44	46.69	30	Pass
High	802.11 n	2483.50	49.19	96.04	46.85	30	Pass

Radiated Peak Restricted Band-Edge High Data Rate							
CHANNEL	**Mode**	**Band edge /Measurement Frequency (MHz)**	**Highest out of band level (dBuV/m @ 3m)**	**Measurement Type**	**Limit (dBuV/m @ 3m)**	**Margin**	**Result**
Low	802.11 b	2390.00	50.13	Peak	73.98	23.85	Pass
Low	802.11 g	2390.00	49.48	Peak	73.98	24.5	Pass
Low	802.11 n	2390.00	39.54	Peak	73.98	34.44	Pass
High	802.11 b	2483.50	52.43	Peak	73.98	21.55	Pass
High	802.11 g	2483.50	51.09	Peak	73.98	22.89	Pass
High	802.11 n	2483.50	51.36	Peak	73.98	22.62	Pass
*Limit shown is the peak limit taken from FCC Part 15.209							

Radiated Average Restricted Band-Edge High Data Rate								
CHANNEL	**Mode**	**DCCF**	**Band edge/ Measurement Frequency (MHz)**	**Highest out of band level (dBuV/m @ 3m)**	**Measurement Type**	**Limit (dBuV/m @ 3m)***	**Margin**	**Result**
Low	802.11 b	0.33	2390.00	40.78	Average	53.98	13.20	Pass
Low	802.11 g	1.59	2390.00	41.08	Average	53.98	12.90	Pass
Low	802.11 n	1.96	2390.00	41.50	Average	53.98	12.48	Pass
High	802.11 b	0.33	2483.50	43.01	Average	53.98	10.97	Pass
High	802.11 g	1.59	2483.50	42.32	Average	53.98	11.66	Pass
High	802.11 n	1.96	2483.50	43.36	Average	53.98	10.62	Pass
*Limit shown is the average limit taken from FCC Part 15.209								

4.1 OUTPUT POWER

Test Method: Power measurements were performed using ANSI C63.10, Section 11.9.2.2.2.

Limits of power measurements:
For FCC Part 15.247 Device:
The maximum allowed output power is 30 dBm.

Test procedures:
Details can be found in section 3.4 of this report.

Deviations from test standard:
No deviation.

Test setup:
Details can be found in section 3.4 of this report.

EUT operating conditions:
Details can be found in section 2.1 of this report.

Test results:
Pass
Comments:
1. All the output power plots can be found in Appendix C.
2. All the measurements were found to be compliant.
3. The measurements are listed in the tables in section 4.0.

4.2 BANDWIDTH

Test Method: All the radio measurements were performed using the sections from ANSI C63.10, details about the section used can be found in the spectrum analyzer titles on the graph.

Limits of bandwidth measurements:

For FCC Part 15.247 Device:
The 99% occupied bandwidth is for informational purposes only. The 6dB bandwidth of the signal must be greater than 500 kHz.

Test procedures:
Details can be found in section 3.4 of this report.

Deviations from test standard:
No deviation.

Test setup:
Test setup details can be found in section 3.4 of this report.

EUT operating conditions:
Details can be found in section 2.1 of this report.

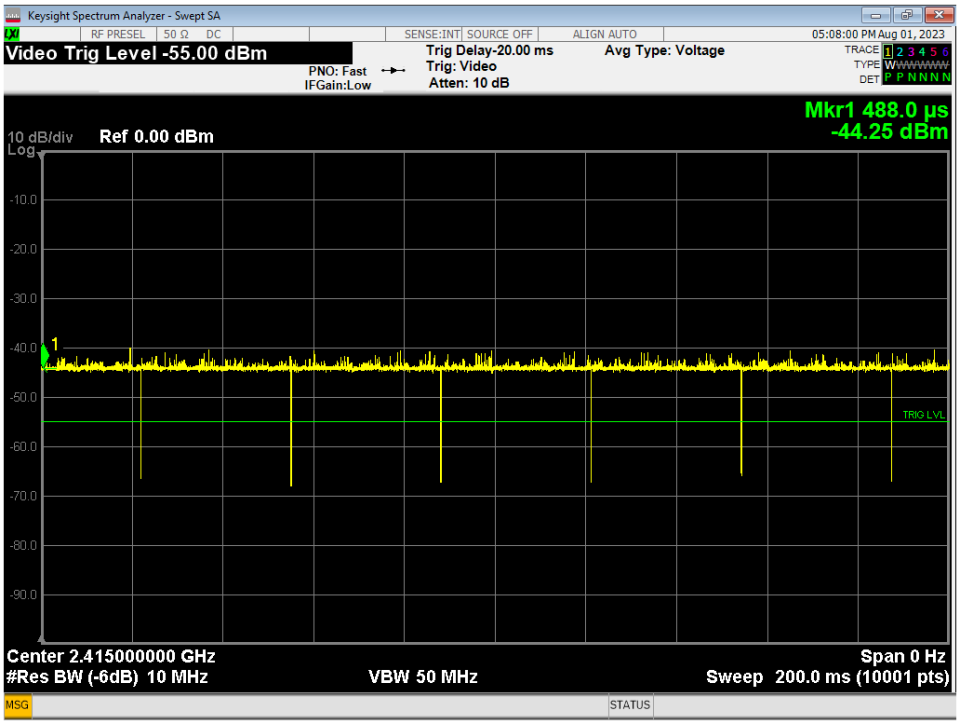
Test results:

Pass

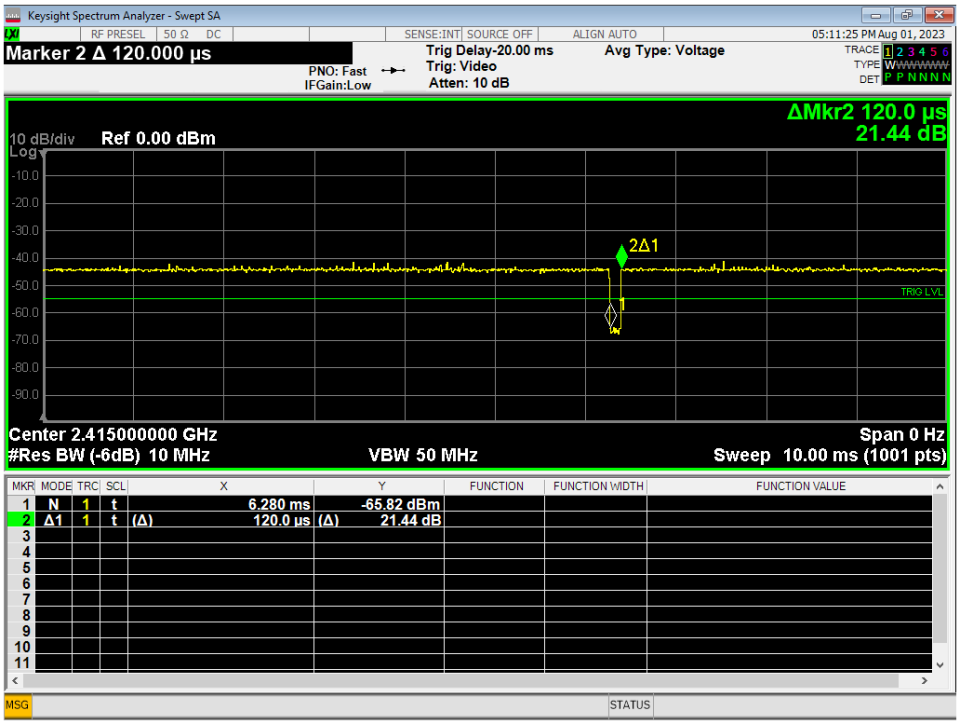
Comments:

1. All the bandwidth plots can be found in Appendix C.
2. All the measurements were found to be compliant.
3. The measurements are listed in the tables in section 4.0.

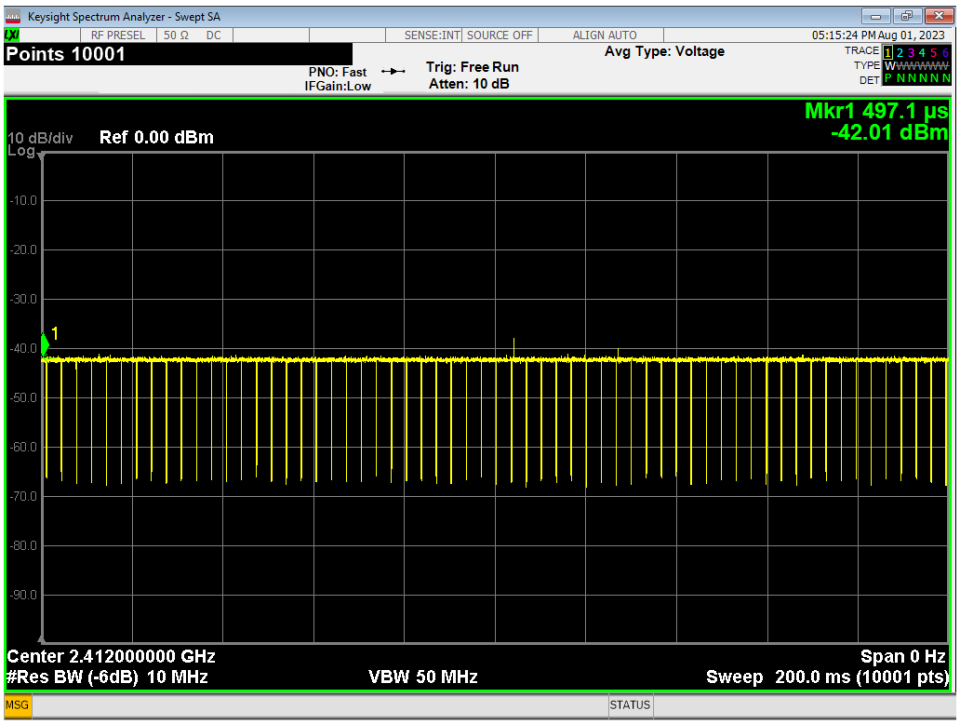
4.3 DUTY CYCLE



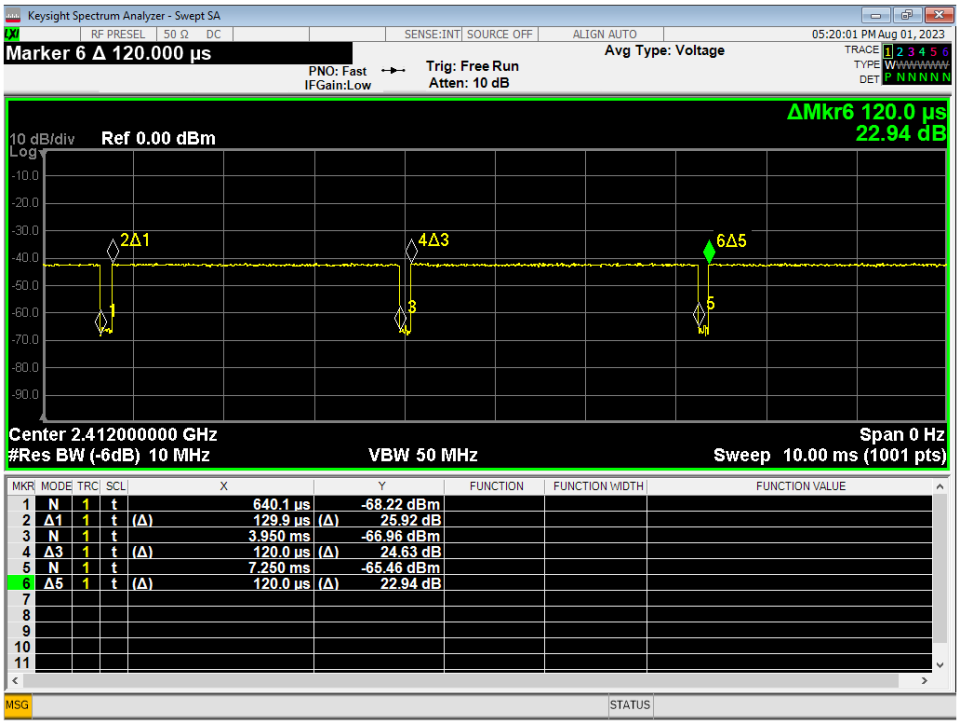
802.11b 1mbps, 3 pulses/100ms



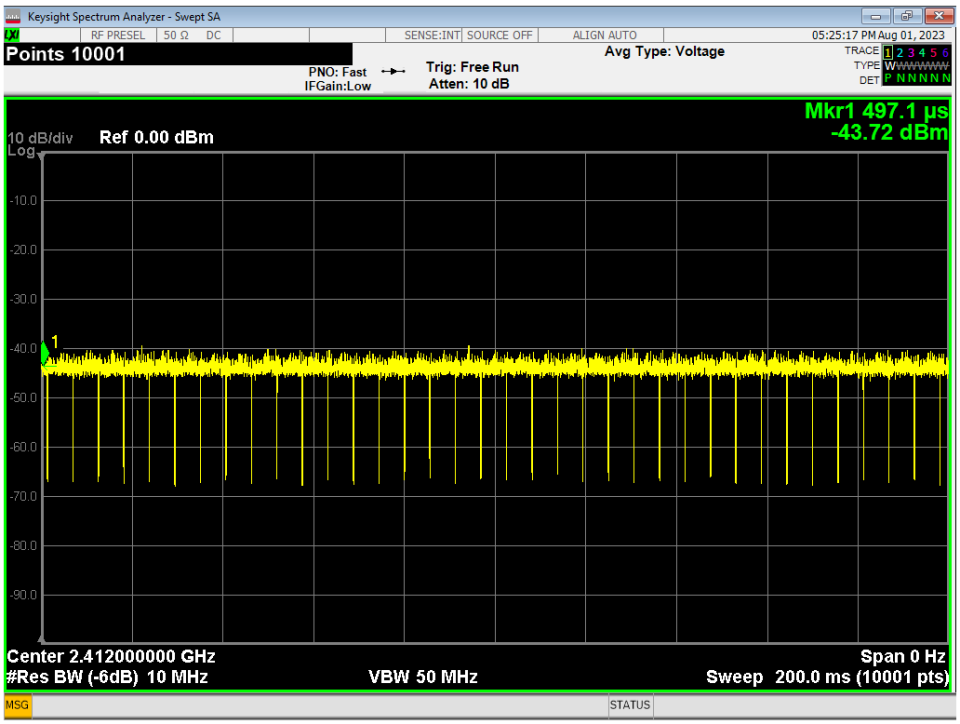
802.11b 1mbps, 120 uS/pulse off



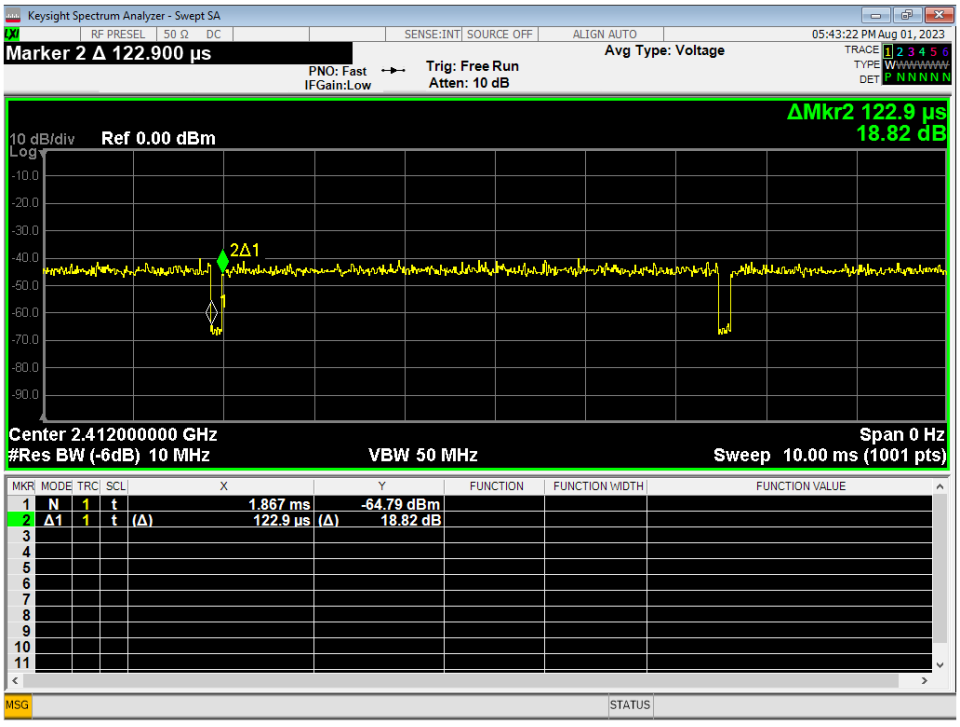
802.11b 11mbps, 31 pulses/100ms



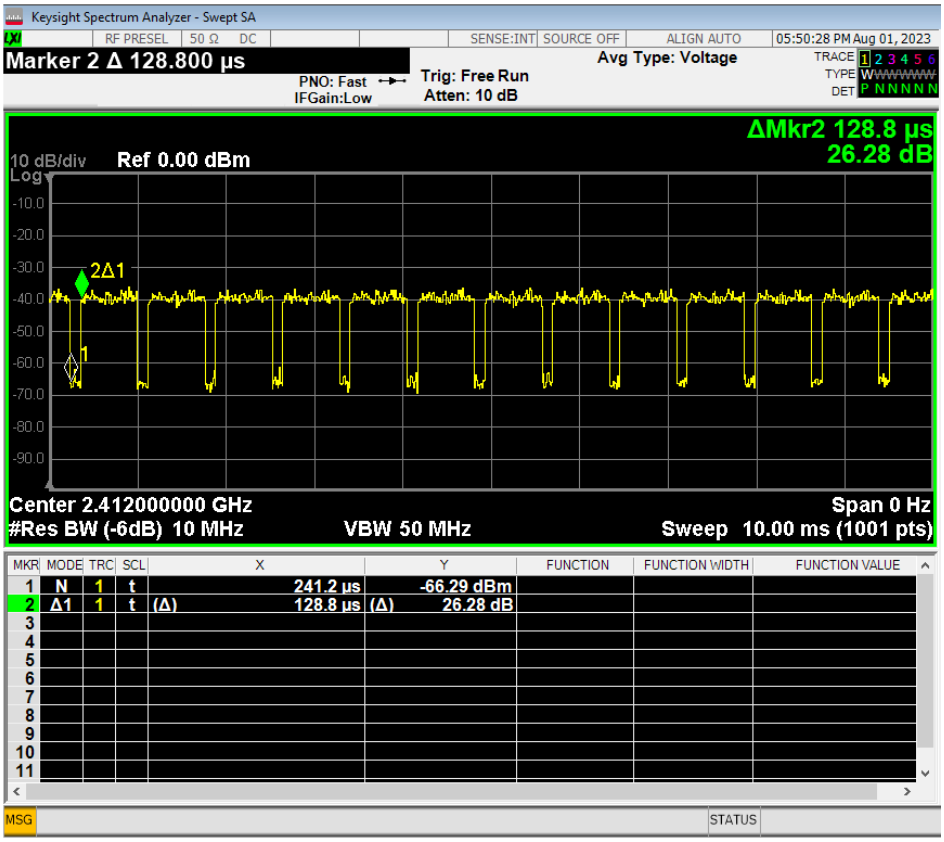
802.11b 11mbps, 120uS/pulse off



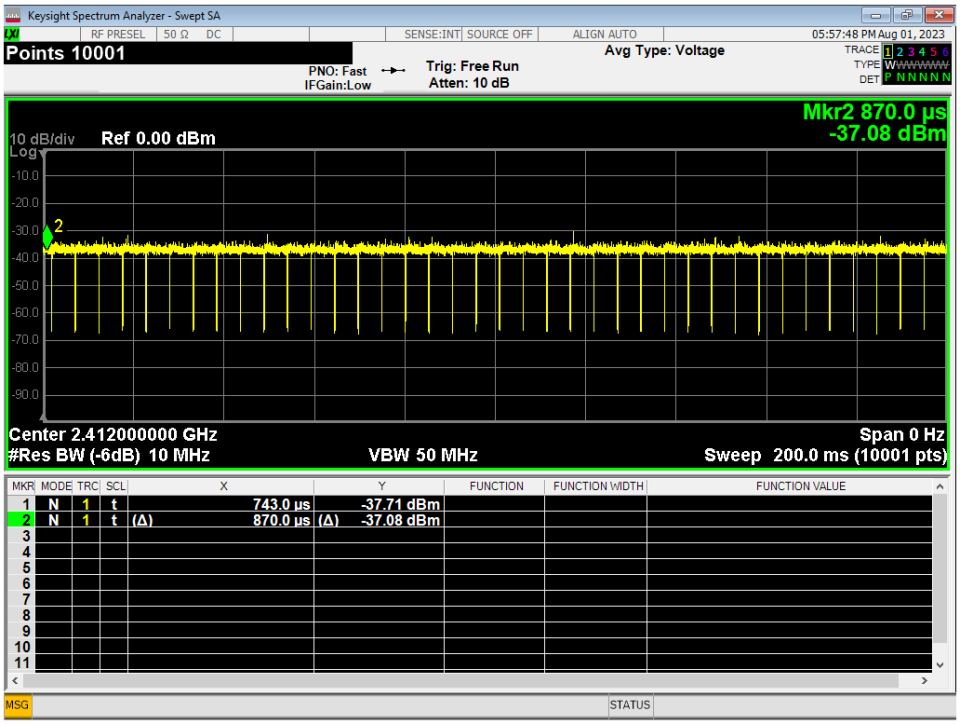
802.11g 6mbps, 18 pulses/100ms



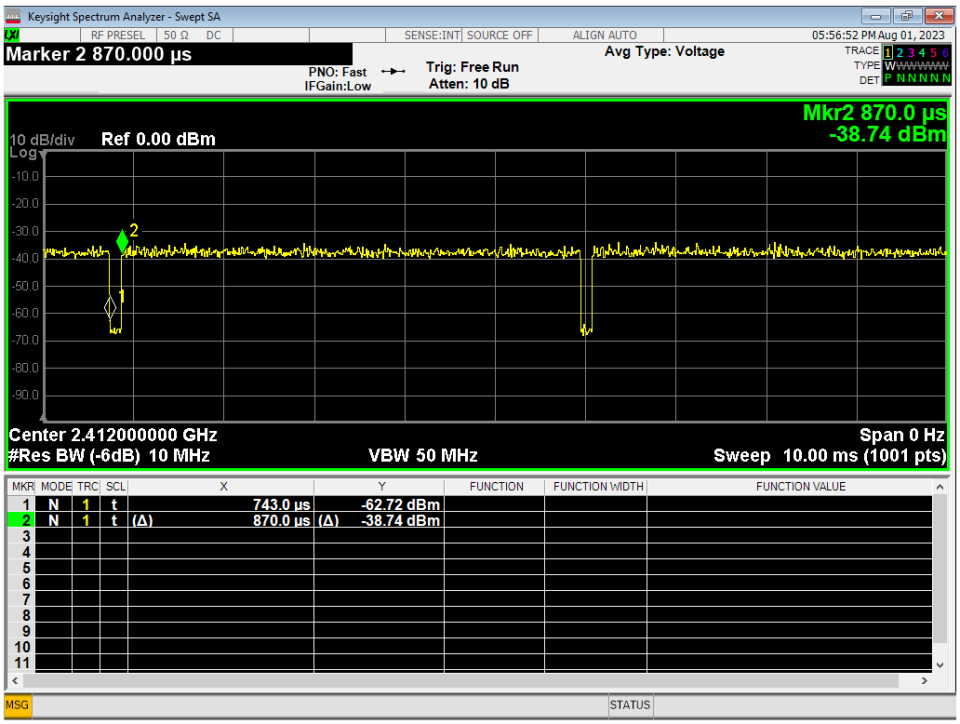
802.11g 6mbps, 123uS/pulse off



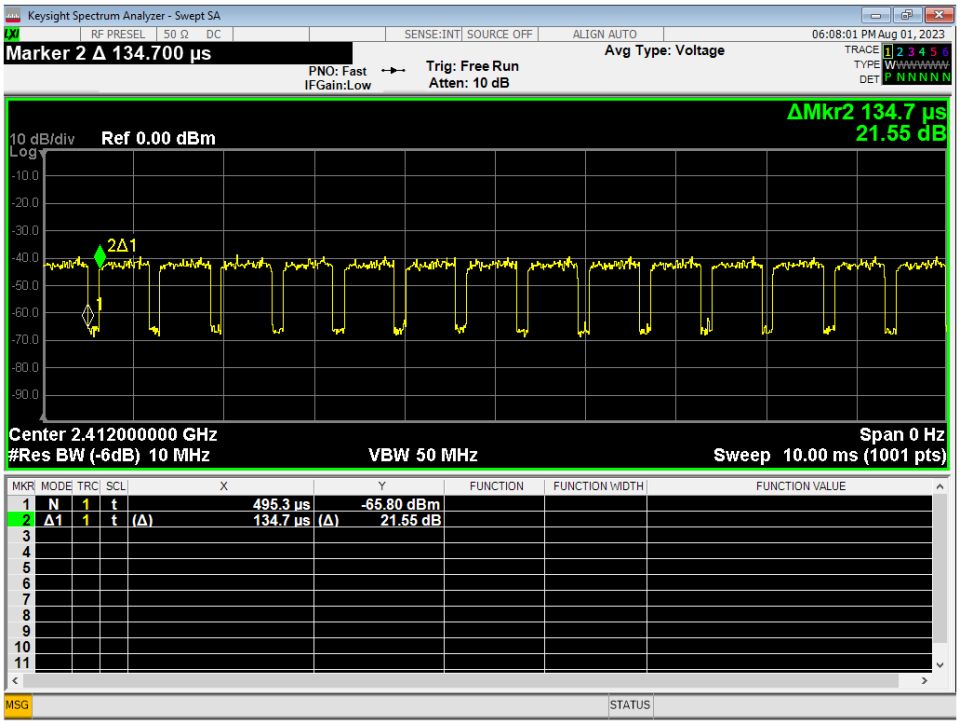
802.11g 54mbps, 130 pulses/100ms; 129uS/pulse off



802.11n MCS0 20MHz BW, 19 pulses/100ms



802.11n MCS0 20MHz BW, 127uS/pulse off



802.11n MCS7 20MHz BW, 150pulses/100ms; 135uS/pulse off

Modulation	Data Rate	Pulses per period	Pulse off time (ms)	Span	Duty Cycle	Duty Cycle Correction Factor (dB)
802.11b	1mbps	3	0.120	20	>0.98	NA
802.11b	11mbps	31	0.120	20	0.963	0.33
802.11g	6mbps	18	0.123	20	0.978	0.19
802.11g	54mbps	130	0.129	20	0.832	1.59
802.11n	MCS0	19	0.127	20	0.976	0.21
802.11n	MCS7	150	0.135	20	0.798	1.96

4.4 RADIATED EMISSIONS

Test Method: ANSI C63.10-2013, Section 6.5, 6.6

Limits for radiated emissions measurements:

Emissions radiated outside of the specified bands shall be applied to the limits in 15.209 as followed:

FREQUENCIES (MHz)	FIELD STRENGTH (µV/m)	MEASUREMENT DISTANCE (m)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	3
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:
1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBµV/m) = 20 * log * Emission level (µV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits by more than 20dB under any condition of modulation.
4. The EUT was tested for spurious emissions while running off of battery power.

Test procedures:

a. The EUT was placed on the top of a rotating table above the ground plane in a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. The table was 0.8m high for measurements from 30MHz-1Ghz and 1.5m for measurements from 1GHz and higher.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna was a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are used to make the measurement.

d. For each suspected emission, the EUT was arranged to maximize its emissions and then the antenna height was varied from 1 meter to 4 meters and the rotating table was turned from 0 degrees to 360 degrees to find the maximum emission reading.

e. The test-receiver system was set to use a peak detector with a specified resolution bandwidth. For spectrum analyzer measurements, the composite maximum of several analyzer sweeps was used for final measurements.

f. If the emission level of the EUT in peak mode was 6dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise, the emissions that did not have 6 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

g. The EUT was maximized in all 3 orthogonal positions. The results are presented for the axis that had the highest emissions.

Test setup:

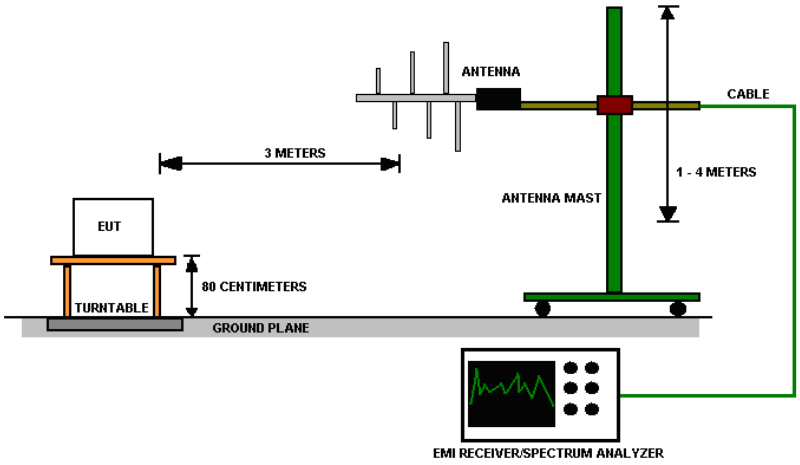


Figure 3 - Radiated Emissions Test Setup

NOTE:
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequencies below 1GHz.

2. The resolution bandwidth was 1 MHz for all measurements and at frequencies above 1GHz, A peak and RMS detector was used for all measurements above 1GHz. Measurements were made with an EMI Receiver.

Deviations from test standard:
No deviation.

EUT operating conditions
Details can be found in section 2.1 of this report.

Test results:

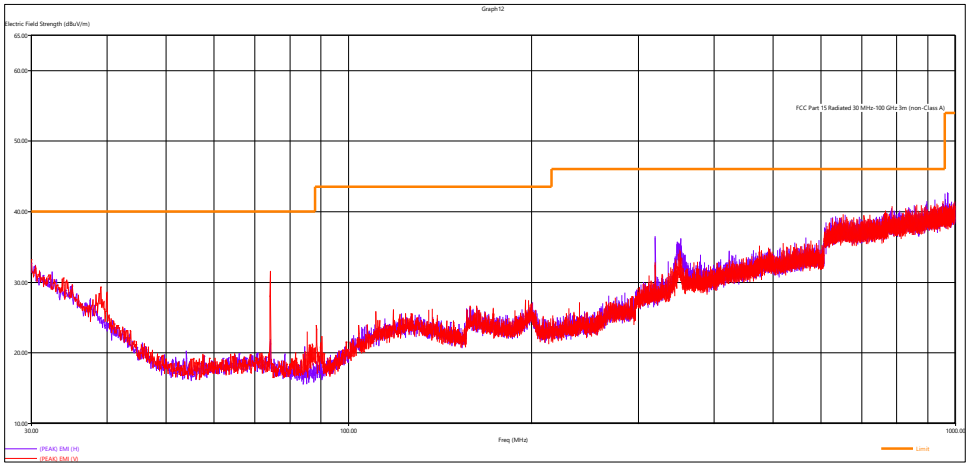


Figure 4 - Radiated Emissions Plot, Receive

No peak emissions were within 6dB of the limit, and the emissions from this plot are not tabulated.

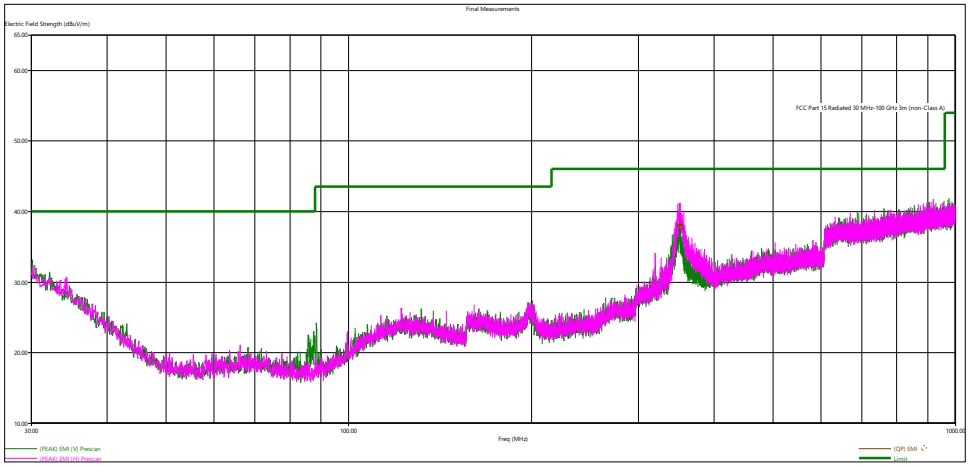


Figure 5 - Radiated Emissions Plot, 802.11b 1MB

Quasi-Peak Measurements, 802.11b						
Frequency	**Level**	**Limit**	**Margin**	**Height**	**Angle**	**Pol**
MHz	**dBµV/m**	**dBµV/m**	**dB**	**cm.**	**deg.**	
350.657520	37.91	46.02	8.11	120.20	177.25	H
351.323040	38.04	46.02	7.98	106.35	184.25	H
351.683040	37.45	46.02	8.57	128.56	177.50	H

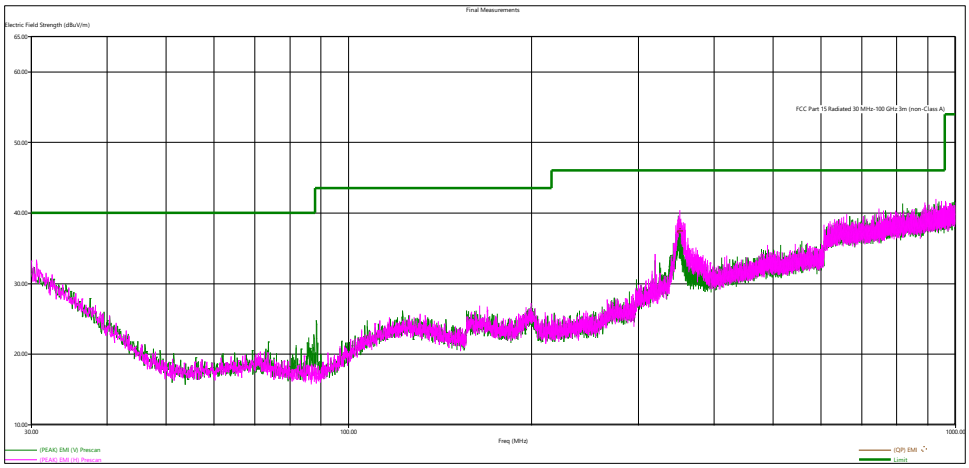


Figure 6 - Radiated Emissions Plot, 802.11g 6MB

Quasi-Peak Measurements, 802.11g						
Frequency	**Level**	**Limit**	**Margin**	**Height**	**Angle**	**Pol**
MHz	**dBµV/m**	**dBµV/m**	**dB**	**cm.**	**deg.**	
350.960640	37.34	46.02	8.68	138.83	185.75	H

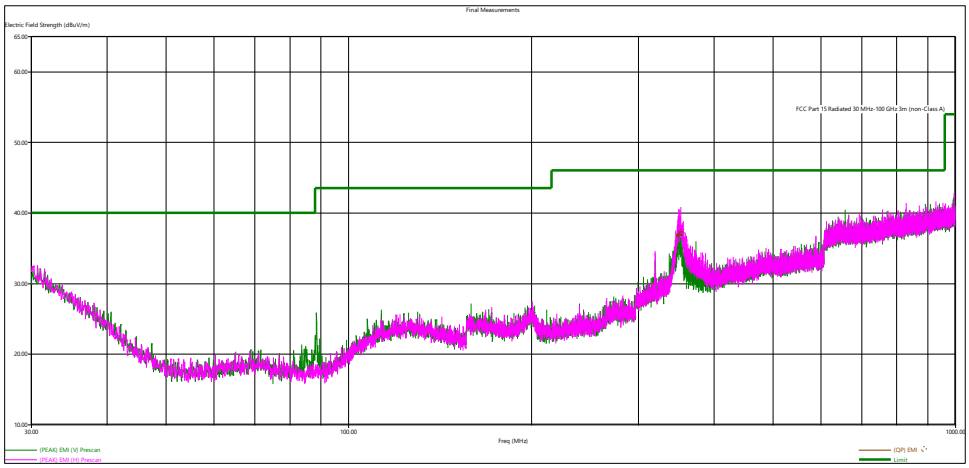


Figure 7 - Radiated Emissions Plot, 802.11n MCS7

Quasi-Peak Measurements, 802.11n						
Frequency	**Level**	**Limit**	**Margin**	**Height**	**Angle**	**Pol**
MHz	**dBµV/m**	**dBµV/m**	**dB**	**cm.**	**deg.**	
350.190720	36.88	46.02	9.14	145.04	184.75	H
351.462240	36.81	46.02	9.21	159.25	187.00	H
352.253280	37.28	46.02	8.74	138.71	190.00	H

REMARKS:
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Limit value - Emission level

Peak Measurements, 802.11x								
Frequency	**Level**	**Limit**	**Margin**	**Height**	**Angle**	**Pol**	**Channel**	**Modulation**
MHz	**dBµV/m**	**dBµV/m**	**dB**	**cm.**	**deg.**			
2410.458000	102.59	NA	NA	129.37	134.25	H	Low	WIFI B 1MB
4824.162000	56.46	73.98	17.52	128.17	127.25	V	Low	WIFI B 1MB
2437.378000	101.13	NA	NA	190.56	132.50	H	Mid	WIFI B 1MB
4873.878000	55.01	73.98	18.97	168.00	44.75	H	Mid	WIFI B 1MB
2462.324000	102.85	NA	NA	190.14	139.75	H	High	WIFI B 1MB
4923.984000	56.09	73.98	17.89	283.88	98.75	V	High	WIFI B 1MB
2411.638000	102.62	NA	NA	317.19	127.50	H	Low	WIFI B 11MB
4823.160000	53.38	73.98	20.60	133.19	126.25	V	Low	WIFI B 11MB
2437.144000	102.20	NA	NA	265.49	126.50	H	Mid	WIFI B 11MB
4872.932000	50.73	73.98	23.25	194.20	118.25	V	Mid	WIFI B 11MB
2462.204000	102.50	NA	NA	230.14	129.75	H	High	WIFI B 11MB
4923.746000	55.78	73.98	18.20	291.52	95.25	V	High	WIFI B 11MB
2413.460000	99.42	NA	NA	311.52	128.25	H	Low	WIFI G 6MB
4828.334000	53.25	73.98	20.73	542.20	359.00	H	Low	WIFI G 6MB
2441.976000	98.30	NA	NA	230.92	130.00	H	Mid	WIFI G 6MB
4868.652000	50.76	73.98	23.22	171.46	106.00	V	Mid	WIFI G 6MB
2467.530000	99.05	NA	NA	223.40	133.75	H	High	WIFI G 6MB
4923.002000	50.25	73.98	23.73	155.64	44.00	H	High	WIFI G 6MB
2412.394000	95.00	NA	NA	264.29	131.75	H	Low	WIFI G 54MB
4819.330000	50.31	73.98	23.67	453.79	345.00	H	Low	WIFI G 54MB
2435.920000	96.15	NA	NA	268.59	128.00	H	Mid	WIFI G 54MB
2460.874000	96.40	NA	NA	230.80	130.00	H	High	WIFI G 54MB
2417.582000	99.36	NA	NA	234.86	134.25	H	Low	WIFI N MCS0
4826.402000	51.67	73.98	22.31	291.94	310.50	V	Low	WIFI N MCS0
2440.670000	98.70	NA	NA	226.56	130.00	H	Mid	WIFI N MCS0
4874.610000	50.47	73.98	23.51	137.37	135.75	V	Mid	WIFI N MCS0
2467.182000	98.76	NA	NA	293.01	124.25	H	High	WIFI N MCS0
4924.396000	52.09	73.98	21.89	232.59	33.75	V	High	WIFI N MCS0
2409.836000	92.67	NA	NA	233.25	135.75	H	Low	WIFI N MCS7
2434.478000	92.58	NA	NA	153.91	149.75	H	Mid	WIFI N MCS7
2469.982000	94.88	NA	NA	137.79	40.75	H	High	WIFI N MCS7

The worst-case is shown in the plot and table above.
All other measurements were found to be at least 6 dB Below the limit.

Average Measurements, 802.11x										
Frequency	Raw Level	DCCF	Corrected Level	Limit	Margin	Height	Angle	Pol	Ch.	Mod.
MHz	dBµV/m	dB	dBµV/m	dBµV/m	dB	cm.	deg.			
2410.458000	94.01	NA	94.01	NA	NA	129.37	134.25	H	Low	WIFI B 1MB
4824.162000	50.76	NA	50.76	53.98	3.22	128.17	127.25	V	Low	WIFI B 1MB
2437.378000	92.13	NA	92.13	NA	NA	190.56	132.50	H	Mid	WIFI B 1MB
4873.878000	48.80	NA	48.80	53.98	5.18	168.00	44.75	H	Mid	WIFI B 1MB
2462.324000	93.69	NA	93.69	NA	906.31	190.14	139.75	H	High	WIFI B 1MB
4923.984000	49.95	NA	49.95	53.98	4.03	283.88	98.75	V	High	WIFI B 1MB
2411.638000	94.10	0.33	94.43	NA	NA	317.19	127.50	H	Low	WIFI B 11MB
4823.160000	41.93	0.33	42.26	53.98	12.05	133.19	126.25	V	Low	WIFI B 11MB
2437.144000	93.64	0.33	93.97	NA	NA	265.49	126.50	H	Mid	WIFI B 11MB
4872.932000	38.58	0.33	38.92	53.98	15.40	194.20	118.25	V	Mid	WIFI B 11MB
2462.204000	94.05	0.33	94.38	NA	NA	230.14	129.75	H	High	WIFI B 11MB
4923.746000	42.19	0.33	42.52	53.98	11.79	291.52	95.25	V	High	WIFI B 11MB
2413.460000	89.70	0.19	89.89	NA	NA	311.52	128.25	H	Low	WIFI G 6MB
4828.334000	38.41	0.19	38.60	53.98	15.57	542.20	359.00	H	Low	WIFI G 6MB
2441.976000	89.09	0.19	89.28	NA	NA	230.92	130.00	H	Mid	WIFI G 6MB
4868.652000	35.95	0.19	36.04	53.98	18.03	171.46	106.00	V	Mid	WIFI G 6MB
2467.530000	90.05	0.19	90.24	NA	NA	223.40	133.75	H	High	WIFI G 6MB
4923.002000	36.84	0.19	37.03	53.98	17.14	155.64	44.00	H	High	WIFI G 6MB
2412.394000	84.22	1.59	85.81	NA	NA	264.29	131.75	H	Low	WIFI G 54MB
4819.330000	35.70	1.59	36.89	53.98	18.28	453.79	345.00	H	Low	WIFI G 54MB
2435.920000	84.99	1.59	86.57	NA	NA	268.59	128.00	H	Mid	WIFI G 54MB
2460.874000	85.23	1.59	86.82	NA	NA	230.80	130.00	H	High	WIFI G 54MB
2417.582000	89.05	0.21	89.26	NA	NA	234.86	134.25	H	Low	WIFI N MCS0
4826.402000	37.57	0.21	37.78	53.98	16.41	291.94	310.50	V	Low	WIFI N MCS0
2440.670000	88.83	0.21	89.04	NA	NA	226.56	130.00	H	Mid	WIFI N MCS0
4874.610000	37.21	0.21	37.42	53.98	16.77	137.37	135.75	V	Mid	WIFI N MCS0
2467.182000	88.74	0.21	88.95	NA	NA	293.01	124.25	H	High	WIFI N MCS0
4924.396000	37.75	0.21	37.96	53.98	16.23	232.59	33.75	V	High	WIFI N MCS0
2409.836000	81.40	1.96	83.36	NA	NA	233.25	135.75	H	Low	WIFI N MCS7
2434.478000	81.09	1.96	83.05	NA	NA	153.91	149.75	H	Mid	WIFI N MCS7
2469.982000	84.14	1.96	86.10	NA	NA	137.79	40.75	H	High	WIFI N MCS7

The worst-case is shown in the plot and table above.
All other measurements were found to be at least 6 dB Below the limit.

4.5 CONDUCTED SPURIOUS EMISSIONS

Test Method: ANSI C63.10-2013, Section 6.7
Limits of spurious emissions:
From FCC Part 15.247:
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30dB instead of 20dB. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

Test procedures:

The highest emissions level was measured and recorded. All spurious measurements were evaluated to 30dB below the fundamental. More details can be found in section 3.4 of this report. The line shown in the plots is a reference line placed at -20dBm.

Deviations from test standard:
NA

Test setup:
Test setup details can be found in section 3.4 of this report.

EUT operating conditions:
Details can be found in section 2.1 of this report.

Test results:
Data rates and channels were investigated, and worst case was reported, no emissions exceeded the limits.
There was no distinguishable difference between low and high data rate.

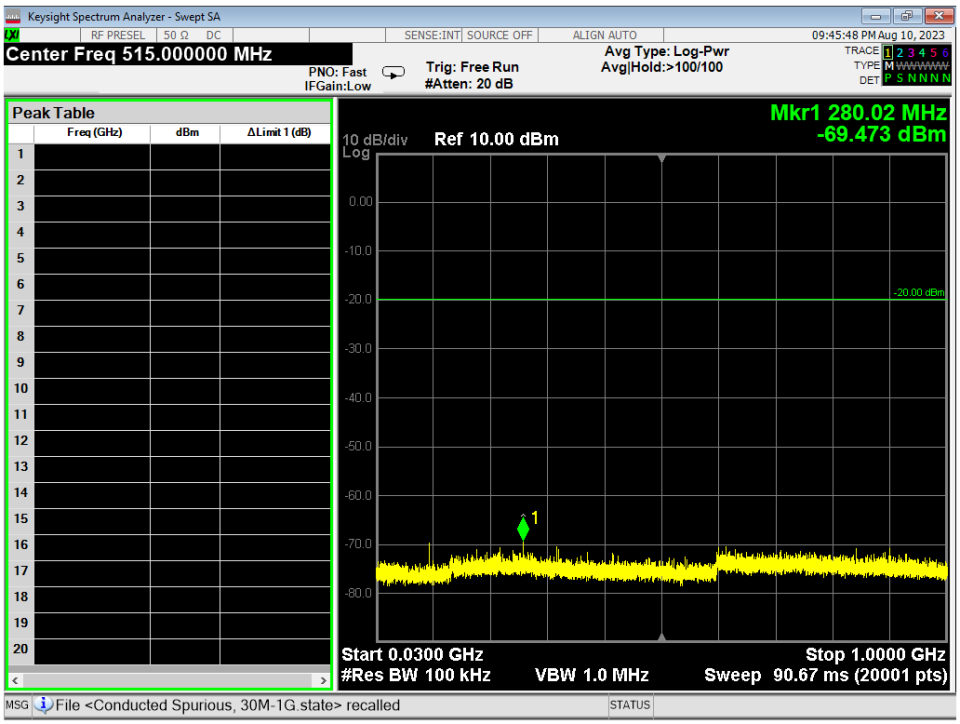


Figure 8 - Conducted Spurious Emissions, WIFI 802.11b, 30M – 1G, Low

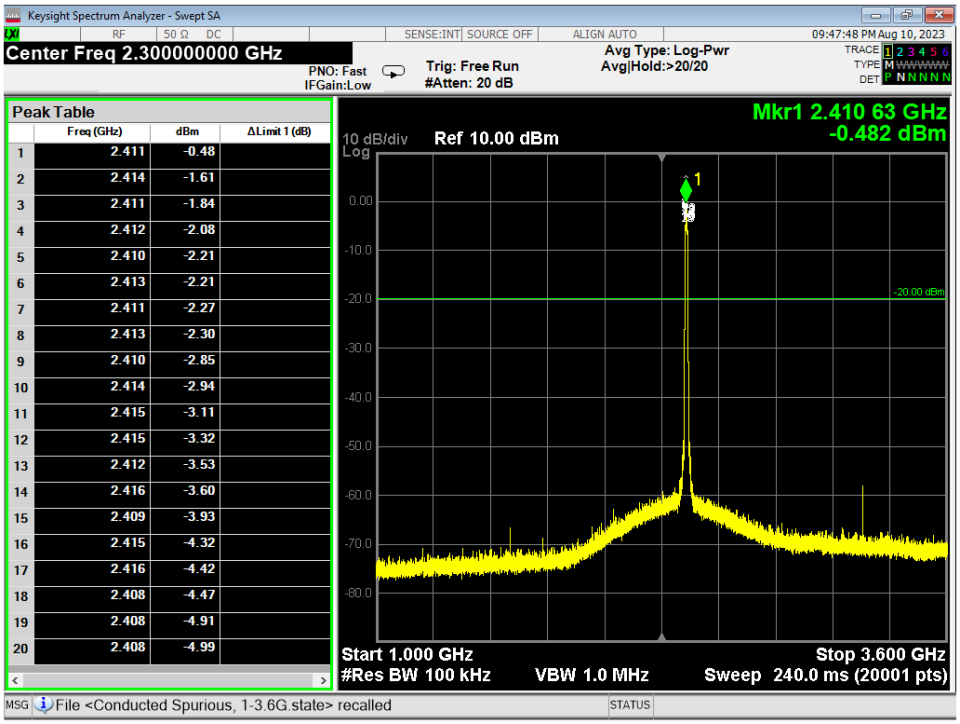


Figure 9 - Conducted Spurious Emissions, WIFI 802.11b, 1G – 3.6G, Low

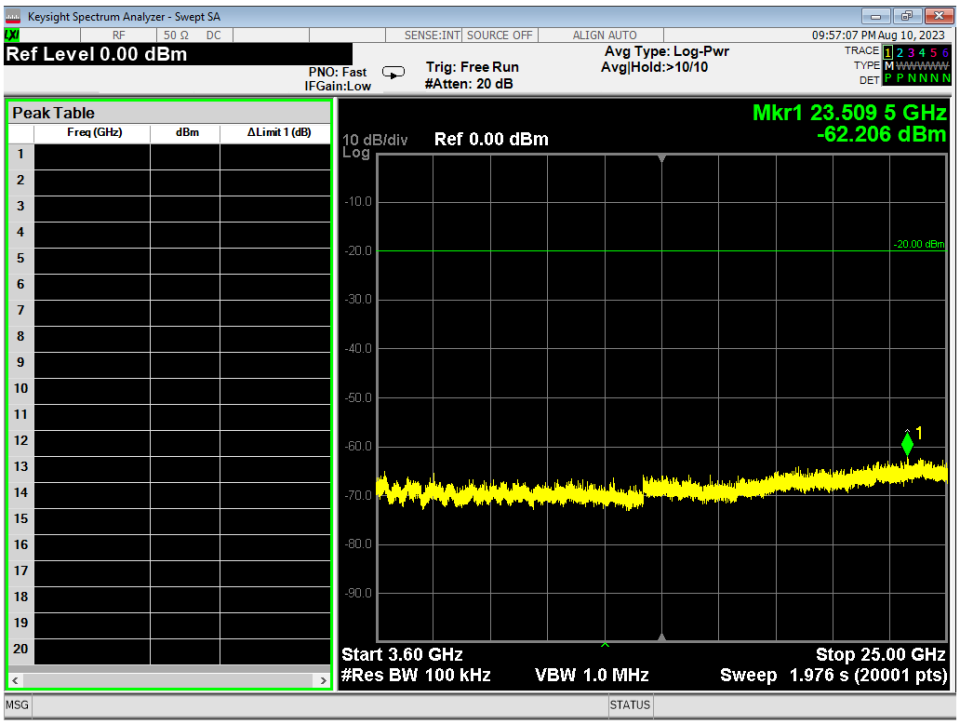


Figure 10 - Conducted Spurious Emissions, WIFI 802.11b, 3.6G – 25G, Low

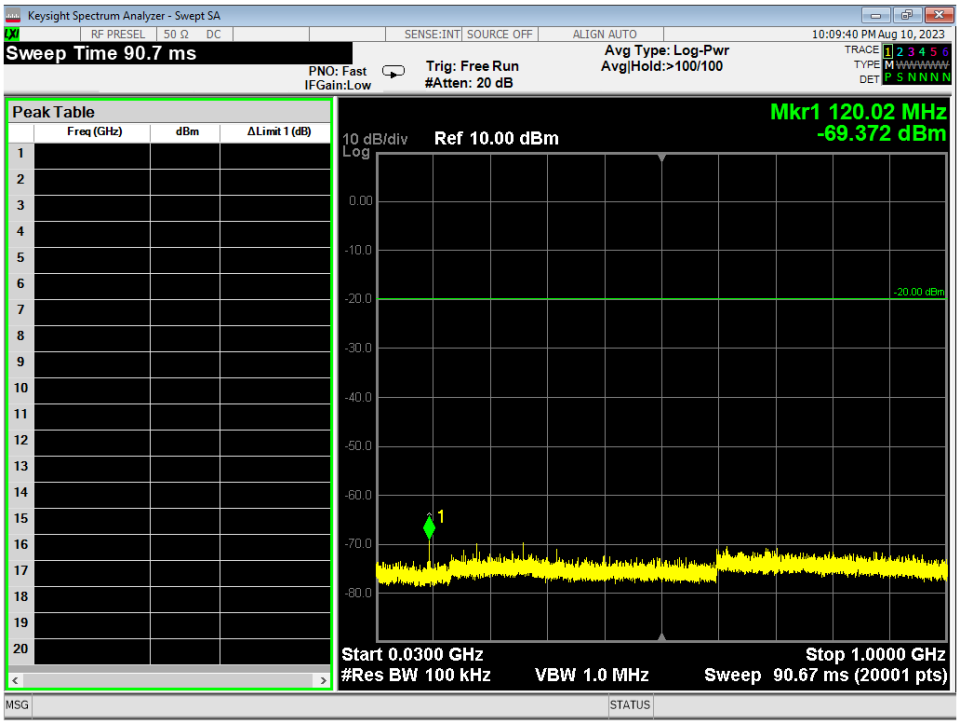


Figure 11 - Conducted Spurious Emissions, WIFI 802.11g, 30M – 1G, Low

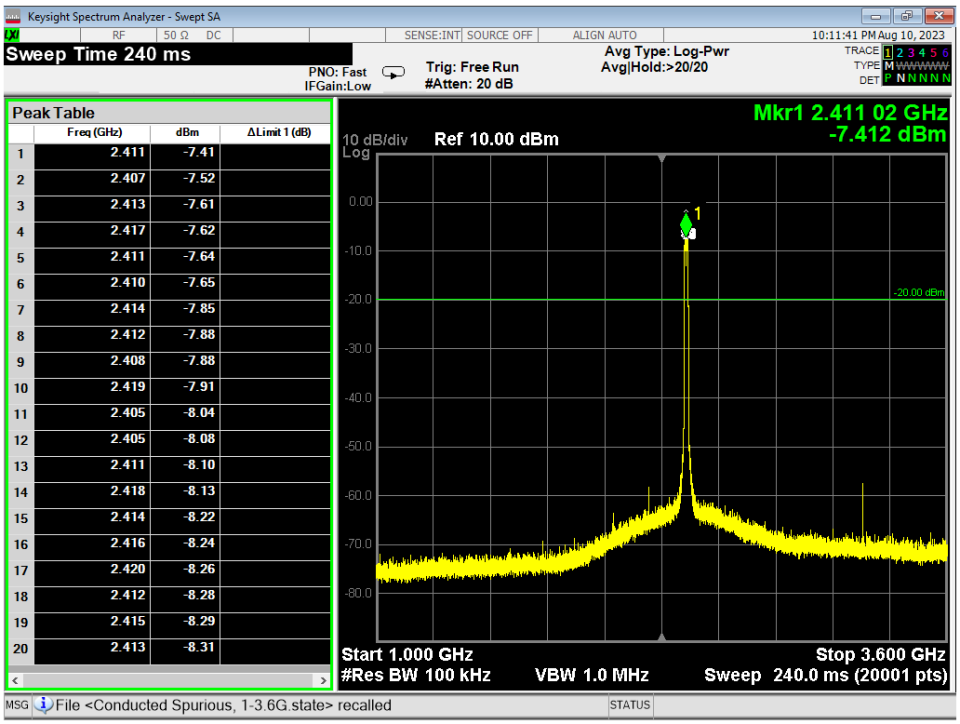


Figure 12 - Conducted Spurious Emissions, WIFI 802.11g, 1G – 3.6G, Low

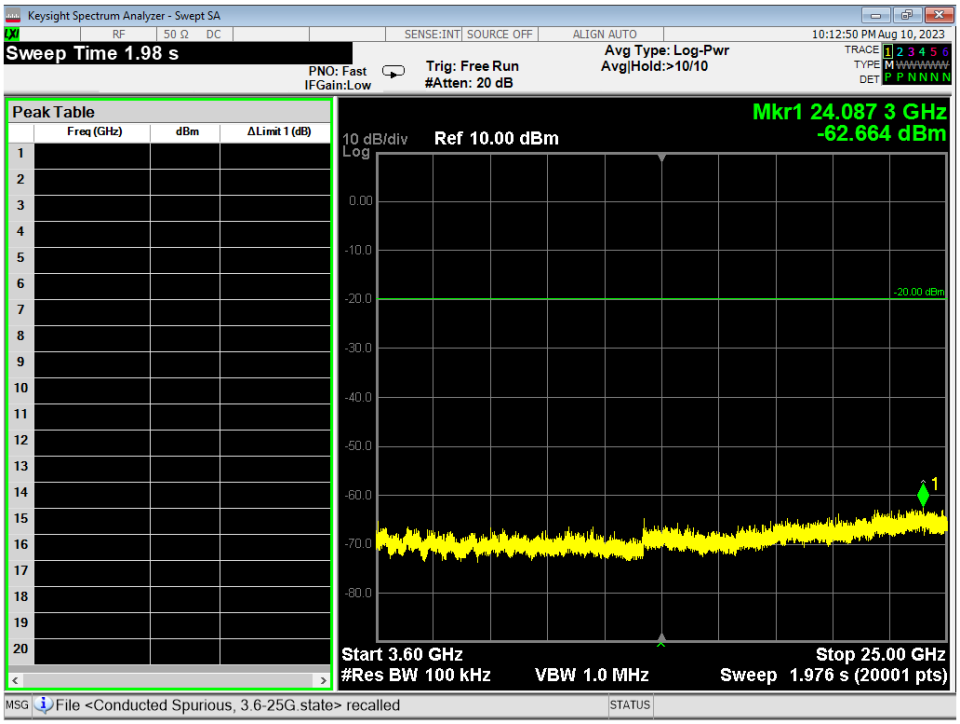


Figure 13 - Conducted Spurious Emissions, WIFI 802.11g, 3.6G – 25G, Low

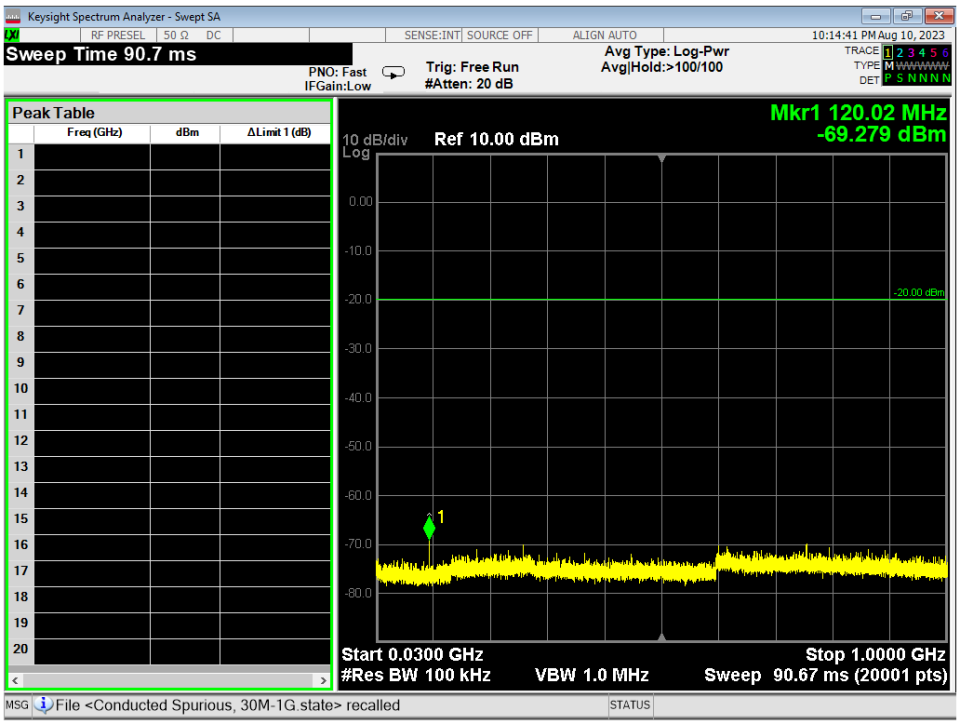


Figure 14 - Conducted Spurious Emissions, WIFI 802.11n, 30M – 1G, Low

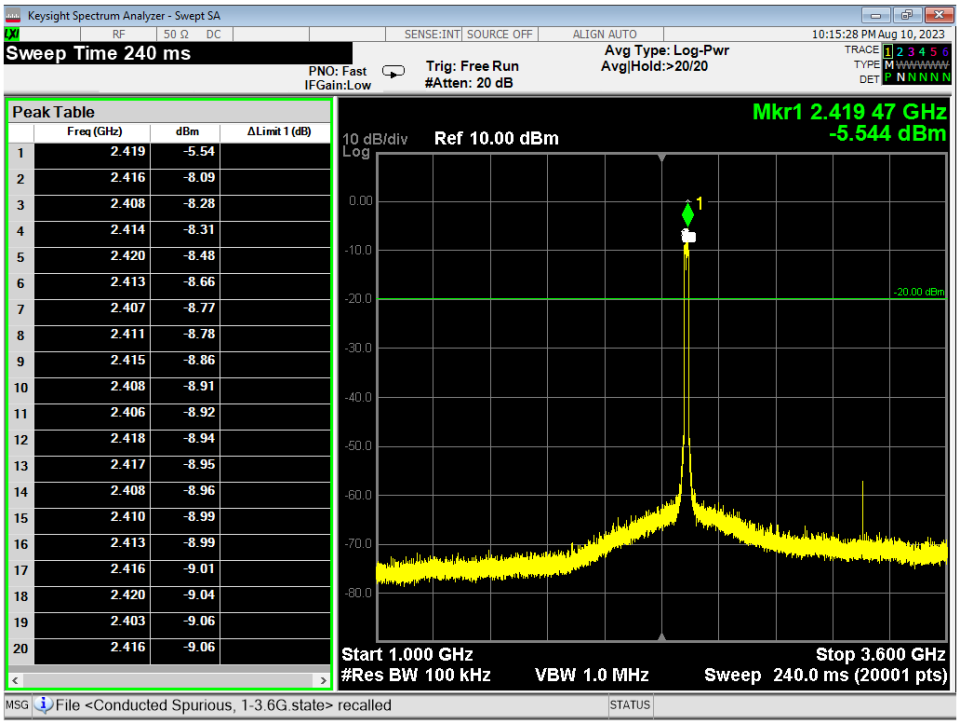


Figure 15 - Conducted Spurious Emissions, WIFI 802.11n, 1G – 3.6G, Low

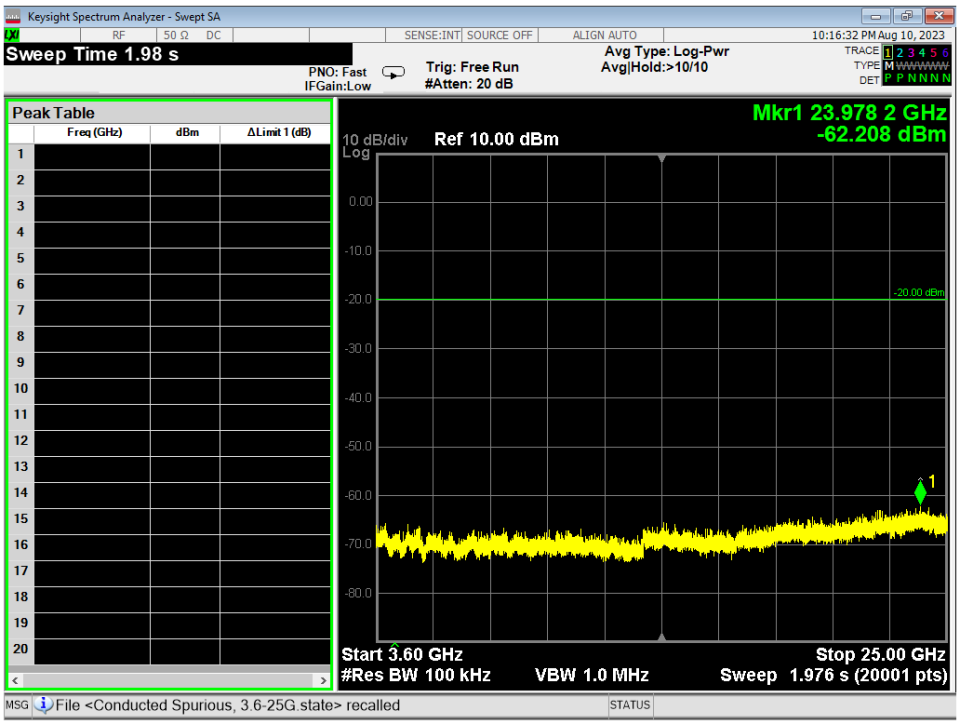


Figure 16 - Conducted Spurious Emissions, WIFI 802.11n, 3.6G – 25G, Low

4.6 BAND EDGES

Test Method: All the radio measurements were performed using the sections from ANSI C63.10, details about the section used can be found in the spectrum analyzer titles on the graph.

Limits of band-edge measurements:
For FCC Part 15.247 Device:
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c))

Test procedures:

The highest emissions level beyond the band-edge was measured and recorded. All band edge measurements were evaluated to the general limits in Part 15.209. More details can be found in section 3.4 of this report.

Deviations from test standard:
No deviation.

Test setup:
Test setup details can be found in section 3.4 of this report.

EUT operating conditions:
Details can be found in section 2.1 of this report.

Test results:

Pass

Comments:

1. All the band edge plots can be found in Appendix C.
2. If the device falls under FCC Part 15.247 (Details can be found in summary of test results), compliance is shown in the unrestricted band edges by showing minimum delta of 20 dB between peak and the band edge.
3. The restricted band edge compliance is shown by comparing it to the general limit defined in Part 15.209. The limit shown in the graph accounts for the antenna gain of the device.

4.7 POWER SPECTRAL DENSITY

Test Method: All the radio measurements were performed using the sections from ANSI C63.10, details about the section used can be found in the spectrum analyzer titles on the graph.

Limits of power measurements:

For FCC Part 15.247 Device:
The maximum PSD allowed is 8 dBm.

Test procedures:
Details can be found in section 3.4 of this report.

Deviations from test standard:
No deviation.

Test setup:
Details can be found in section 3.4 of this report.

EUT operating conditions:
Details can be found in section 2.1 of this report.

Test results:

Pass

Comments:
1. All the Power Spectral Density (PSD) plots can be found in Appendix C.
2. All the measurements were found to be compliant.
3. The measurements are listed in the tables in section 4.0.

4.8 CONDUCTED AC MAINS EMISSIONS

Test Method: ANSI C63.10-2013, Section(s) 6.2

Limits for conducted emissions measurements:

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBµV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Notes:
1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

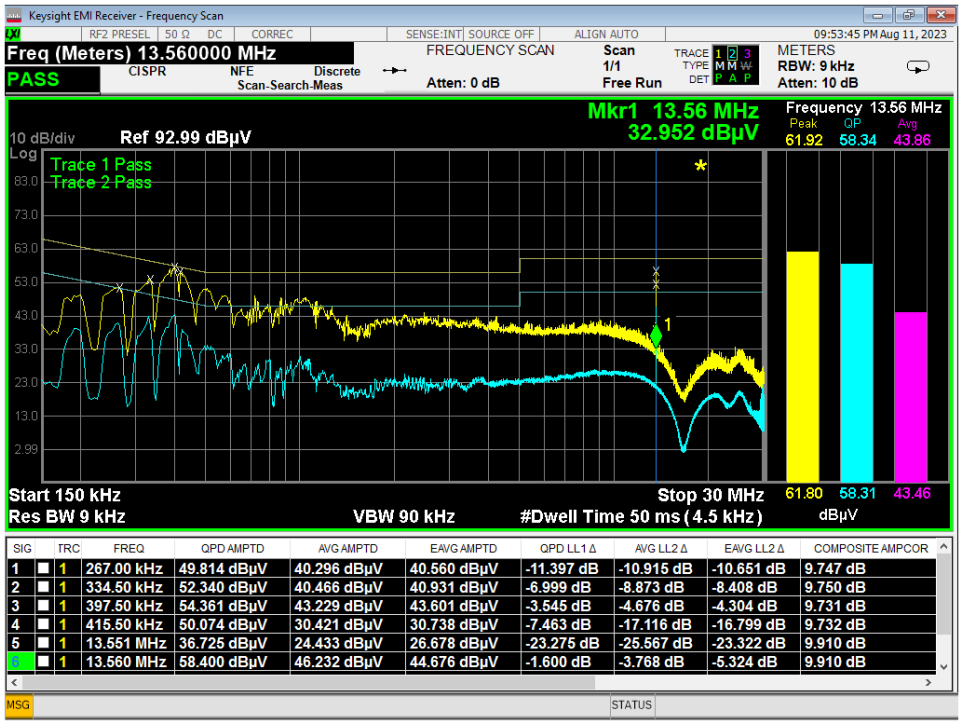
Test Procedures:

a. The EUT was placed 0.8m above a ground reference plane and 0.4 meters from the conducting wall of a shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). The LISN provides 50 ohm/ 50uH of coupling impedance for the measuring instrument.
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference as well as the ground.
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits are not reported.
d. Results were compared to the 15.207 limits.

Deviation from the test standard:
No deviation

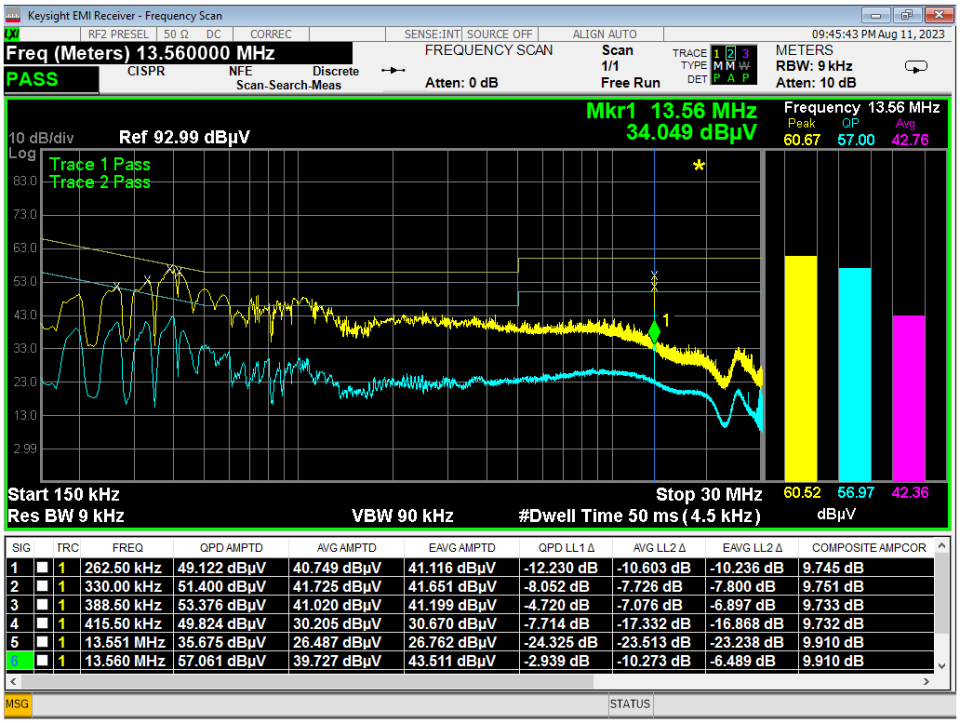
EUT operating conditions:
Details can be found in section 2.1 of this report. NCEE SN 00077 12VDC power supply was used for AC Conducted Emissions instead of the generic 12VDC power supply that came with the EUT.

Test Results:



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	EAVG AMPTD	QPD LL1 Δ	AVG LL2 Δ	EAVG LL2 Δ	COMPOSITE AMPCOR
1	1	267.00 kHz	49.814 dBµV	40.296 dBµV	40.560 dBµV	-11.397 dB	-10.915 dB	-10.651 dB	9.747 dB
2	1	334.50 kHz	52.340 dBµV	40.466 dBµV	40.931 dBµV	-6.999 dB	-8.873 dB	-8.408 dB	9.750 dB
3	1	397.50 kHz	54.361 dBµV	43.229 dBµV	43.601 dBµV	-3.545 dB	-4.676 dB	-4.304 dB	9.731 dB
4	1	415.50 kHz	50.074 dBµV	30.421 dBµV	30.738 dBµV	-7.463 dB	-17.116 dB	-16.799 dB	9.732 dB
5	1	13.551 MHz	36.725 dBµV	24.433 dBµV	26.678 dBµV	-23.275 dB	-25.567 dB	-23.322 dB	9.910 dB
6	1	13.560 MHz	58.400 dBµV	46.232 dBµV	44.676 dBµV	-1.600 dB	-3.768 dB	-5.324 dB	9.910 dB

Figure 17 - Conducted Emissions, Line, 12% duty cycle, NCEE power supply SN 00077



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	EAVG AMPTD	QPD LL1 Δ	AVG LL2 Δ	EAVG LL2 Δ	COMPOSITE AMPCOR
1	1	262.50 kHz	49.122 dBµV	40.749 dBµV	41.116 dBµV	-12.230 dB	-10.603 dB	-10.236 dB	9.745 dB
2	1	330.00 kHz	51.400 dBµV	41.725 dBµV	41.651 dBµV	-8.052 dB	-7.726 dB	-7.800 dB	9.751 dB
3	1	388.50 kHz	53.376 dBµV	41.020 dBµV	41.199 dBµV	-4.720 dB	-7.076 dB	-6.897 dB	9.733 dB
4	1	415.50 kHz	49.824 dBµV	30.205 dBµV	30.670 dBµV	-7.714 dB	-17.332 dB	-16.868 dB	9.732 dB
5	1	13.551 MHz	35.675 dBµV	26.487 dBµV	26.762 dBµV	-24.325 dB	-23.513 dB	-23.238 dB	9.910 dB
6	1	13.560 MHz	57.061 dBµV	39.727 dBµV	43.511 dBµV	-2.939 dB	-10.273 dB	-6.489 dB	9.910 dB

Figure 18 - Conducted Emissions, Neutral, 12% duty cycle, NCEE power supply SN 00077

APPENDIX A: SAMPLE CALCULATION

Field Strength Calculation

The field strength is calculated by adding the antenna factor, cable factor, and subtracting the amplifier gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:
FS = RA + AF – (-CF + AG) + AV

where FS = Field Strength
RA = Receiver Amplitude
AF = Antenna Factor
CF = Cable Attenuation Factor
AG = Amplifier Gain
AV = Averaging Factor (if applicable)

Assume a receiver reading of 55 dBμV is obtained. The Antenna Factor of 12 and a Cable Factor of 1.1 is added. The Amplifier Gain of 20 dB is subtracted, giving a field strength of 48.1 dBμV/m.
FS = 55 + 12 – (-1.1 + 20) + 0 = 48.1 dBμV/m
The 48.1 dBμV/m value can be mathematically converted to its corresponding level in μV/m.
Level in μV/m = Common Antilogarithm [(48.1 dBμV/m)/20]= 254.1 μV/m
AV is calculated by taking the 20*log(T_{on}/100) where T_{on} is the maximum transmission time in any 100ms window.

EIRP Calculations

In cases where direct antenna port measurement is not possible or would be inaccurate, output power is measured in EIRP. The maximum field strength is measured at a specified distance and the EIRP is calculated using the following equation.

EIRP (Watts) = [Field Strength (V/m) x antenna distance (m)]^2 / 30
Power (watts) = 10^[Power (dBm)/10] / 1000
Voltage (dBµV) = Power (dBm) + 107 (for 50Ω measurement systems)
Field Strength (V/m) = 10^[Field Strength (dBµV/m) / 20] / 10^6
Gain = 1 (numeric gain for isotropic radiator)
Conversion from 3m field strength to EIRP (d=3):
EIRP = [FS(V/m) x d^2]/30 = FS [0.3] for d = 3
EIRP(dBm) = FS(dBµV/m) – 10(log 10^9)+ 10log[0.3] = FS(dBµV/m) - 95.23
10log(10^9) is the conversion from micro to milli.

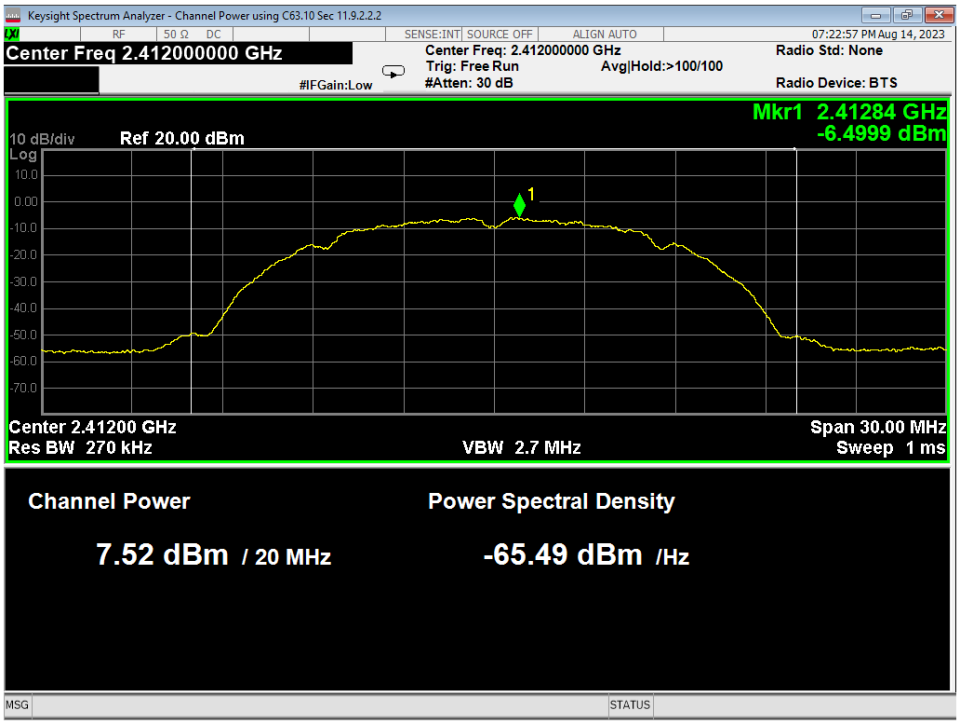
APPENDIX B – MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been for tests performed in this test report:

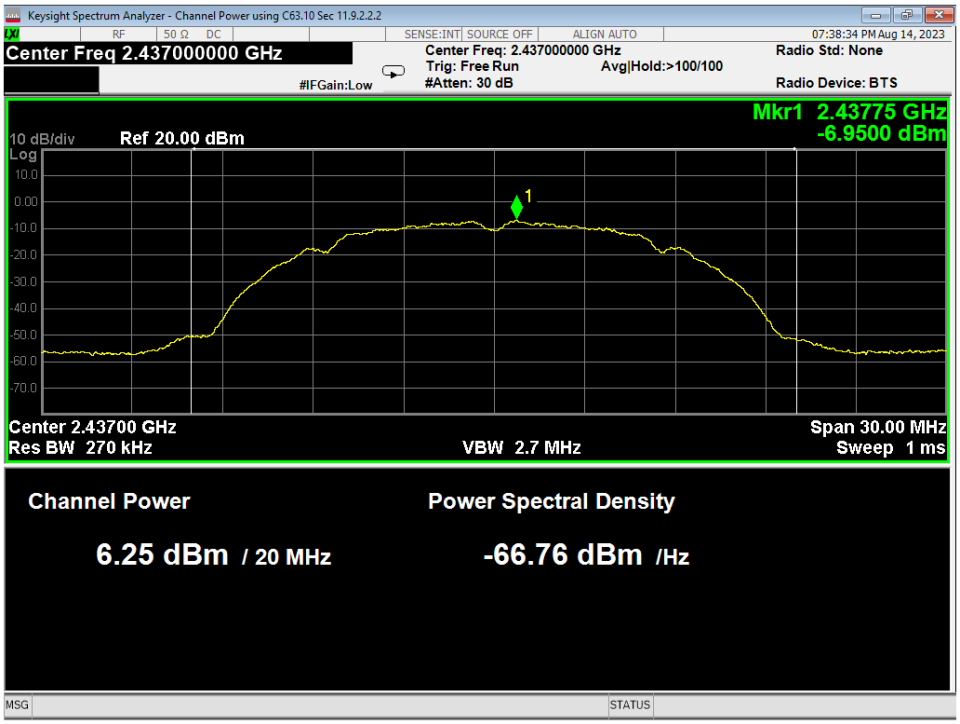
Test	Frequency Range	Uncertainty Value (dB)
Radiated Emissions, 3m	30MHz - 1GHz	±4.31
Radiated Emissions, 3m	1GHz - 18GHz	±5.08
Emissions limits, conducted	30MHz – 18GHz	±3.03

Expanded uncertainty values are calculated to a confidence level of 95%.

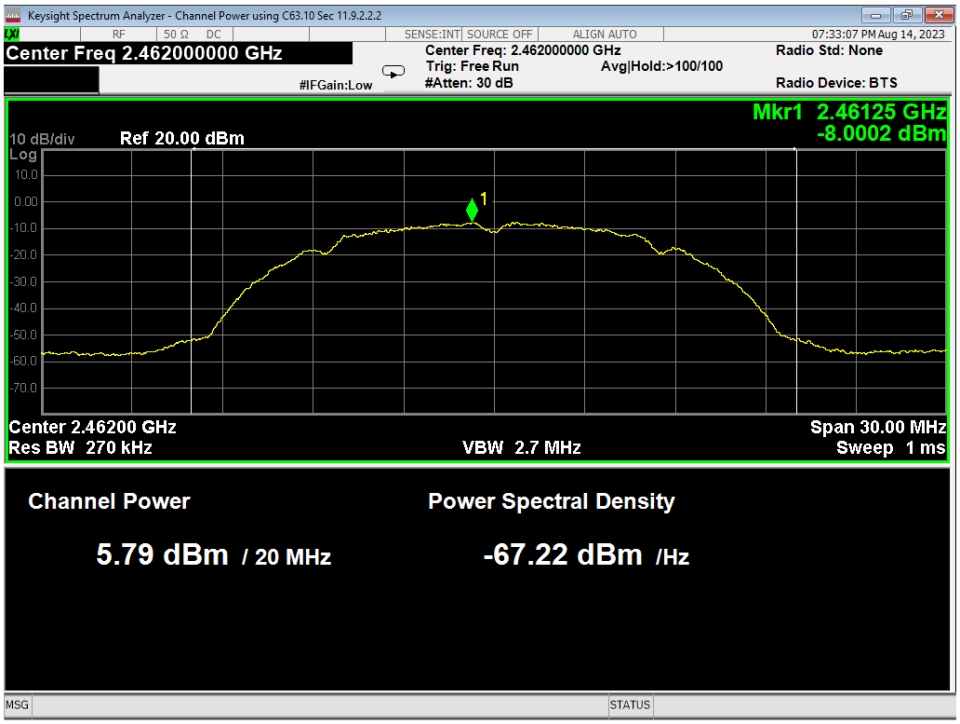
APPENDIX C – GRAPHS AND TABLES



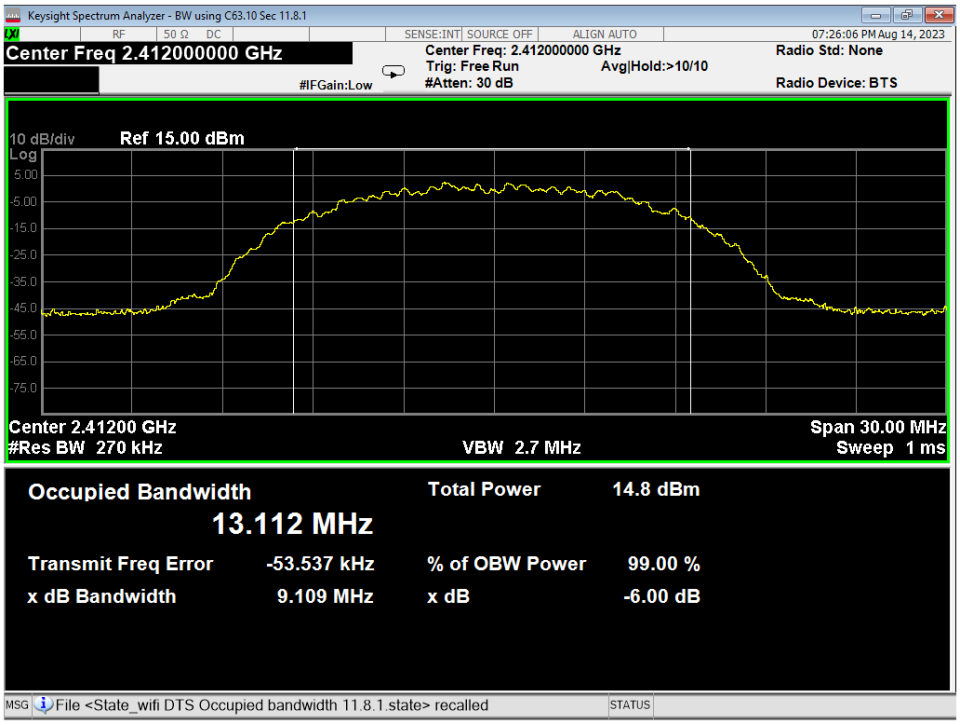
01 Average Power, Low, Wifi B, Low Data Rate, Conducted



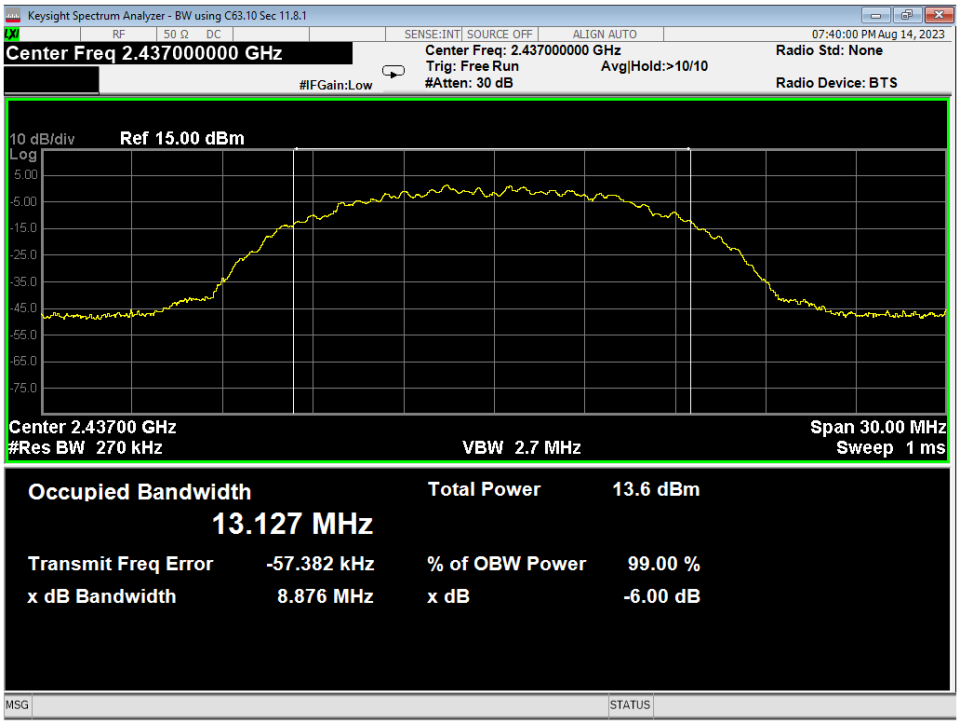
02 Average Power, Mid, Wifi B, Low Data Rate, Conducted



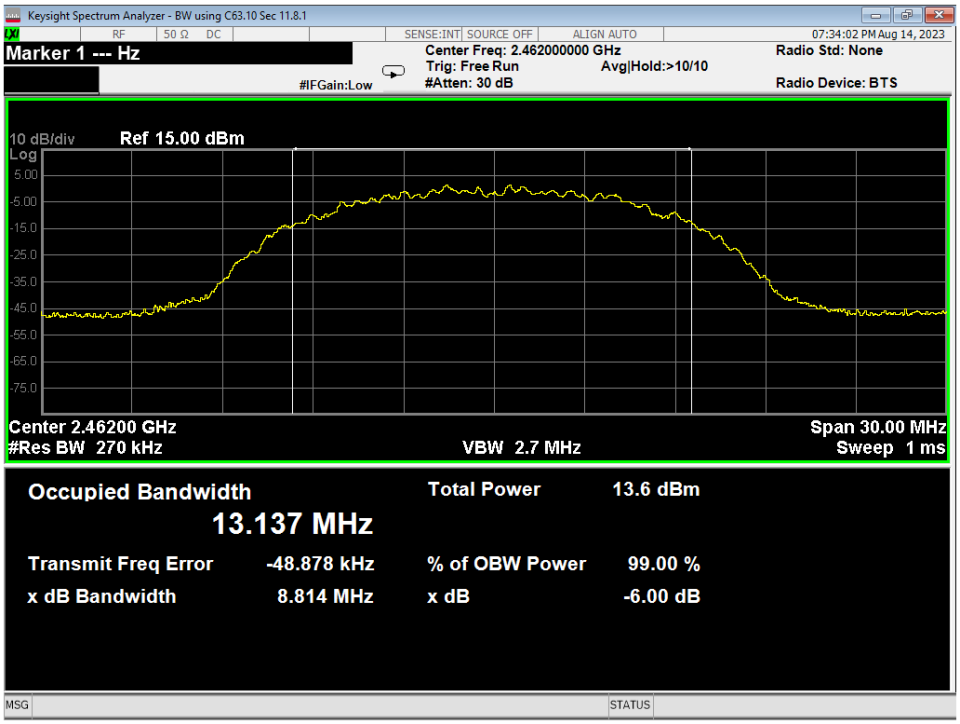
03 Average Power, High, Wifi B, Low Data Rate, Conducted



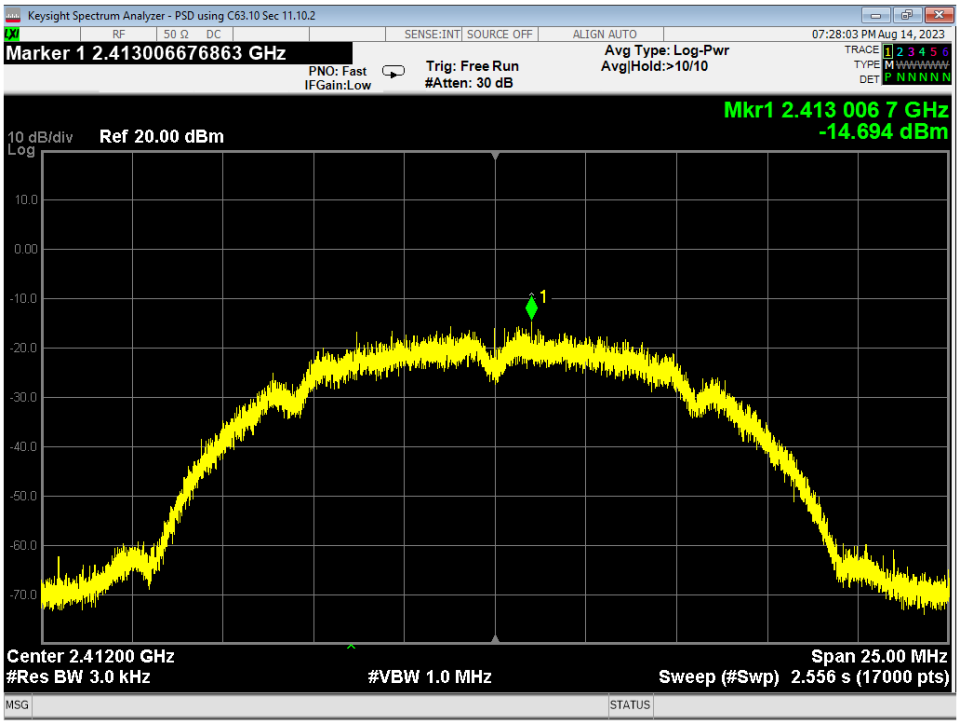
04 6dB Bandwidth, Low, Wifi B, Low Data Rate, Conducted



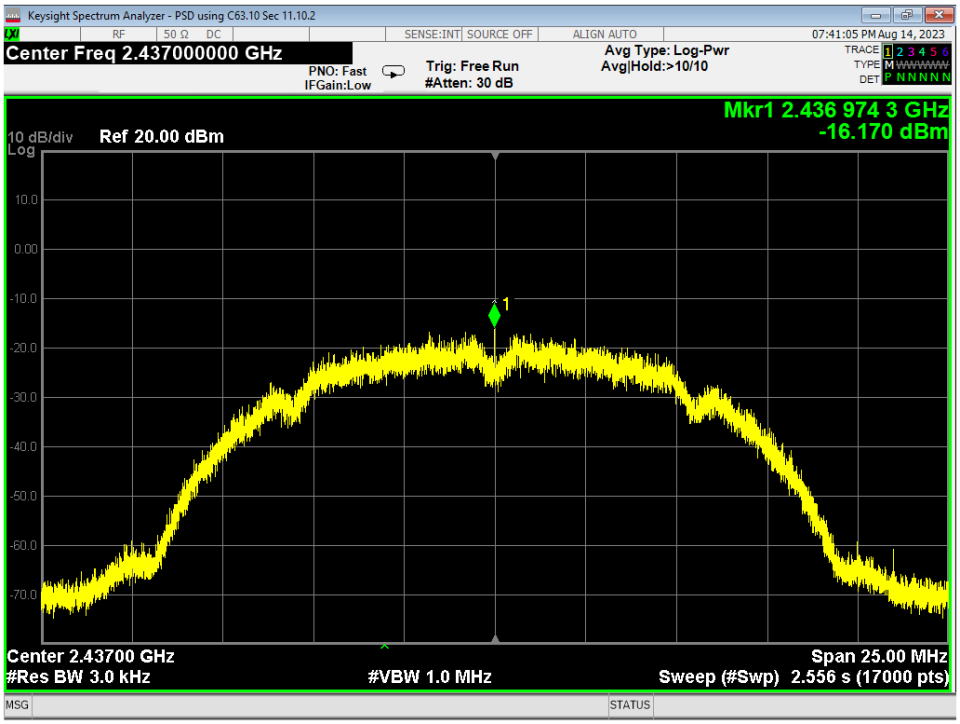
05 6dB Bandwidth, Mid, Wifi B, Low Data Rate, Conducted



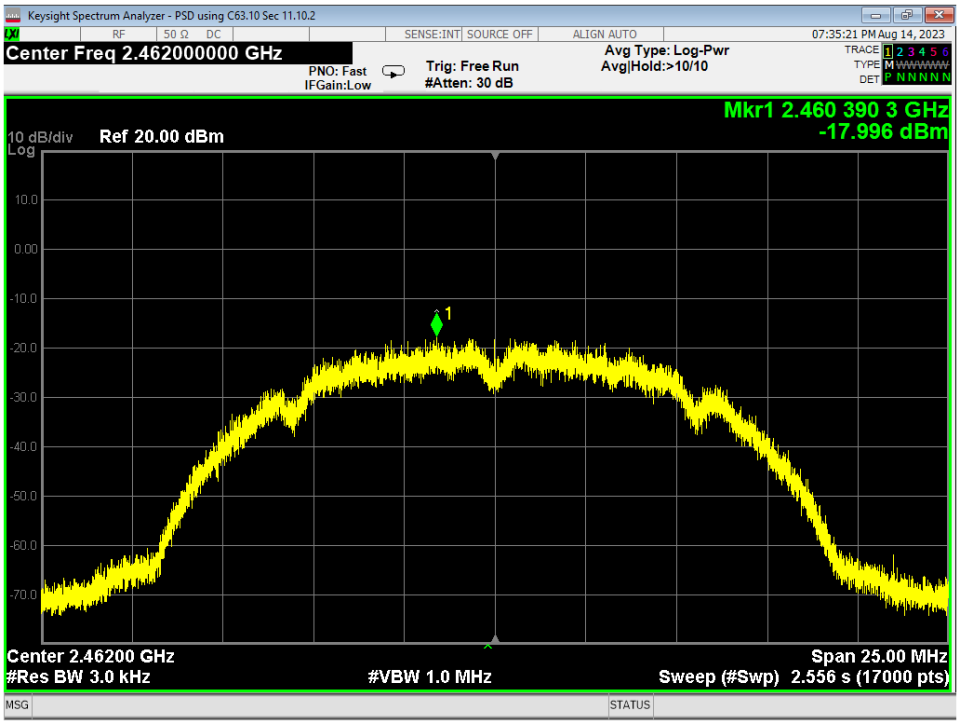
06 6dB Bandwidth, High, Wifi B, Low Data Rate, Conducted



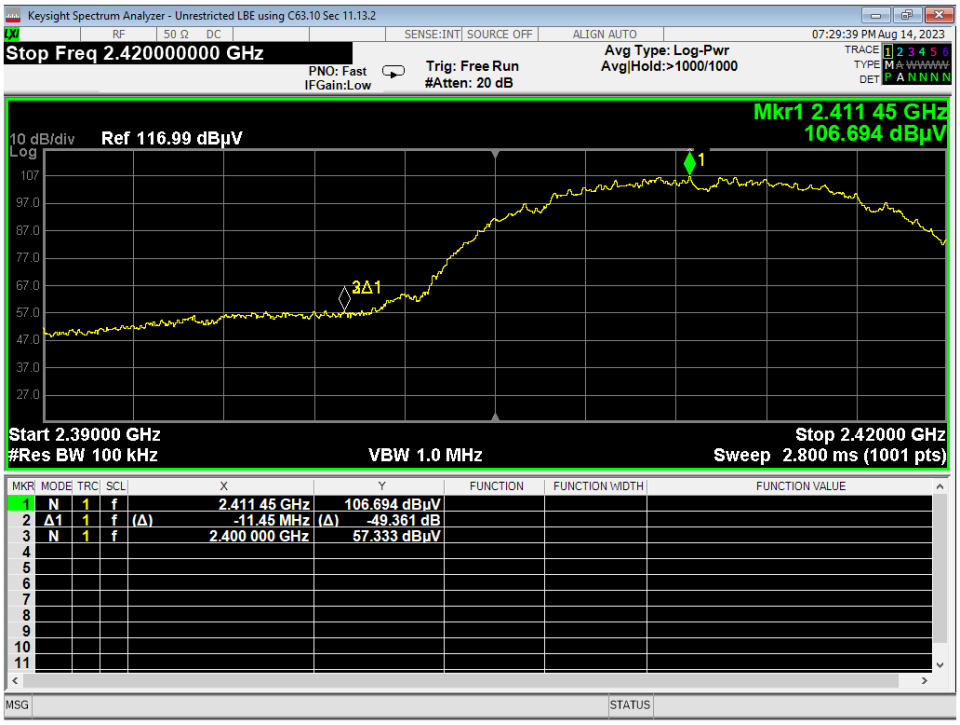
07 PSD, Low, Wifi B, Low Data Rate, Conducted



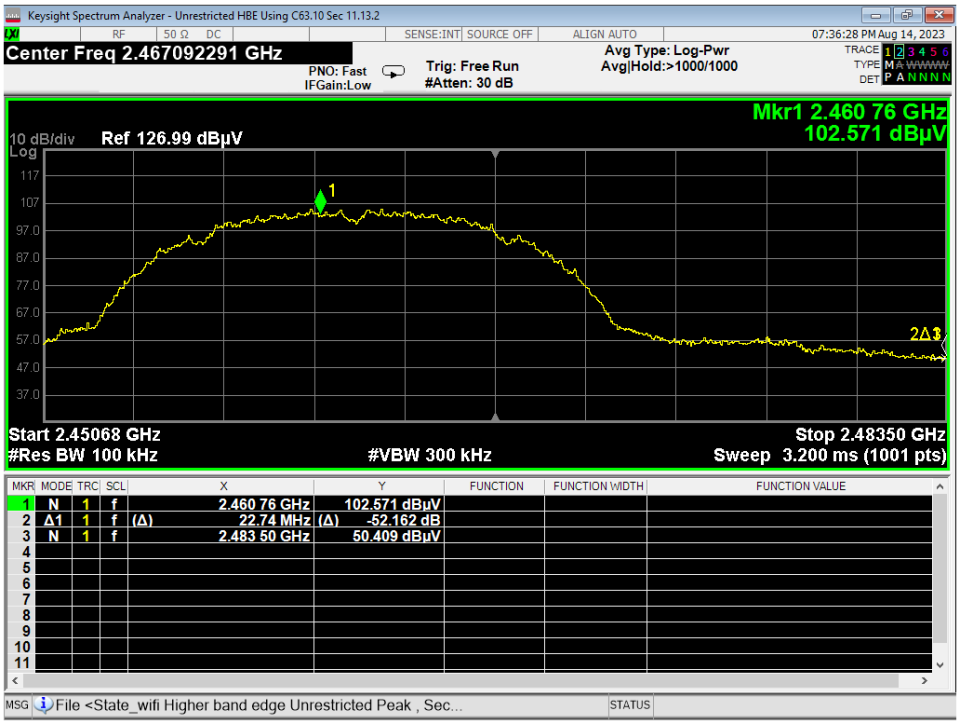
08 PSD, Mid, Wifi B, Low Data Rate, Conducted



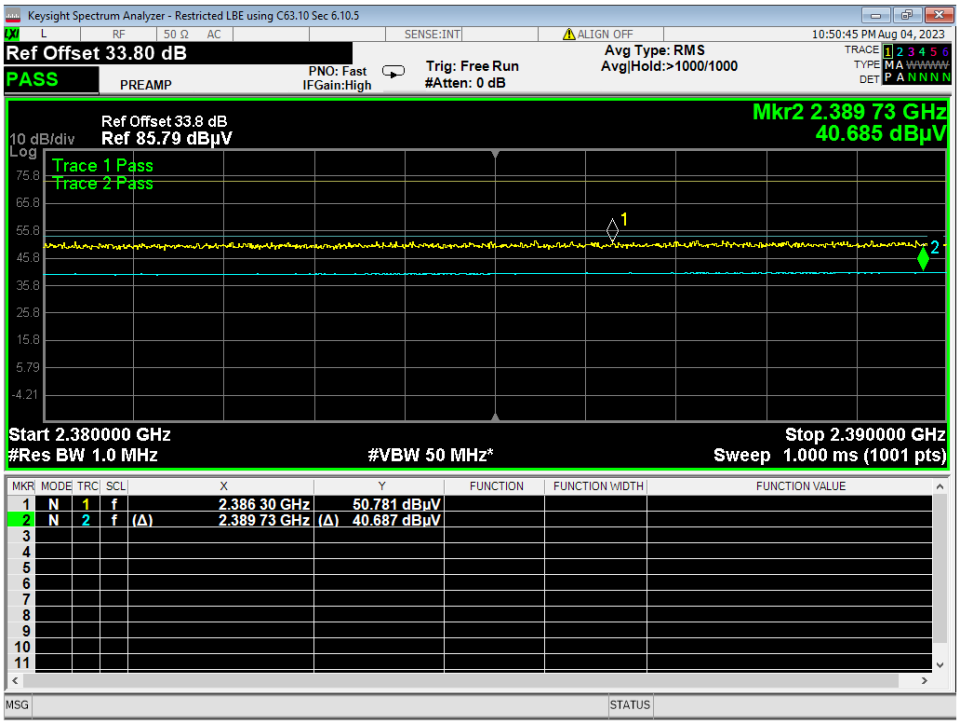
09 PSD, High, Wifi B, Low Data Rate, Conducted



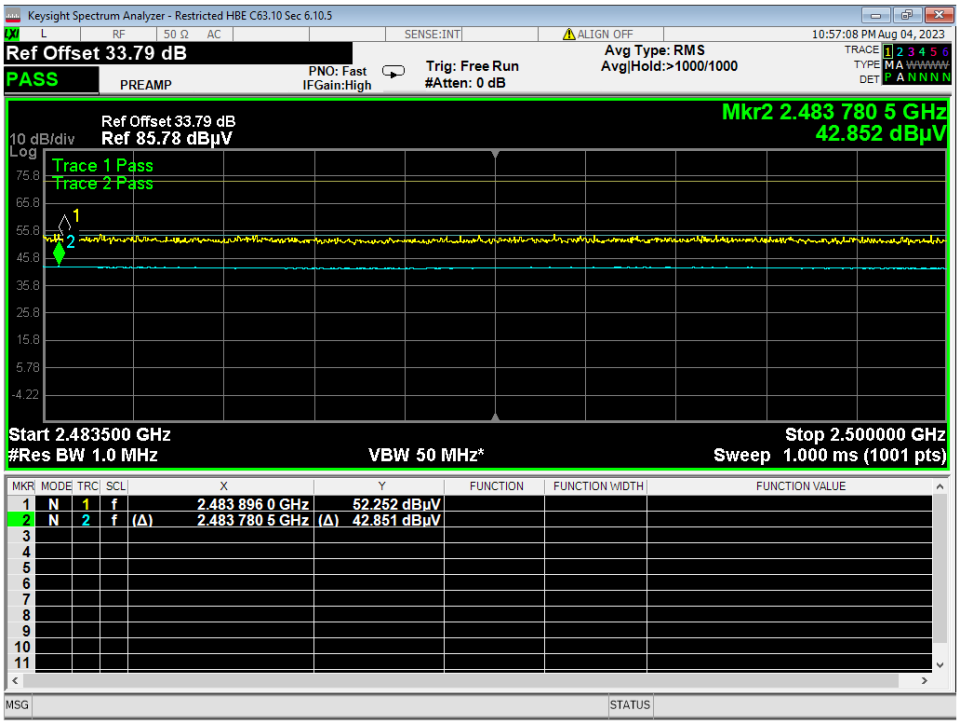
10 Lower Bandedge, Unrestricted, Wifi B, Low Data Rate, Conducted



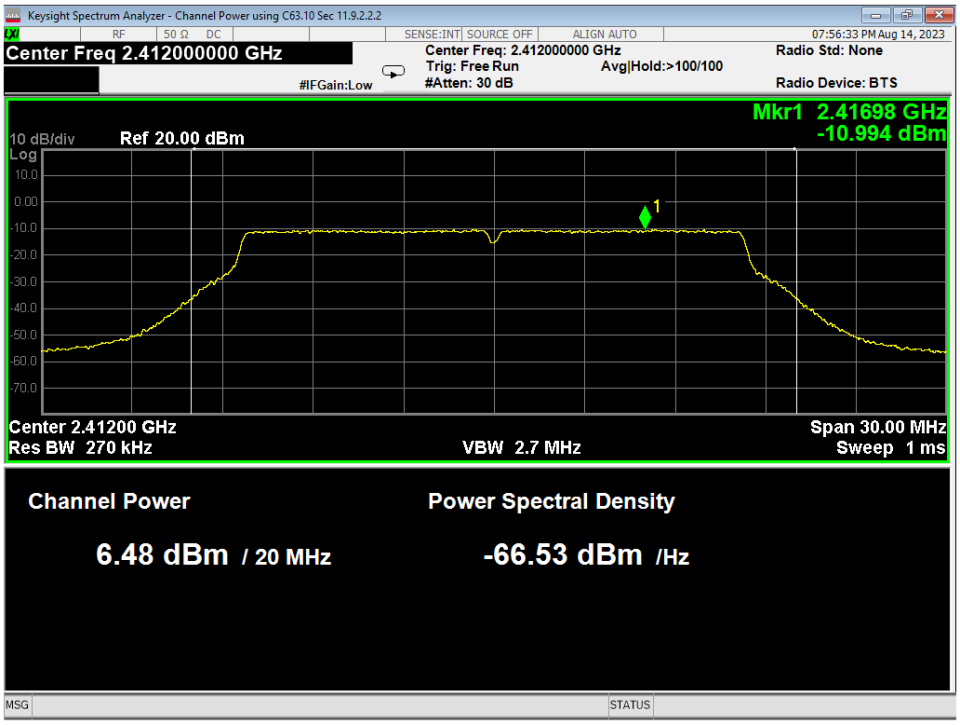
11 Higher Bandedge, Unrestricted, Wifi B, Low Data Rate, Conducted



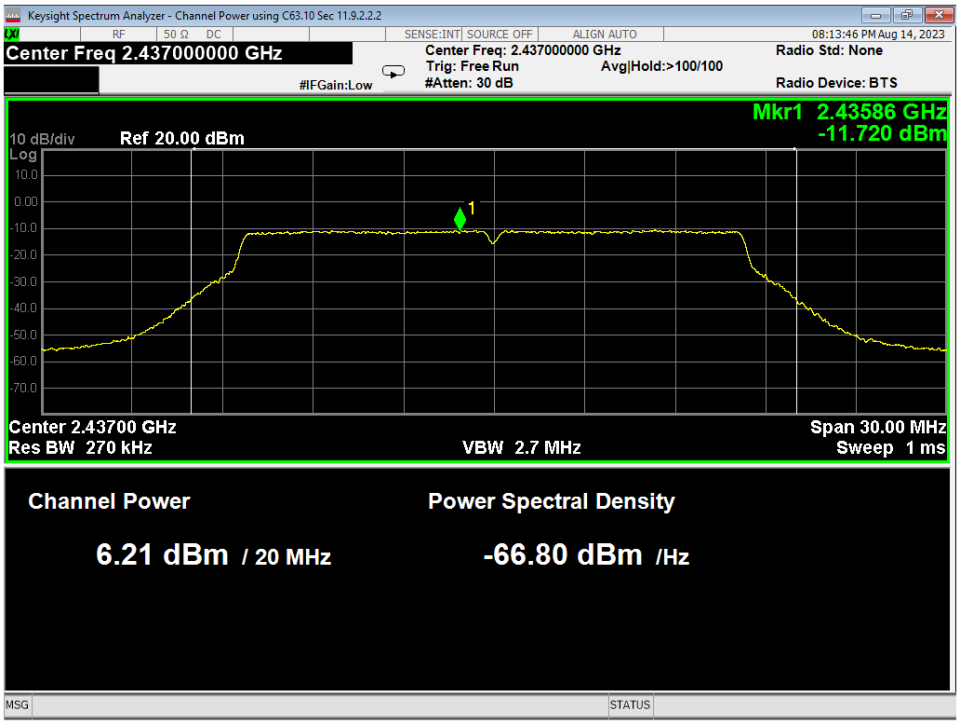
12 Lower Bandedge, Restricted, Wifi B, Low Data Rate, Radiated



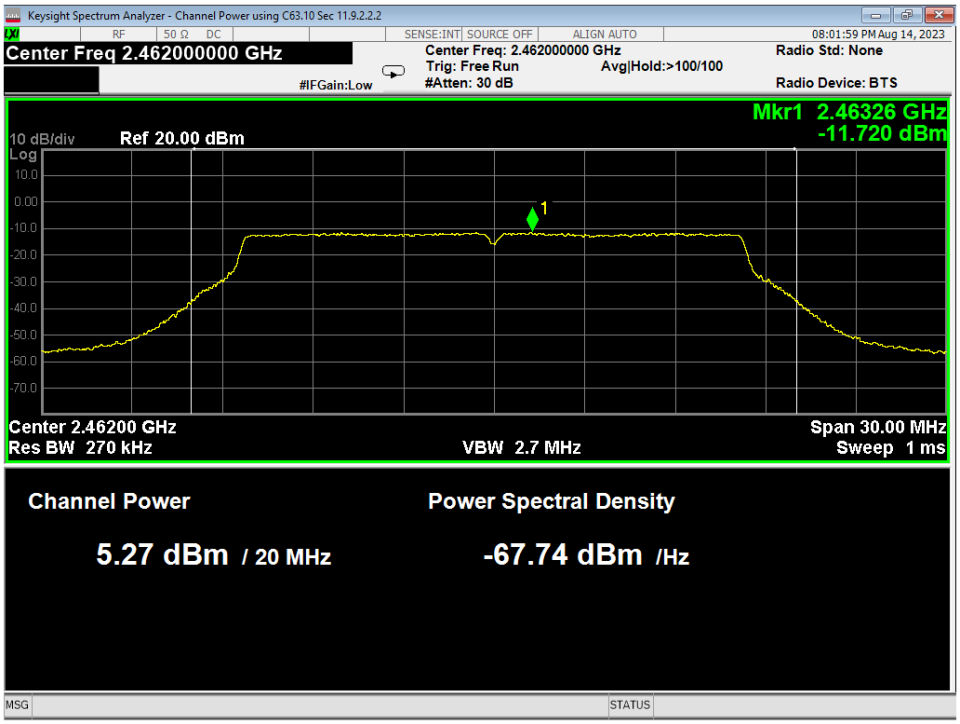
13 Higher Bandedge, Restricted, Wifi B, Low Data Rate, Radiated



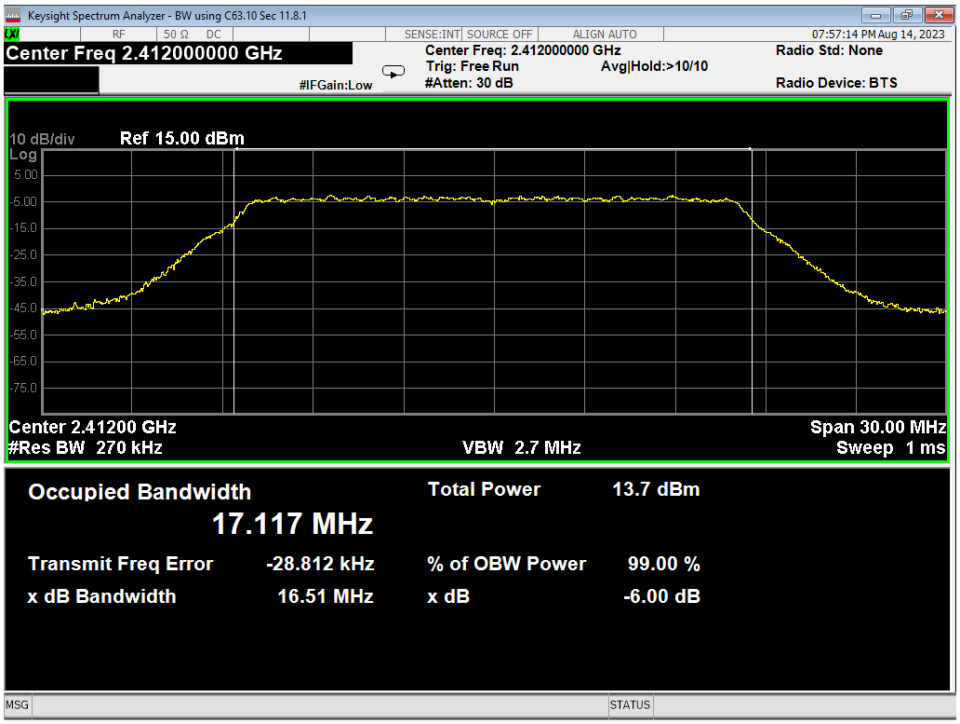
14 Average Power, Low, Wifi G, Low Data Rate, conducted



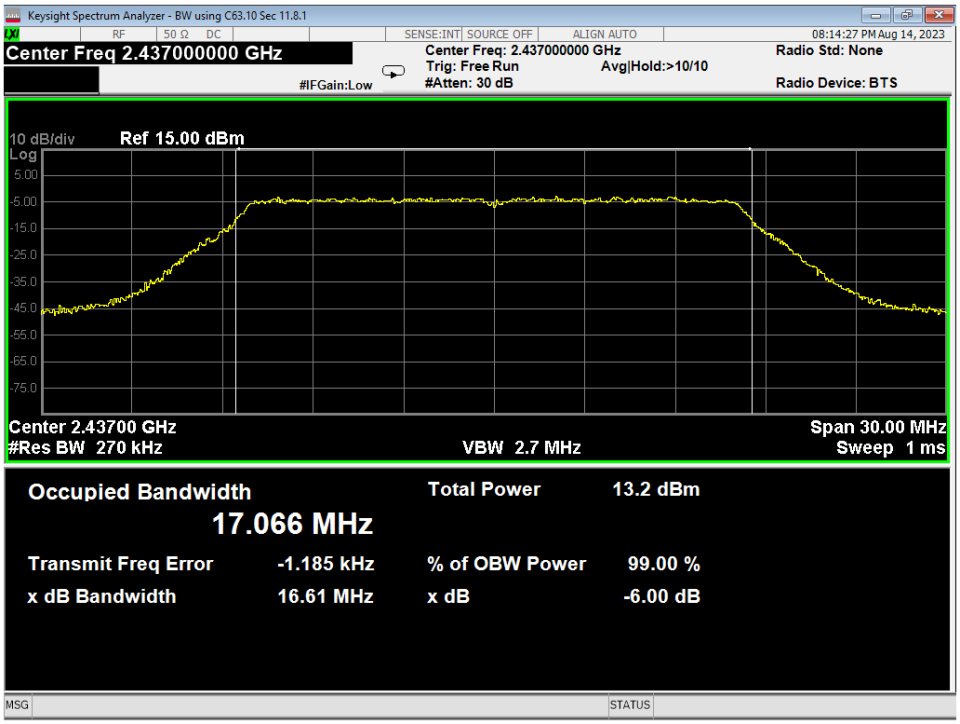
15 Average Power, Mid, Wifi G, Low Data Rate, conducted



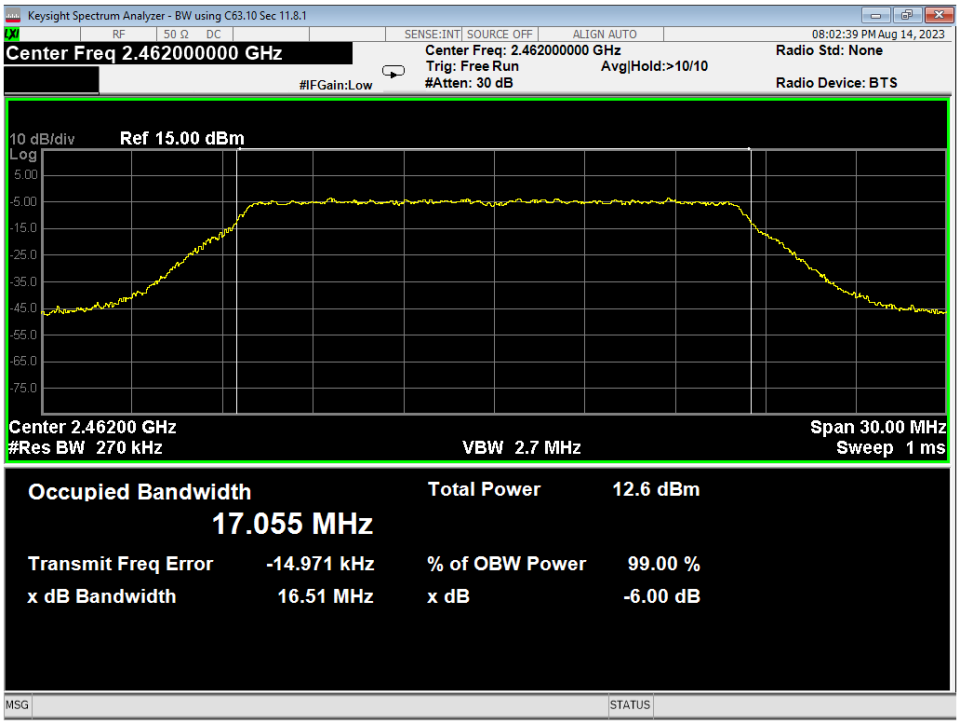
16 Average Power, High, Wifi G, Low Data Rate, conducted



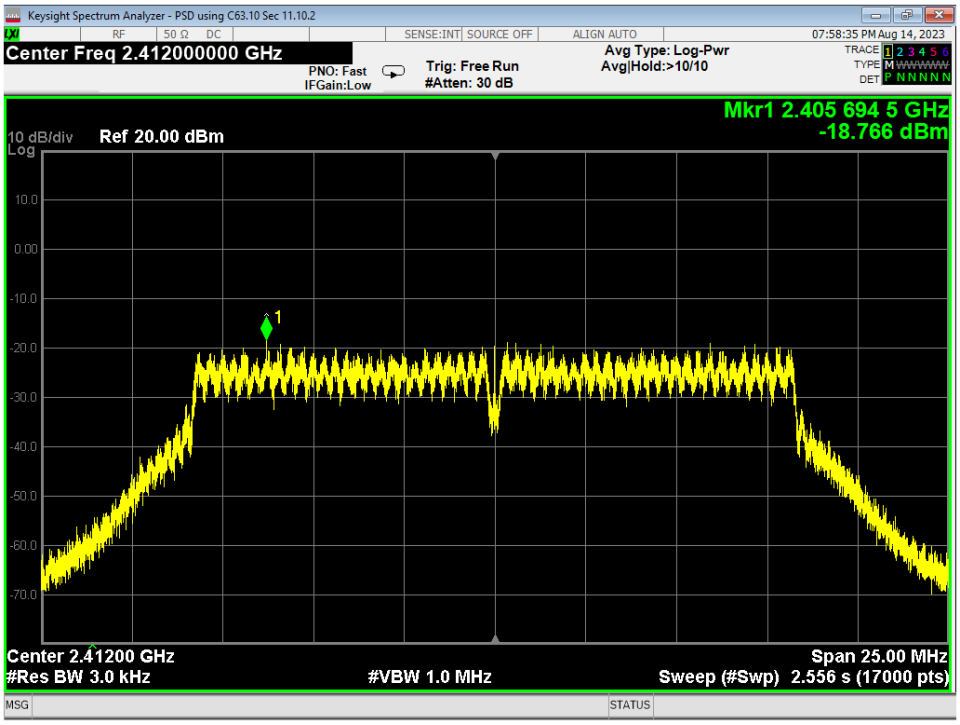
17 6dB Bandwidth, Low, Wifi G, Low Data Rate, conducted



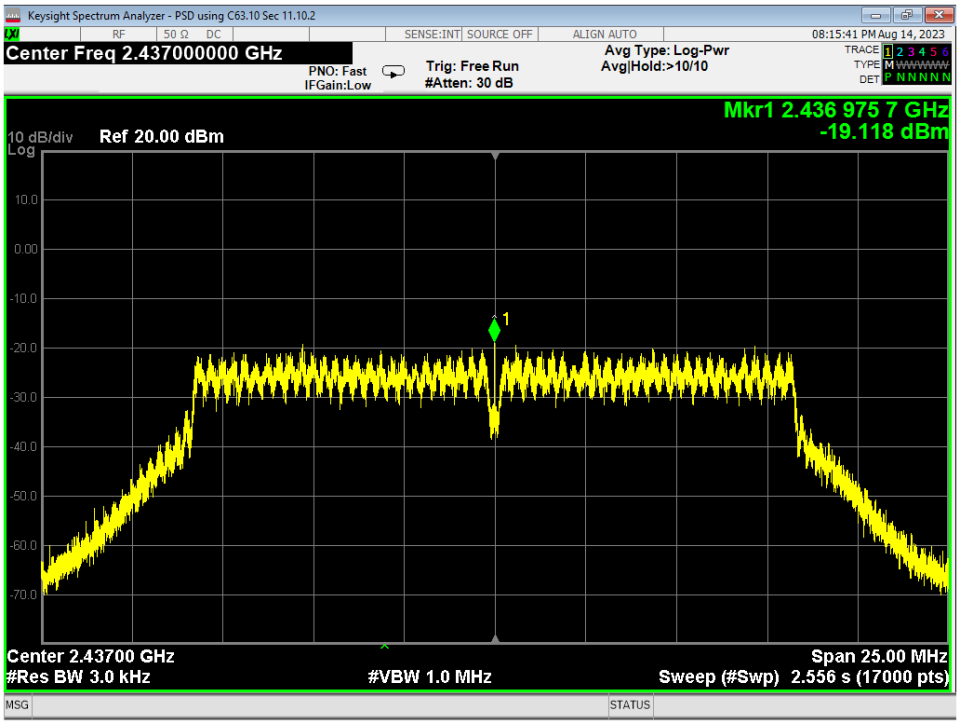
18 6dB Bandwidth, Mid, Wifi G, Low Data Rate, conducted



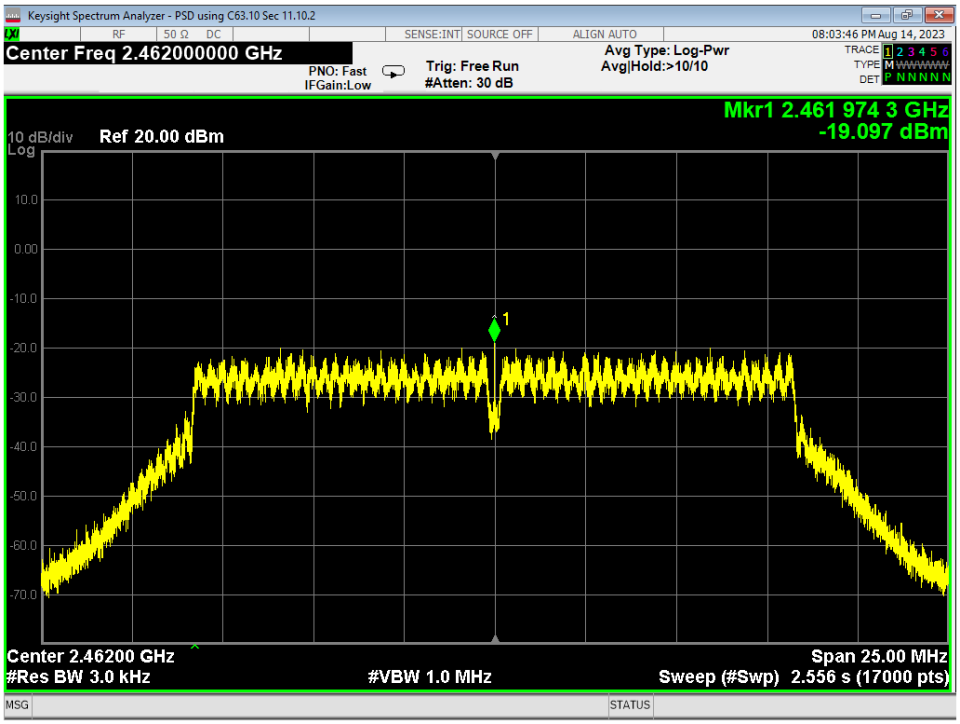
19 6dB Bandwidth, High, Wifi G, Low Data Rate, conducted



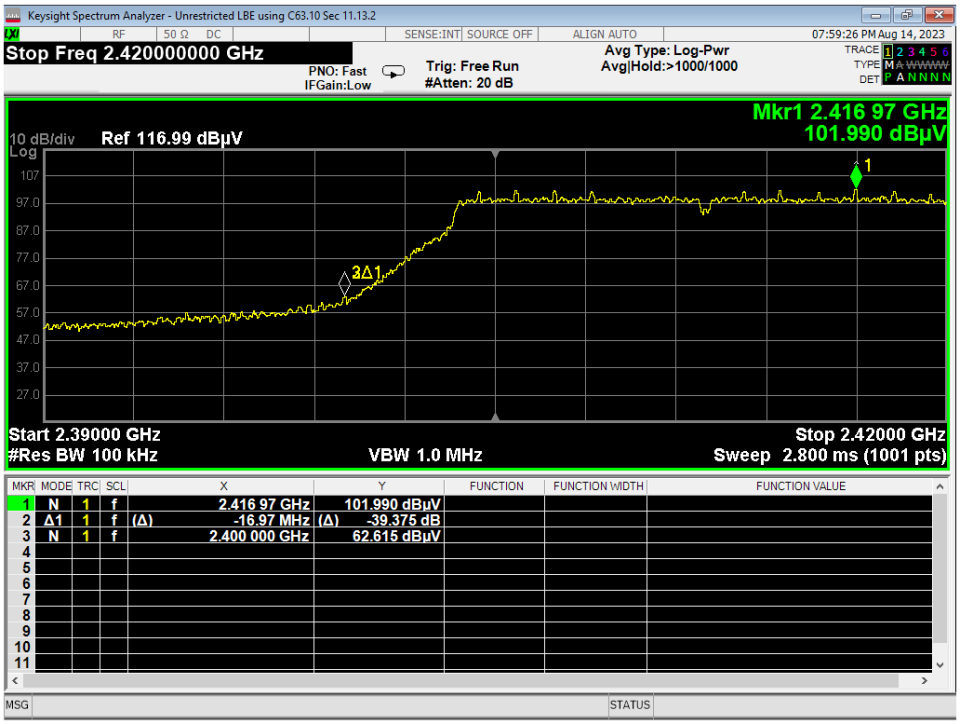
20 PSD, Low, Wifi G, Low Data Rate, conducted



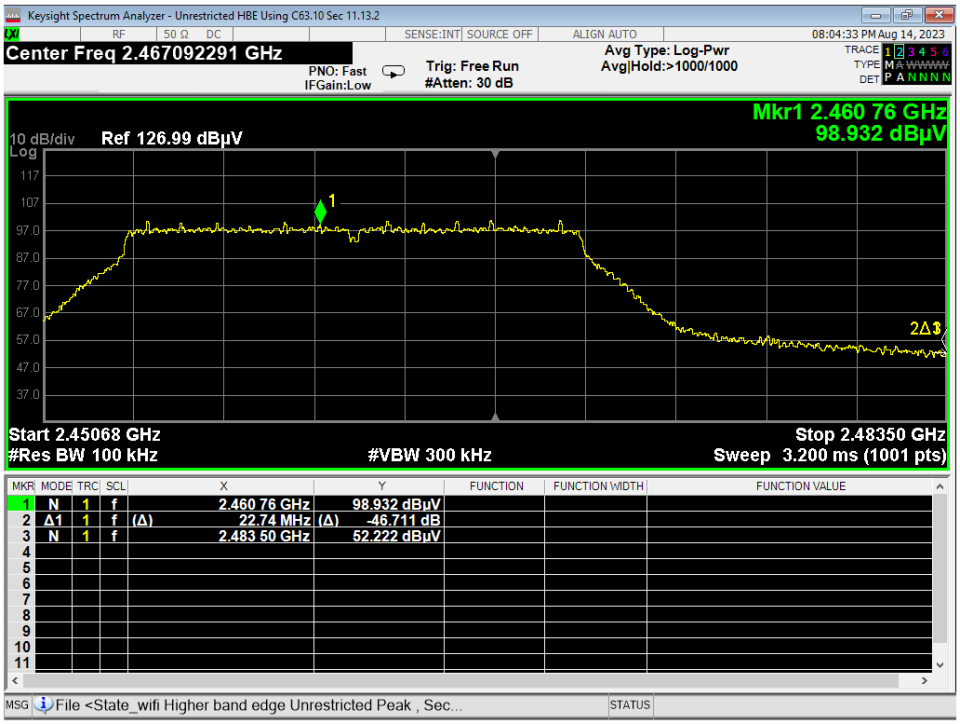
21 PSD, Mid, Wifi G, Low Data Rate, conducted



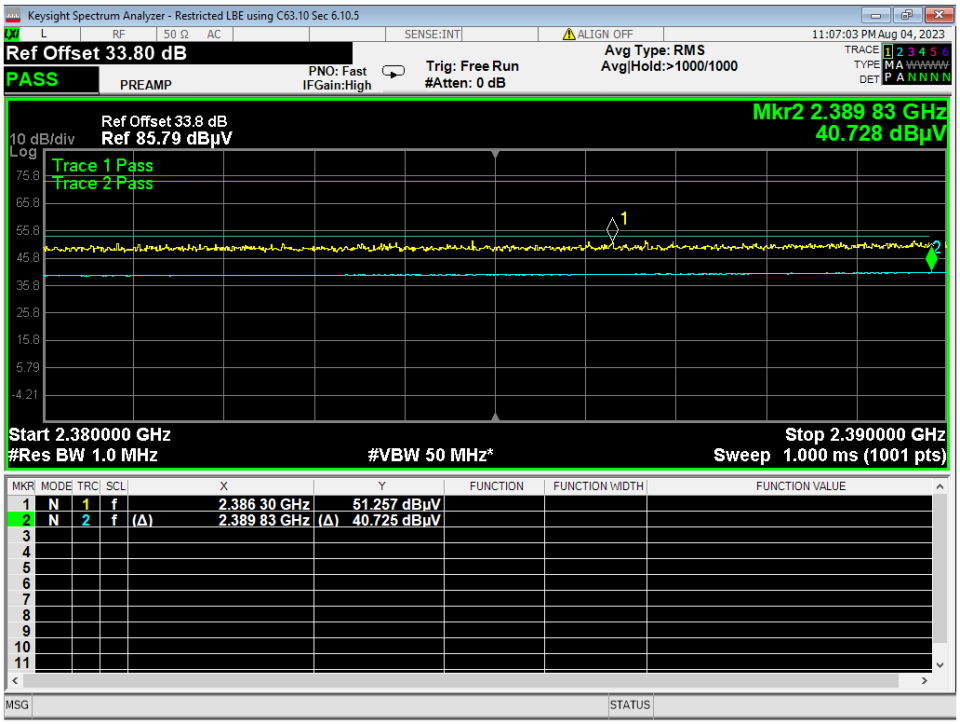
22 PSD, High, Wifi G, Low Data Rate, conducted



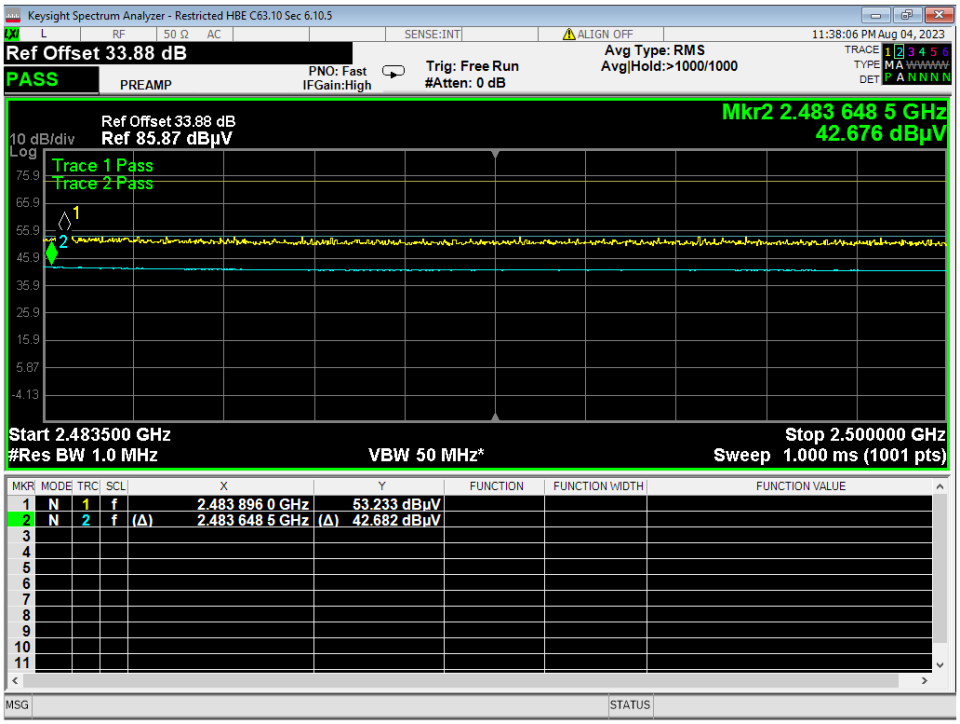
23 Lower Bandedge, Unrestricted, Wifi G, Low Data Rate, conducted



24 Higher Bandedge, Unrestricted, Wifi G, Low Data Rate, conducted



25 Lower Bandedge, Restricted, Wifi G, Low Data Rate, radiated



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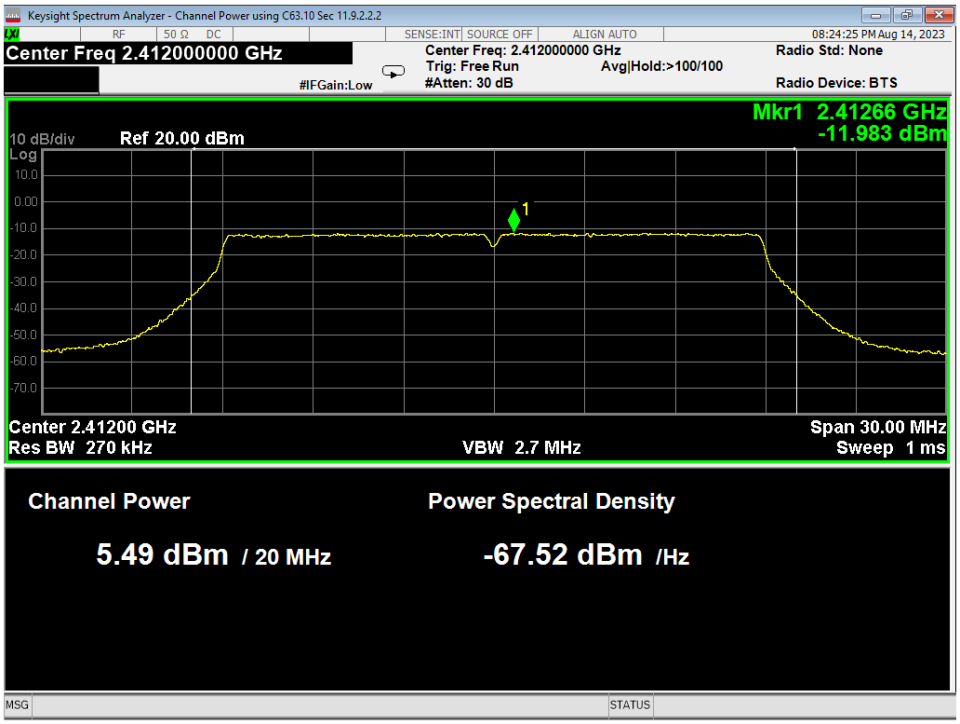
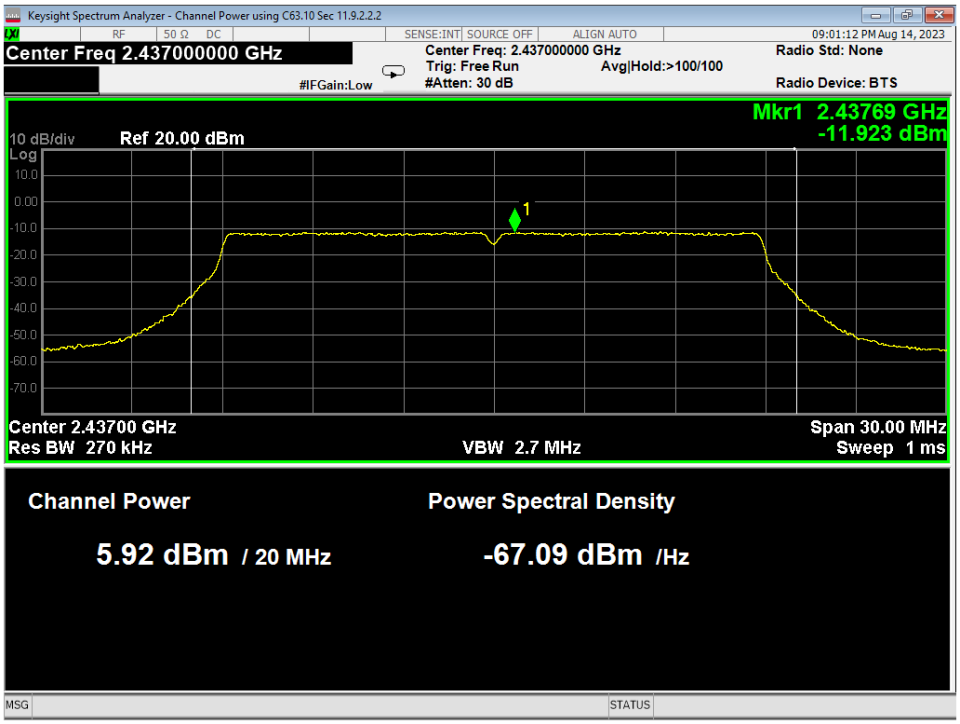
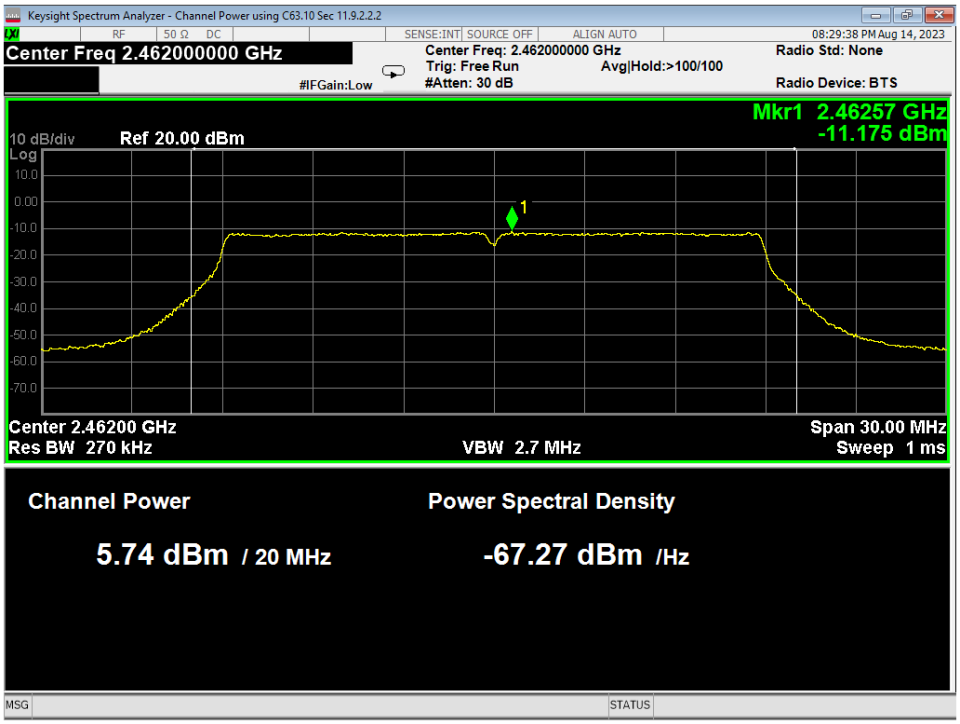


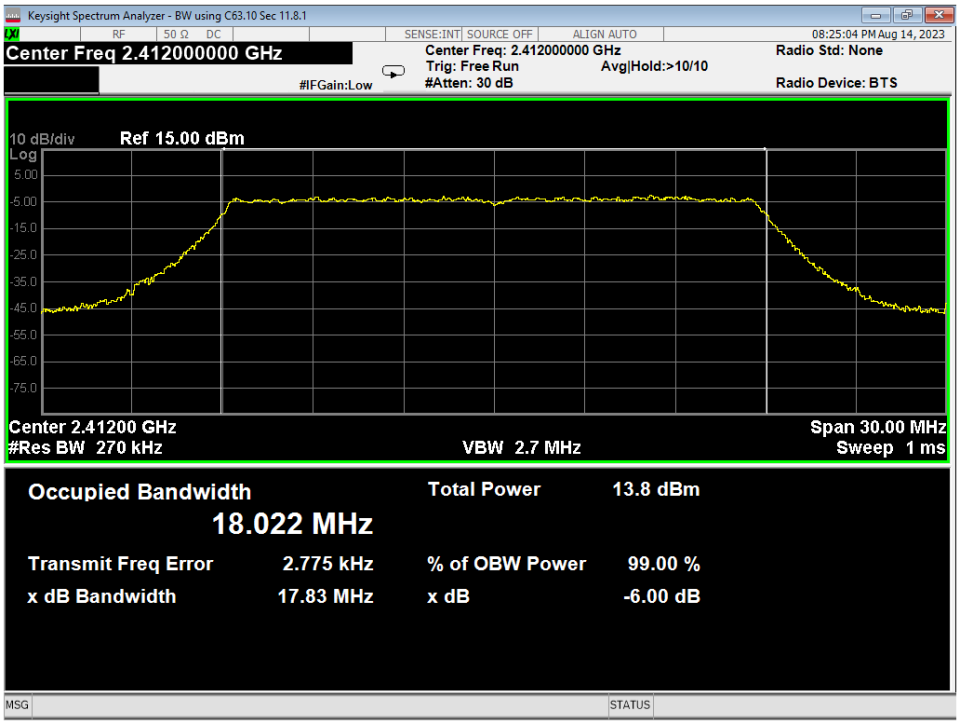
27 Average Power, Low, Wifi N, Low Data Rate, conducted



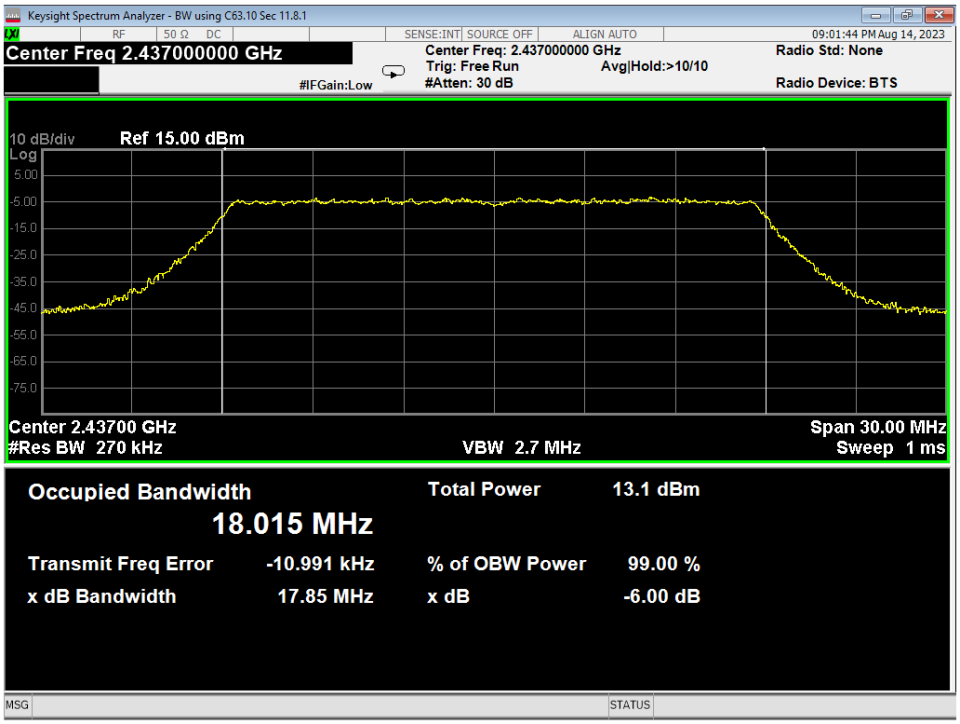
28 Average Power, Mid, Wifi N, Low Data Rate, conducted



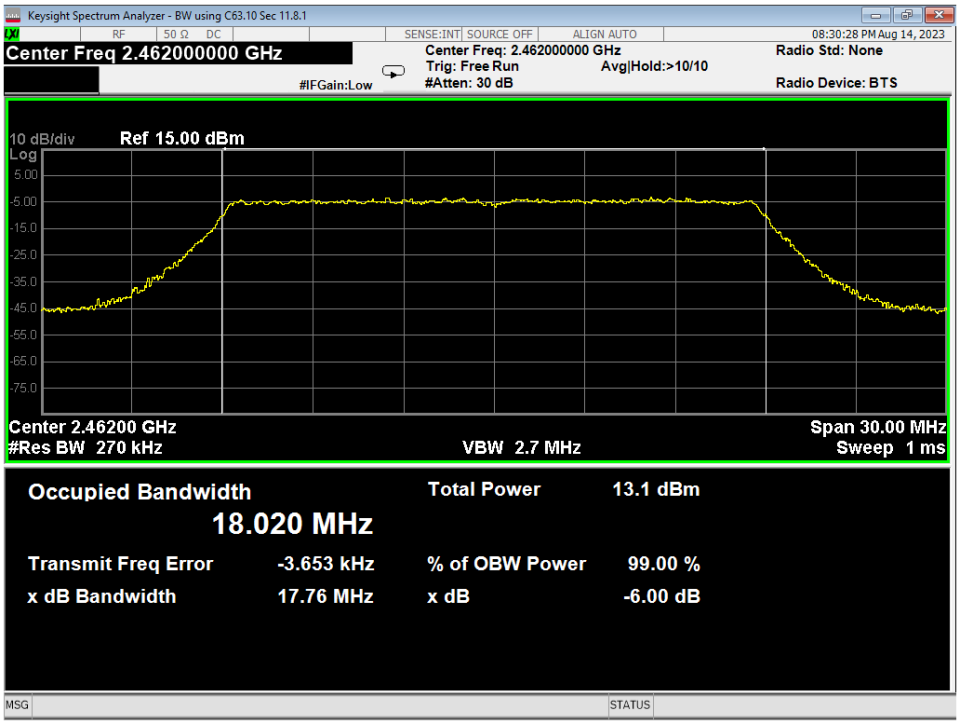
29 Average Power, High, Wifi N, Low Data Rate, conducted



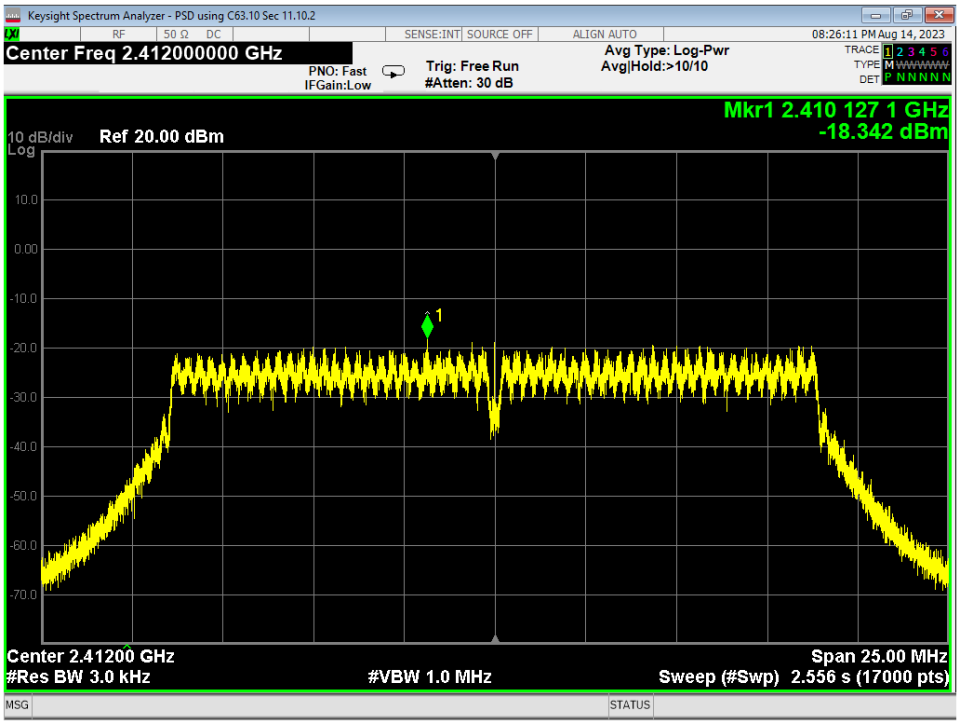
30 6dB Bandwidth, Low, Wifi N, Low Data Rate, conducted



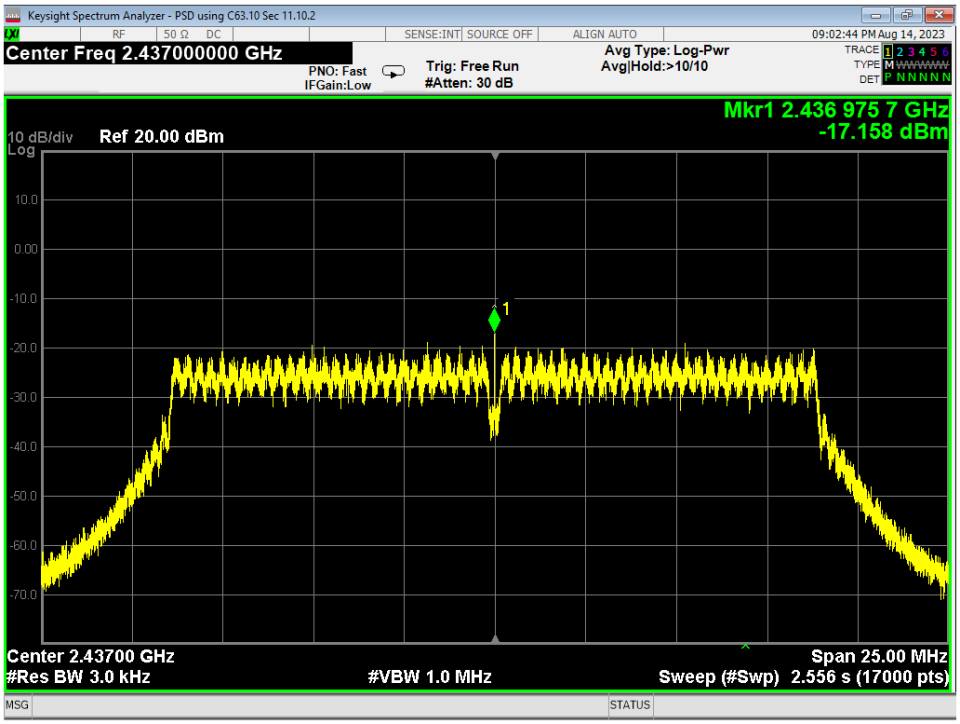
31 6dB Bandwidth, Mid, Wifi N, Low Data Rate, conducted



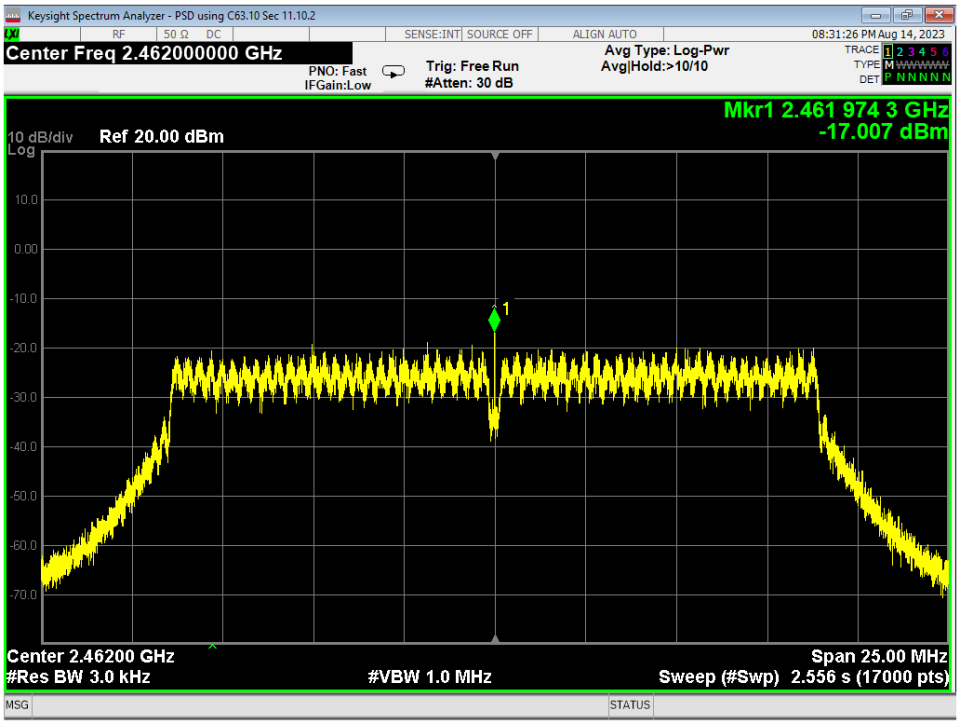
32 6dB Bandwidth, High, Wifi N, Low Data Rate, conducted



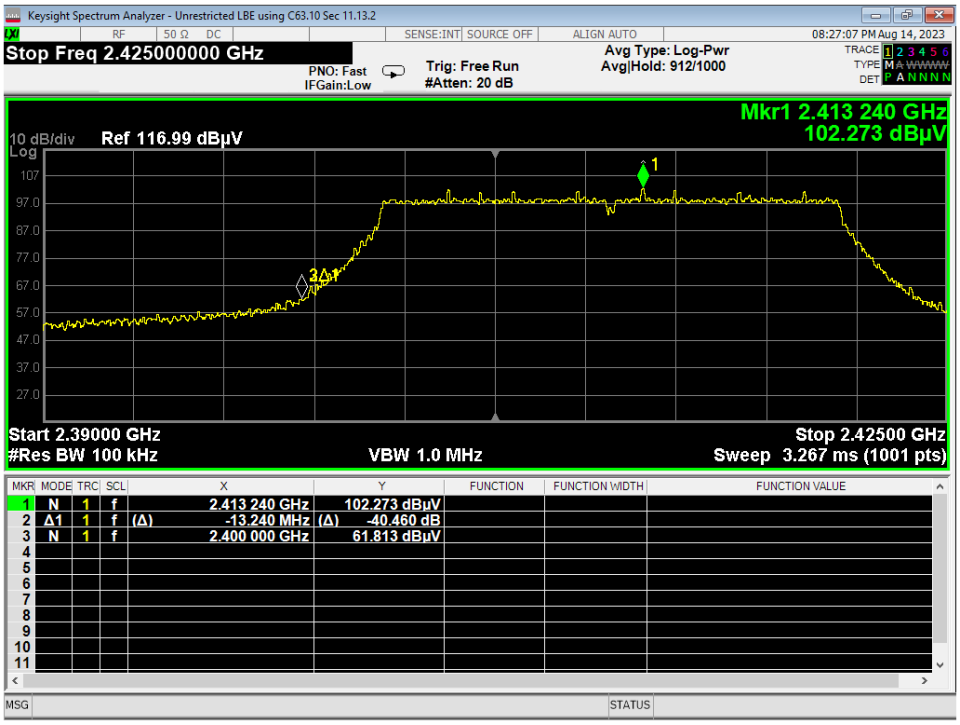
33 PSD, Low, Wifi N, Low Data Rate, conducted



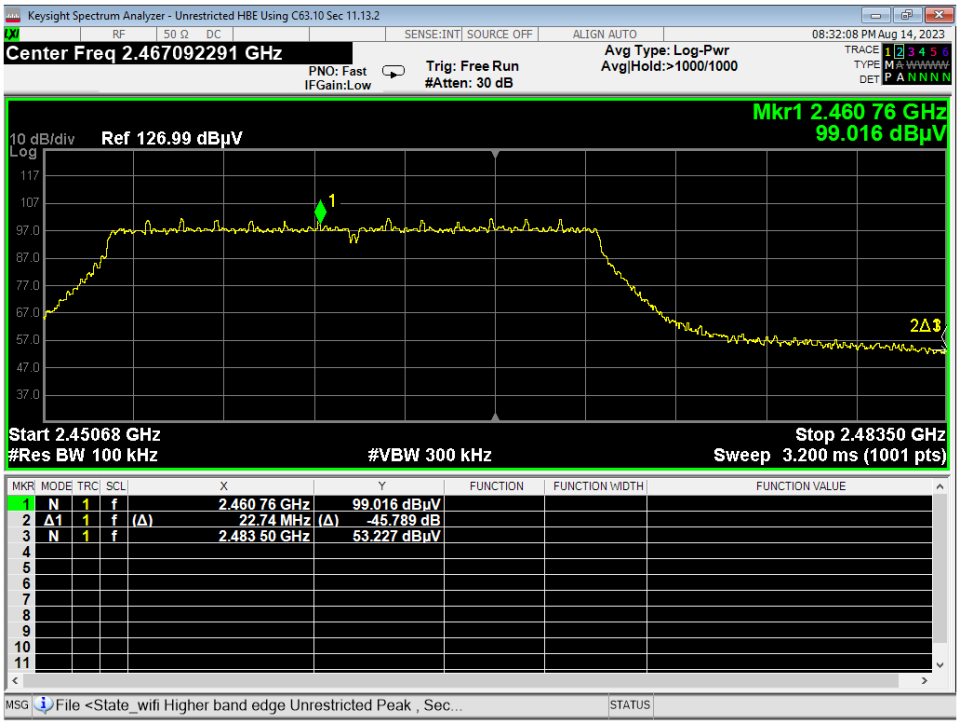
34 PSD, Mid, Wifi N, Low Data Rate, conducted



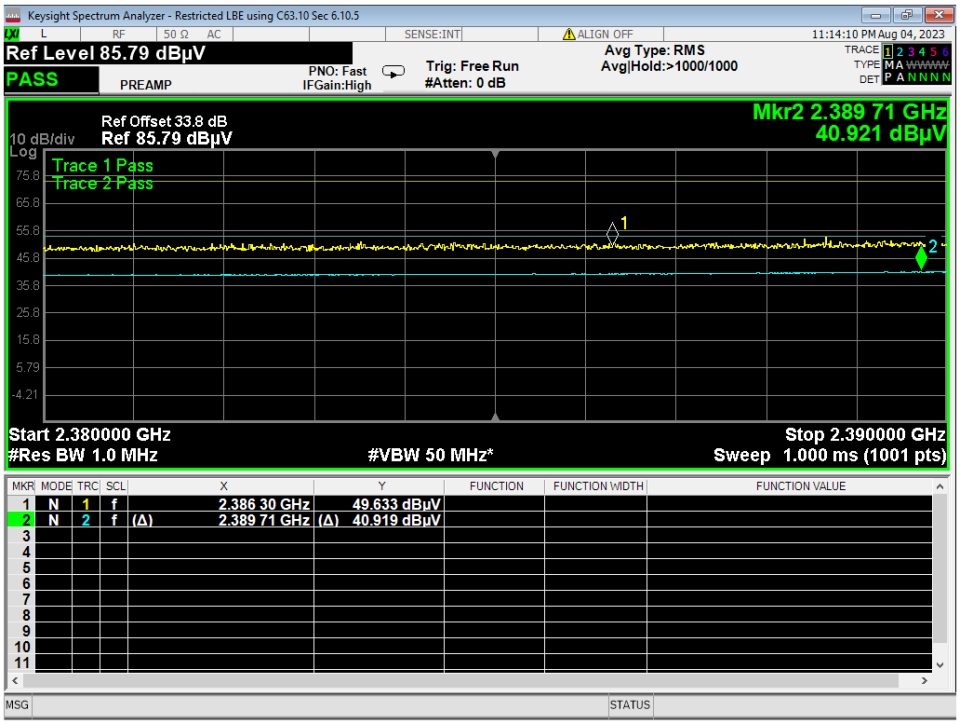
35 PSD, High, Wifi N, Low Data Rate, conducted



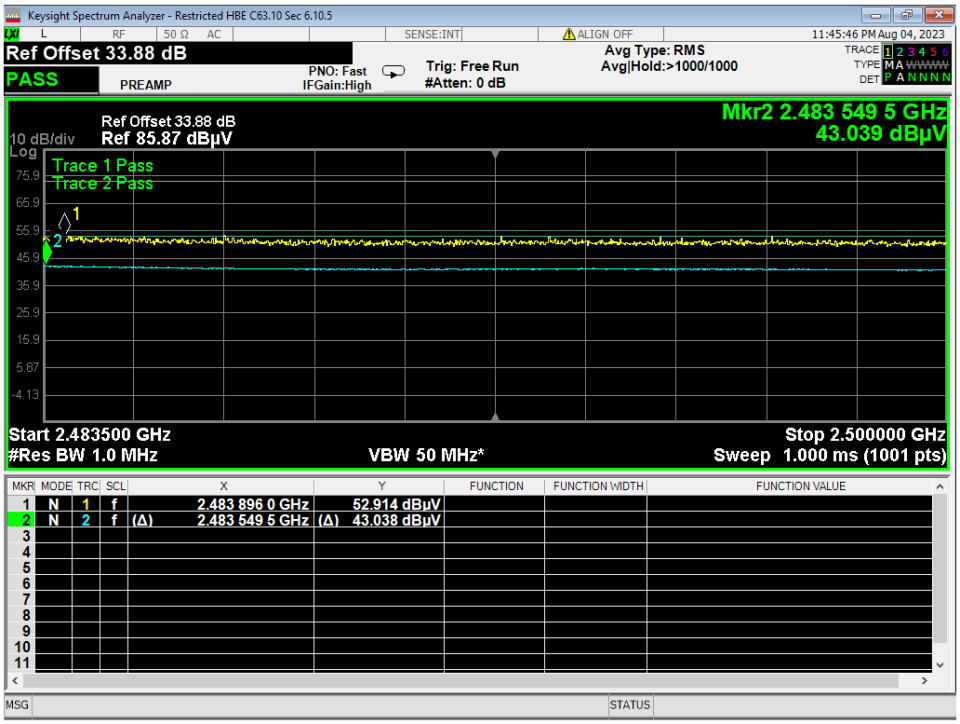
36 Lower Bandedge, Unrestricted, Wifi N, Low Data Rate, conducted



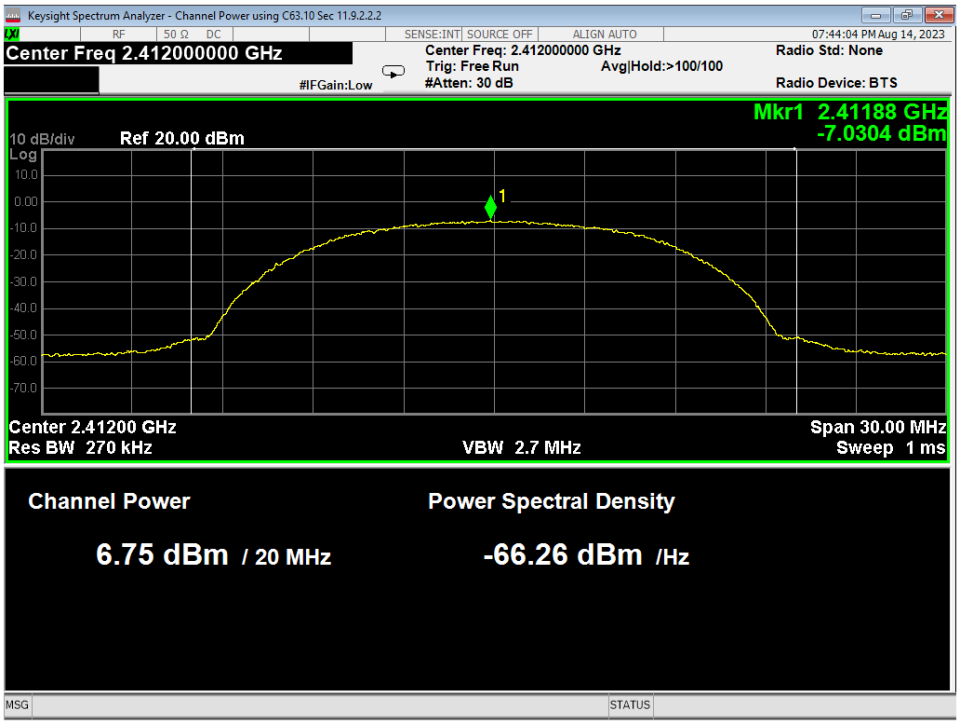
37 Higher Bandedge, Unrestricted, Wifi N, Low Data Rate, conducted



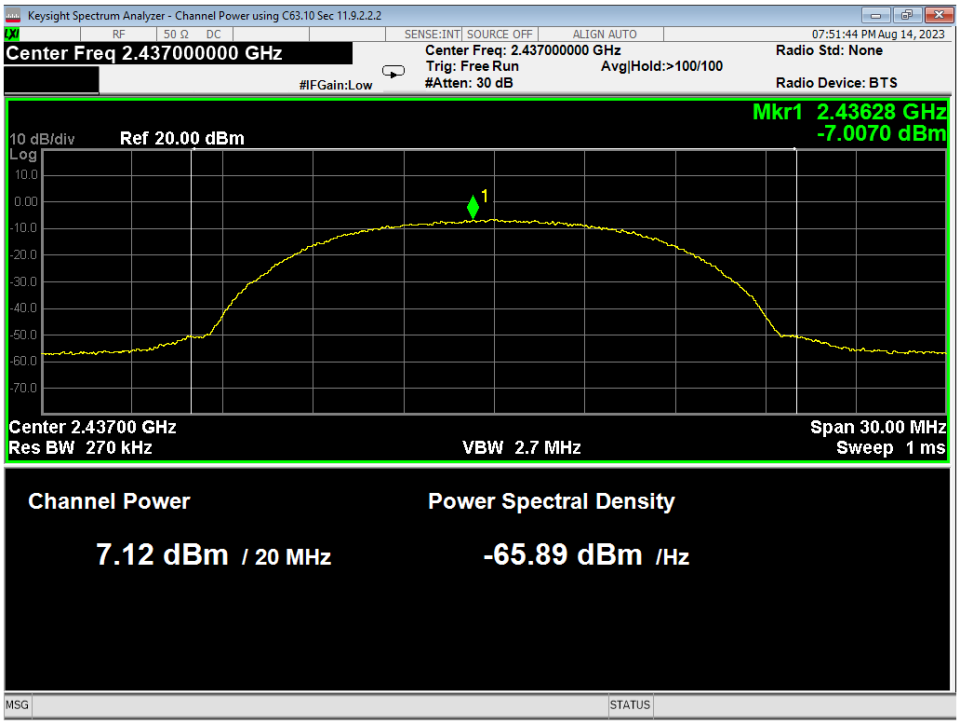
38 Lower Bandedge, Restricted, Wifi N, Low Data Rate, radiated



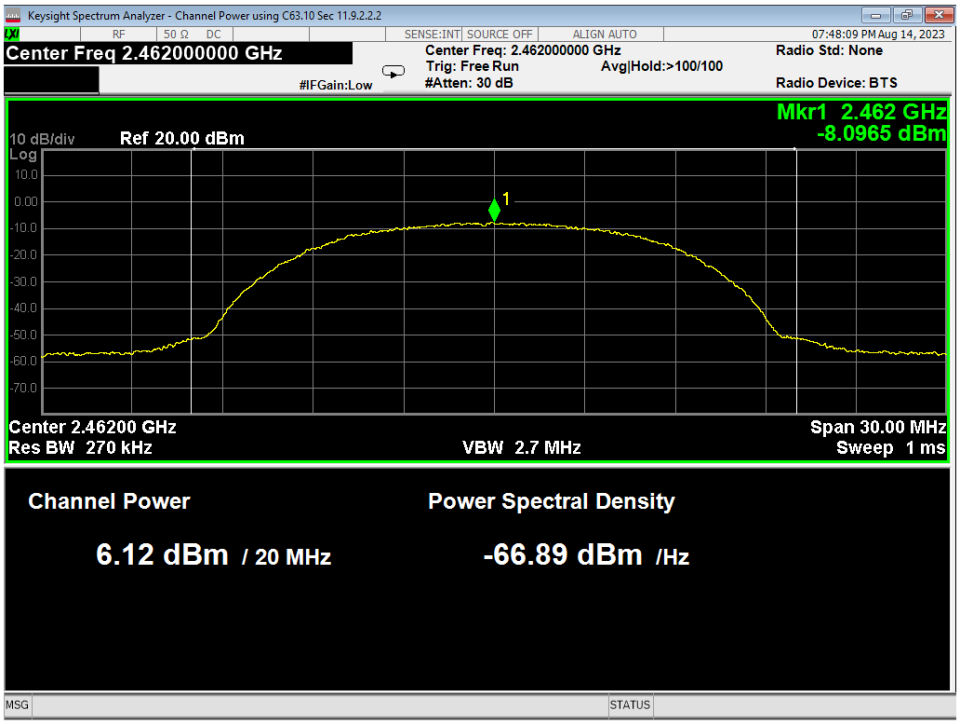
39 Higher Bandedge, Restricted, Wifi N, Low Data Rate, radiated



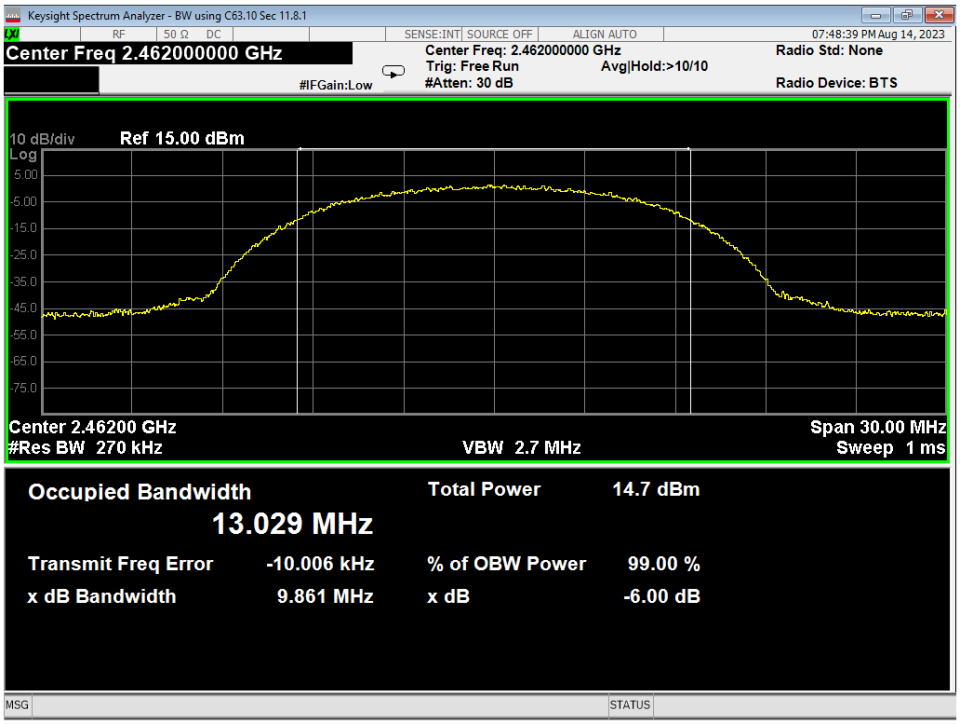
40 Average Power, Low, Wifi B, High Data Rate, conducted



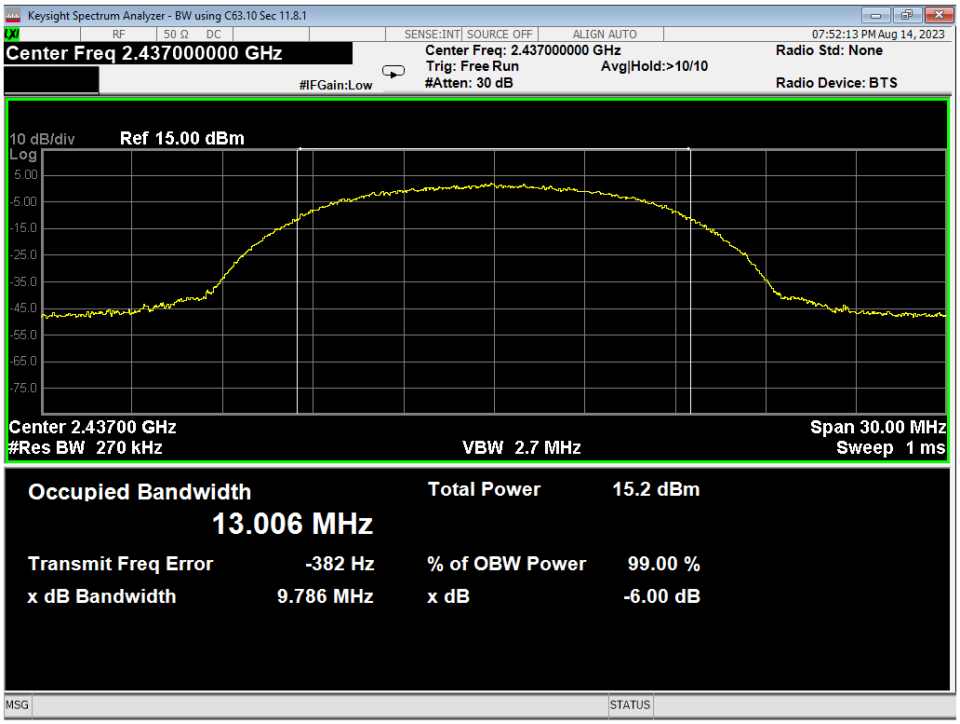
41 Average Power, Mid, Wifi B, High Data Rate, conducted



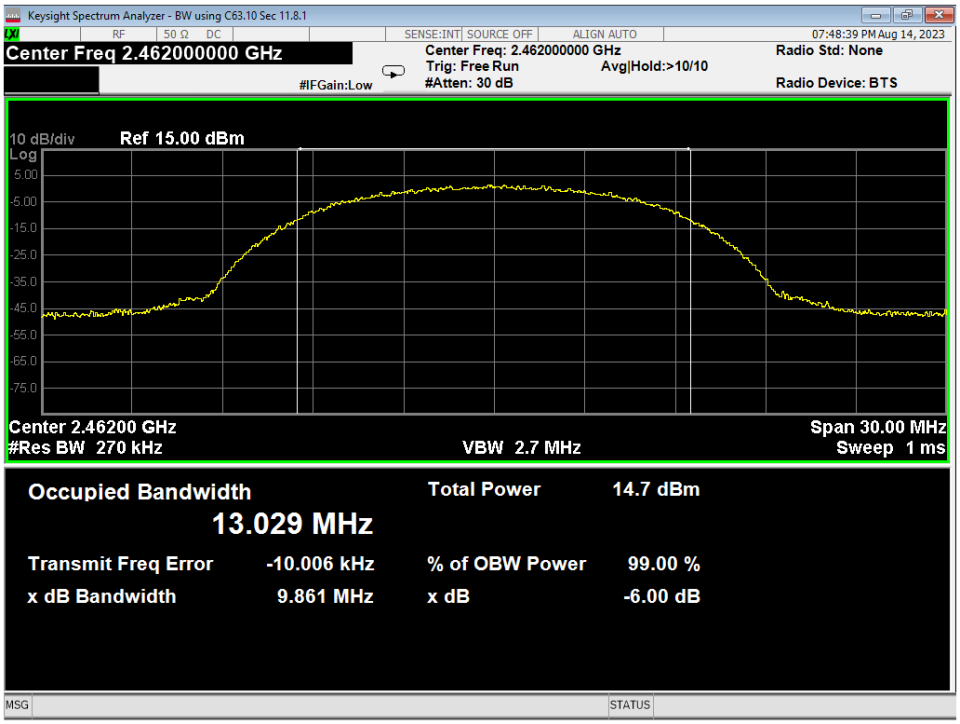
42 Average Power, High, Wifi B, High Data Rate, conducted



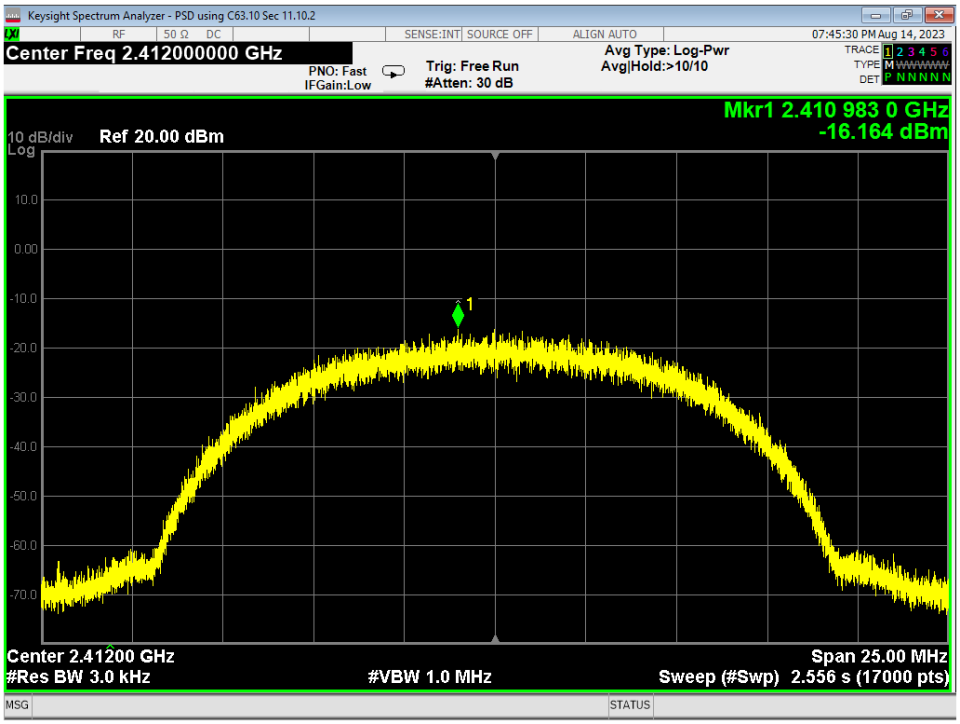
43 6dB Bandwidth, Low, Wifi B, High Data Rate, conducted



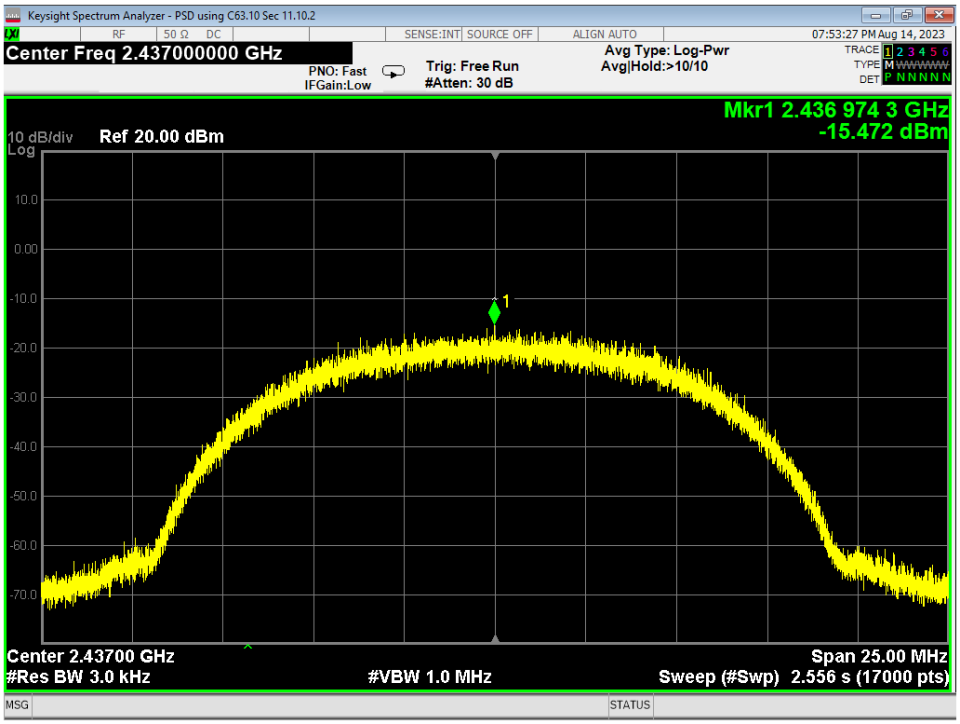
44 6dB Bandwidth, Mid, Wifi B, High Data Rate, conducted



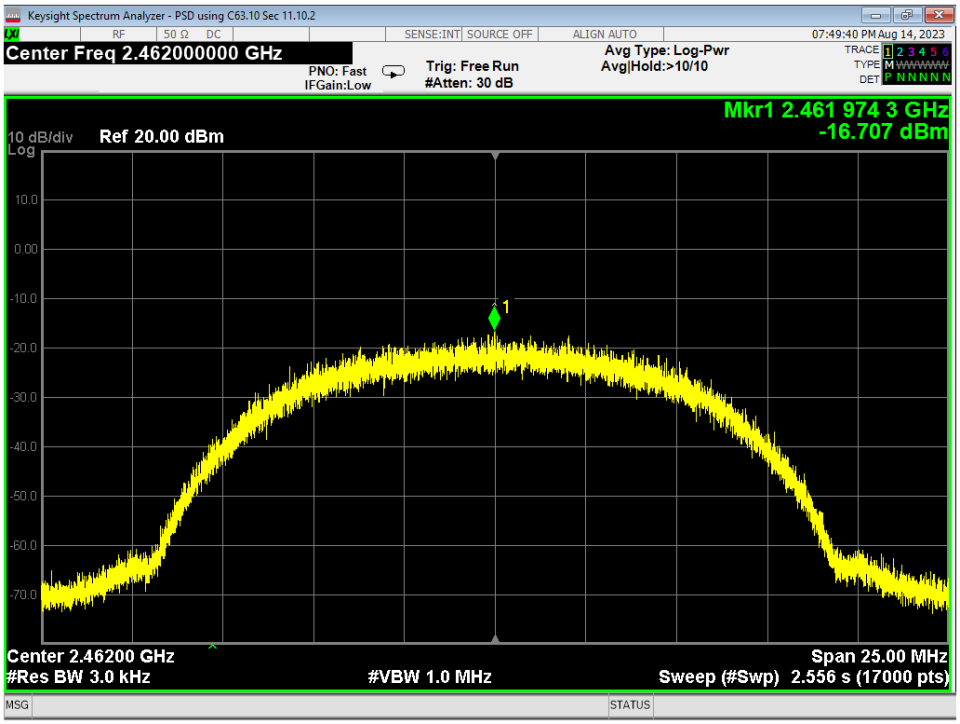
45 6dB Bandwidth, High, Wifi B, High Data Rate, conducted



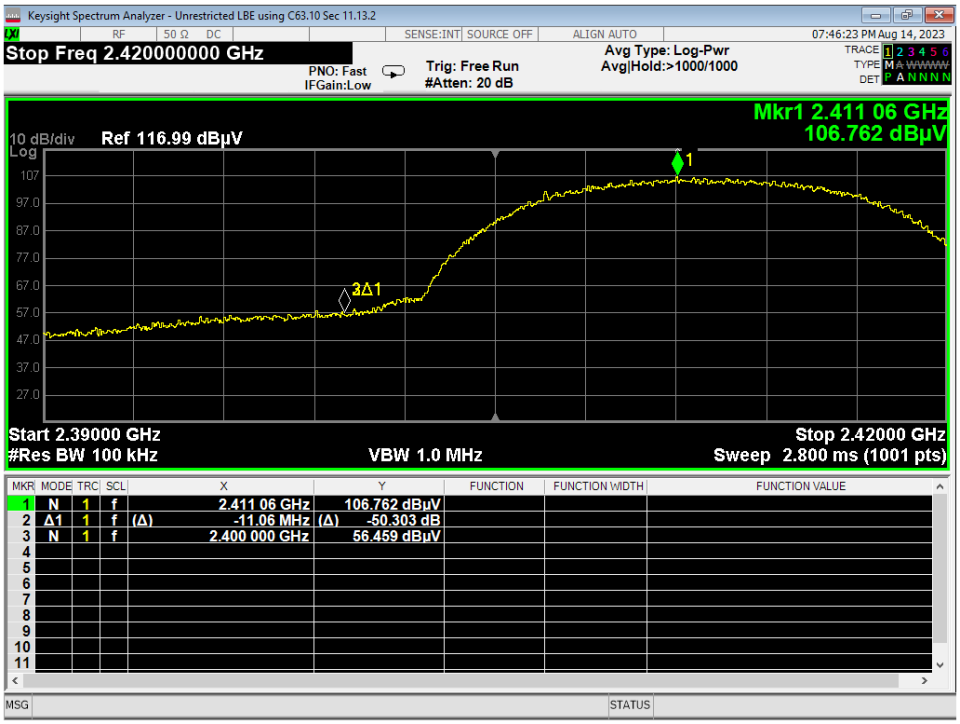
46 PSD, Low, Wifi B, High Data Rate, conducted



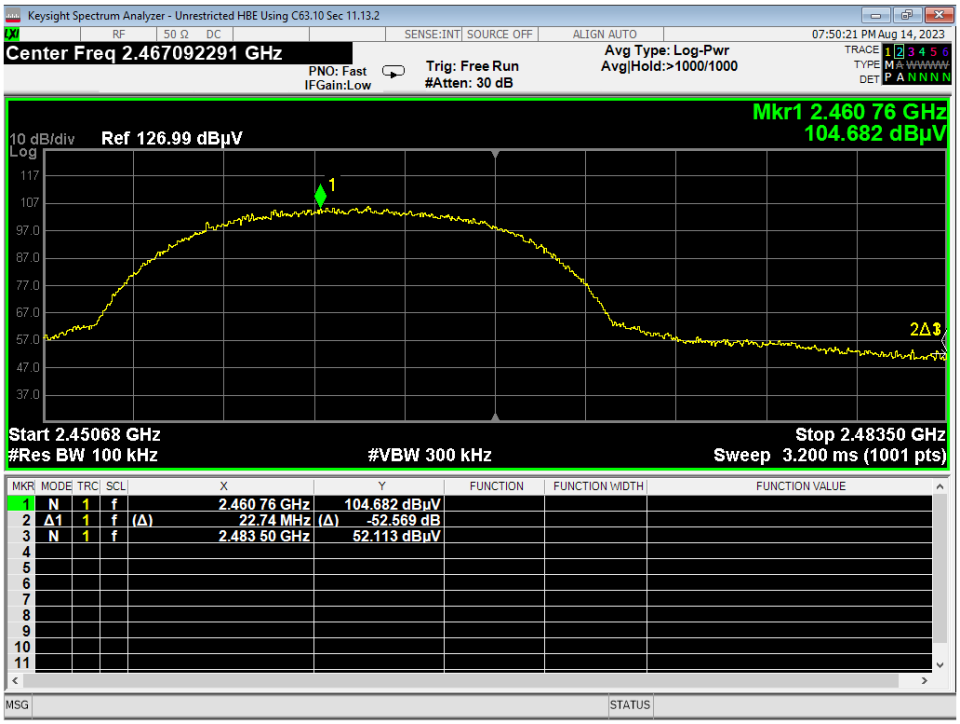
47 PSD, Mid, Wifi B, High Data Rate, conducted



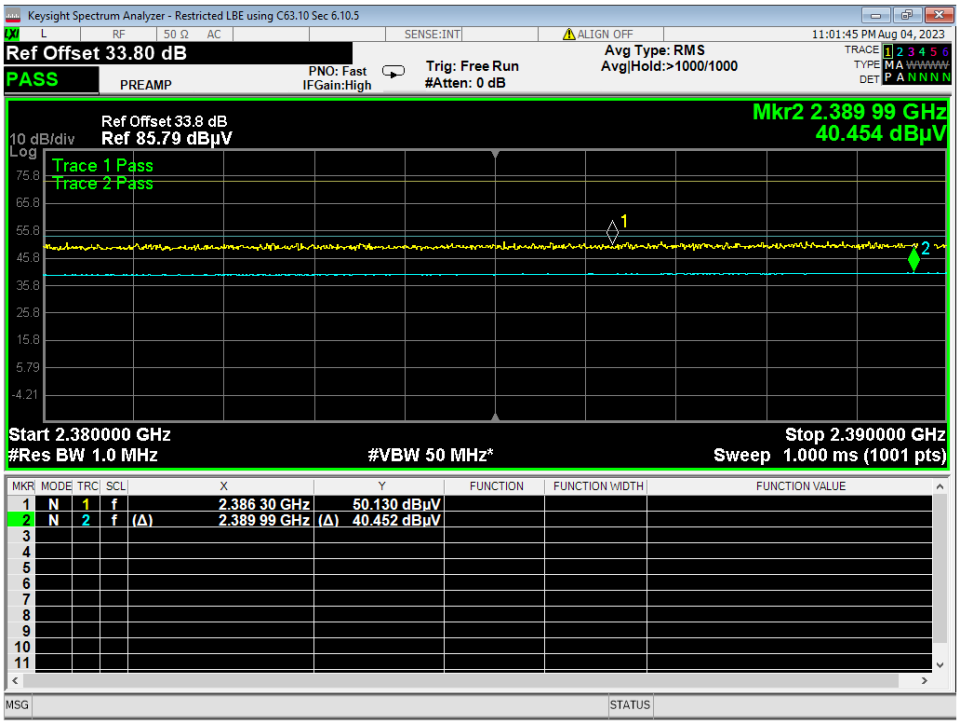
48 PSD, High, Wifi B, High Data Rate, conducted



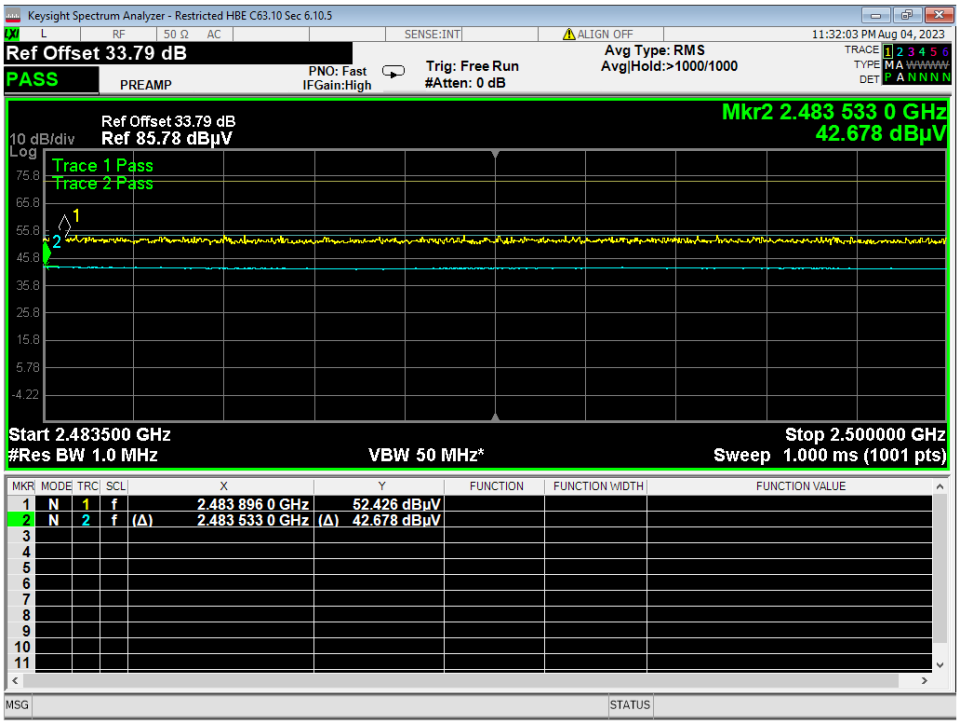
49 Lower Bandedge, Unrestricted, Wifi B, High Data Rate, conducted



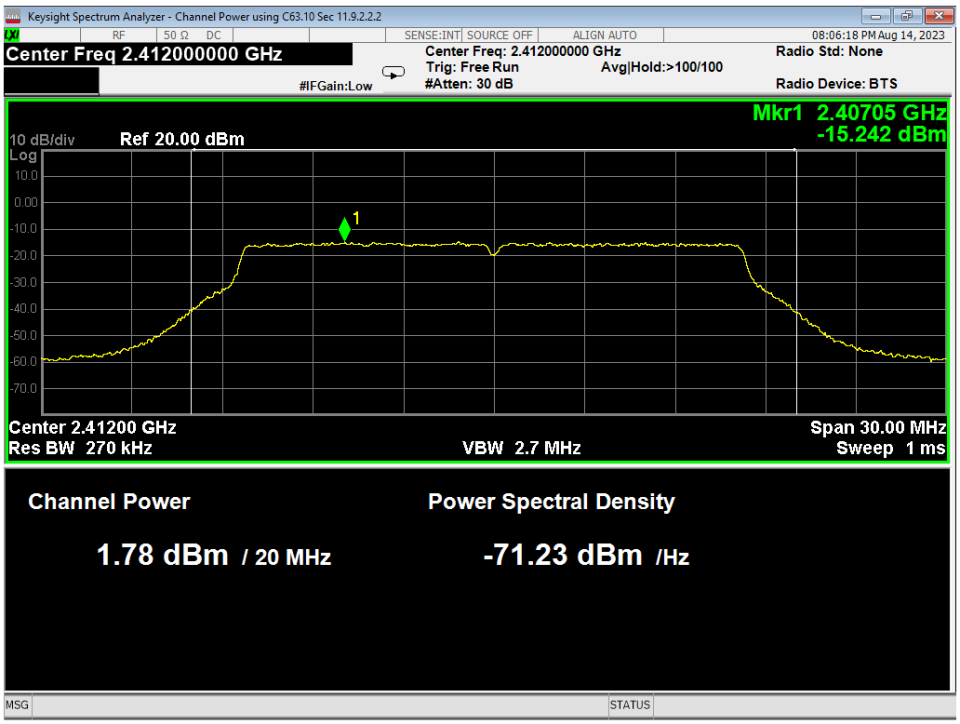
50 Higher Bandedge, Unrestricted, Wifi B, High Data Rate, conducted



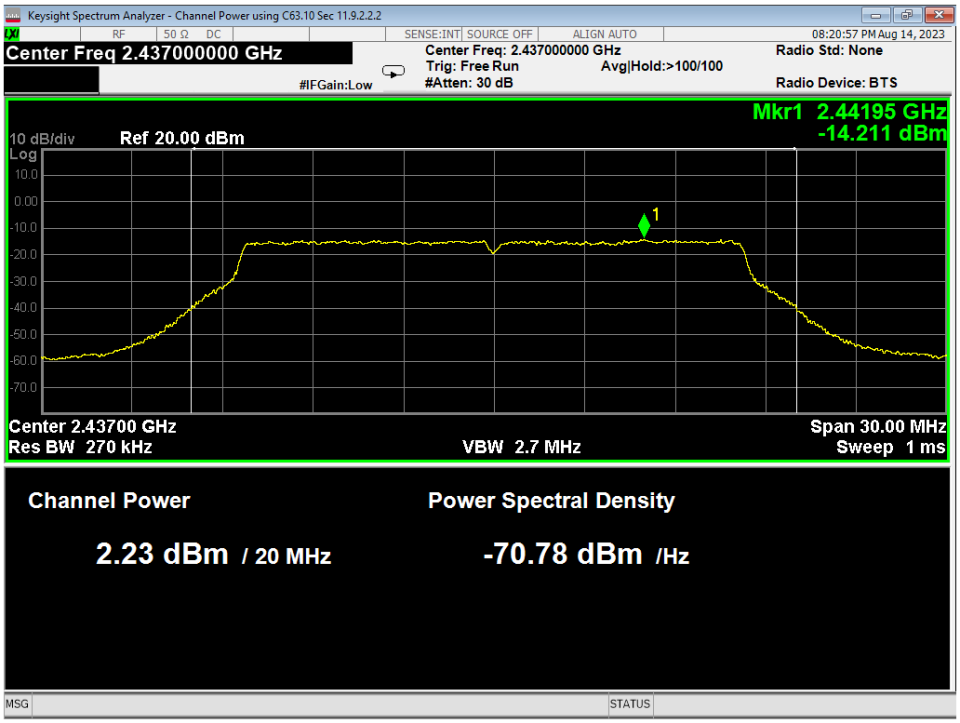
51 Lower Bandedge, Restricted, Wifi B, High Data Rate, radiated



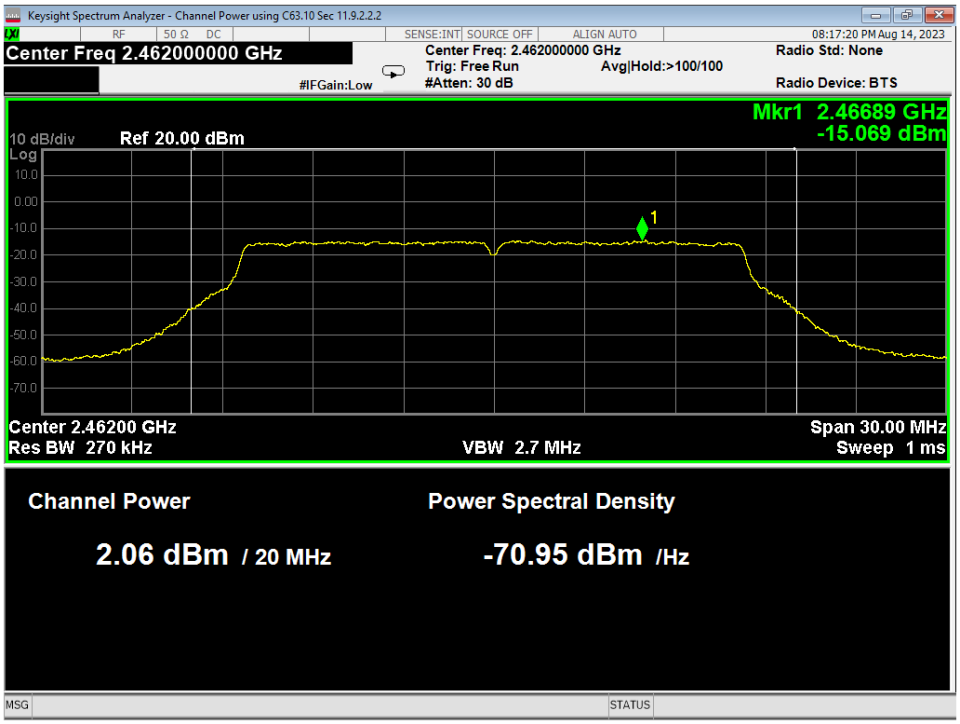
52 Higher Bandedge, Restricted, Wifi B, High Data Rate, radiated



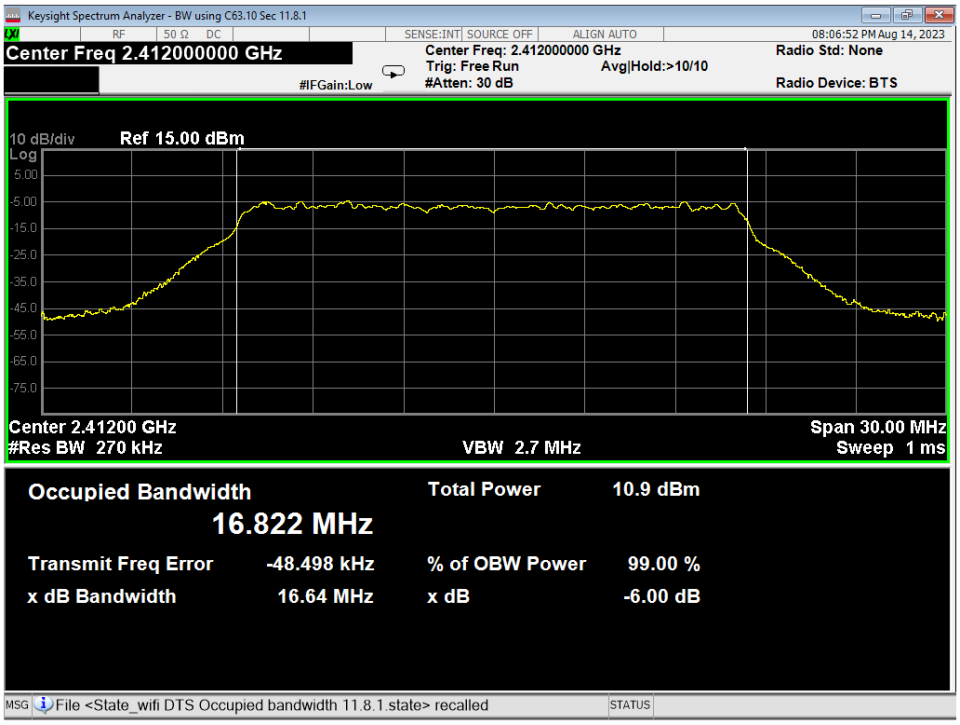
53 Average Power, Low, Wifi G, High Data Rate, conducted



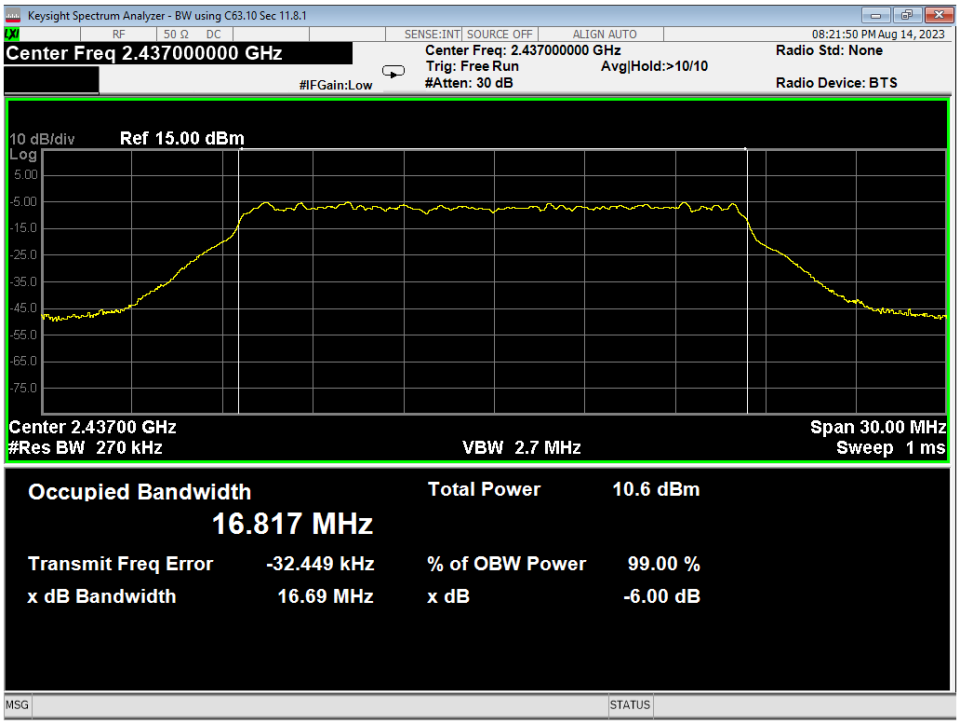
54 Average Power, Mid, Wifi G, High Data Rate, conducted



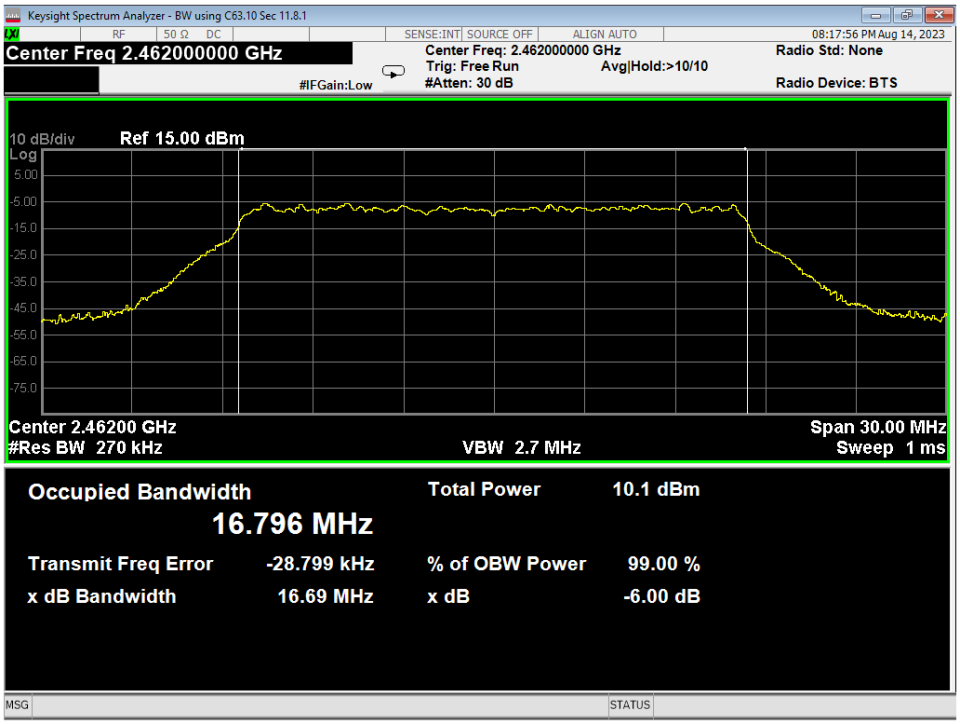
55 Average Power, High, Wifi G, High Data Rate, conducted



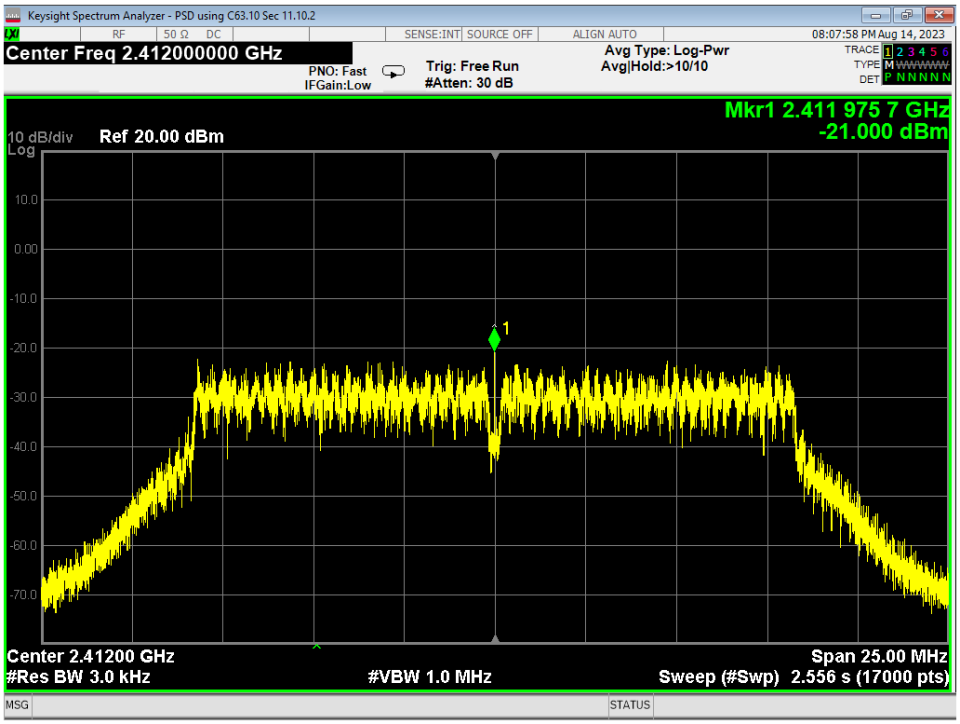
56 6dB Bandwidth, Low, Wifi G, High Data Rate, conducted



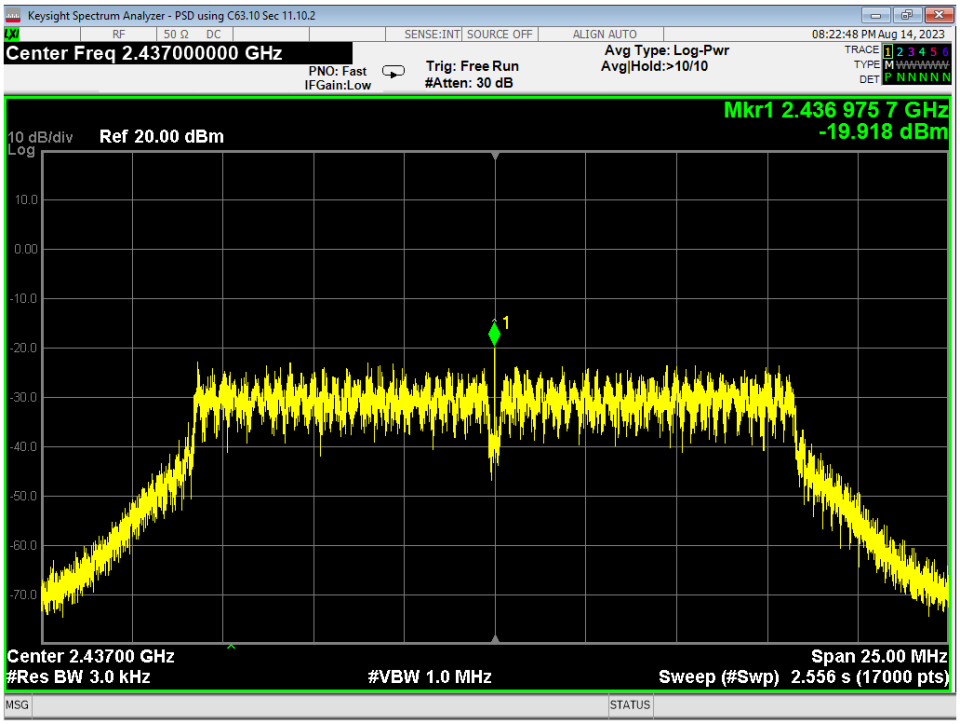
57 6dB Bandwidth, Mid, Wifi G, High Data Rate, conducted



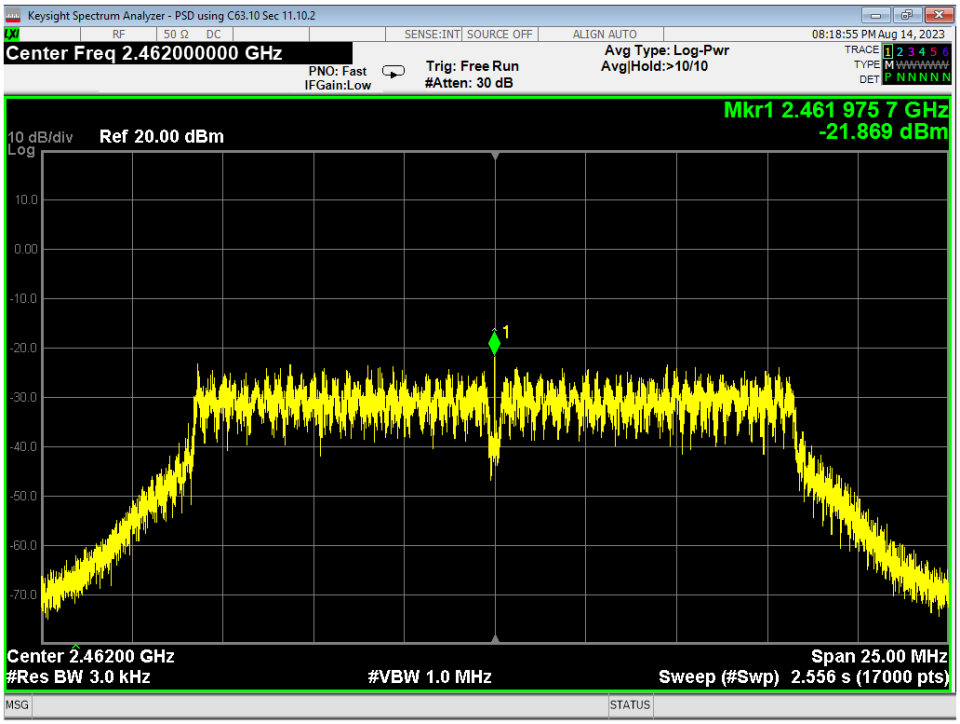
58 6dB Bandwidth, High, Wifi G, High Data Rate, conducted



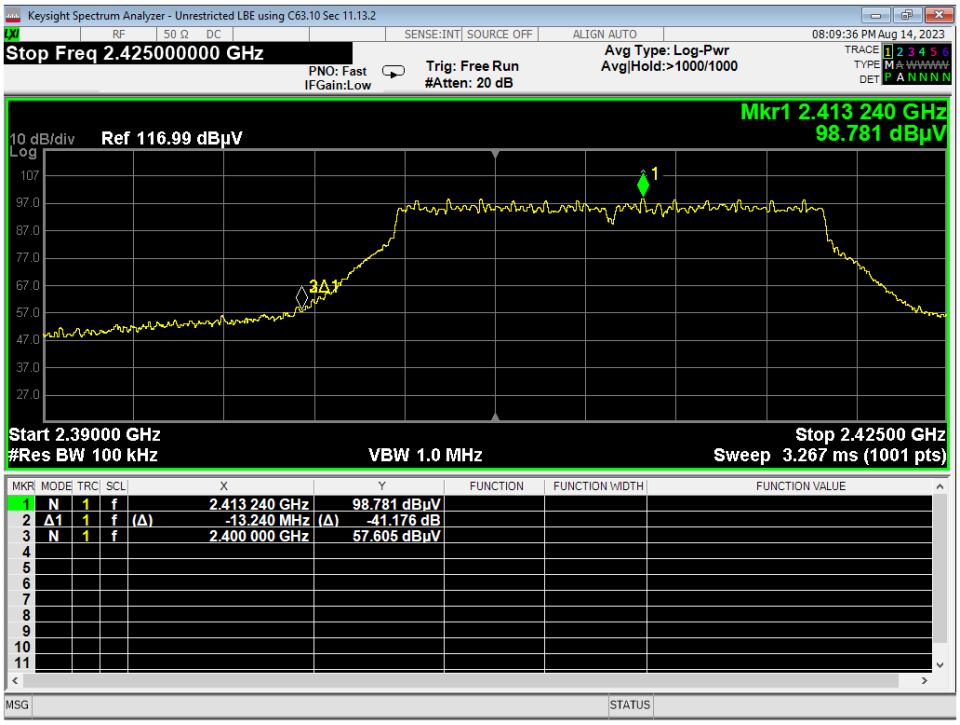
59 PSD, Low, Wifi G, High Data Rate, conducted



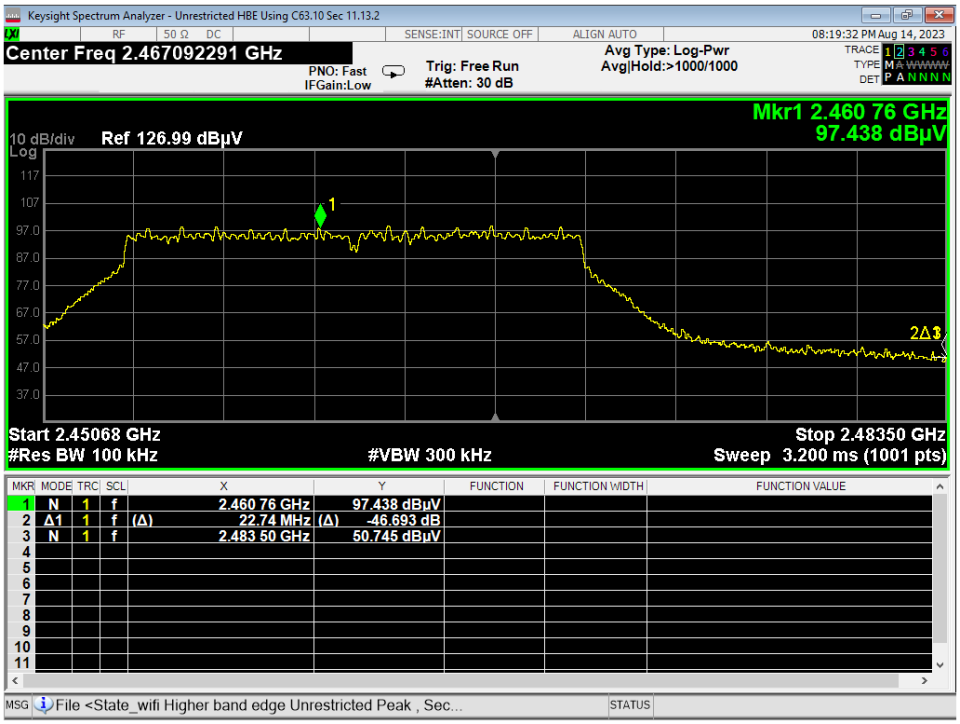
60 PSD, Mid, Wifi G, High Data Rate, conducted



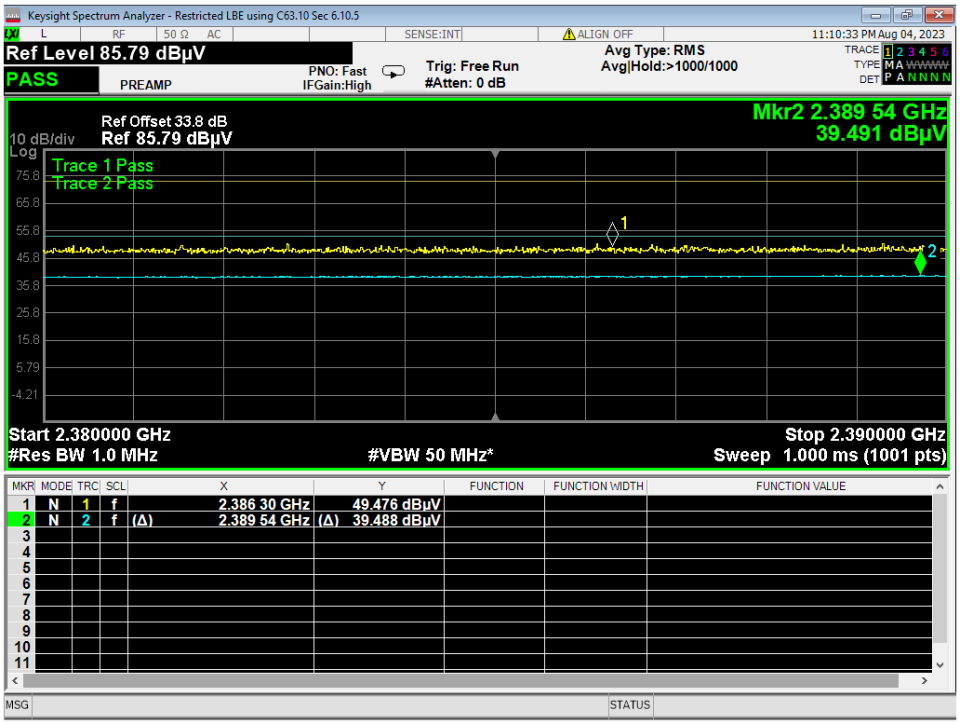
61 PSD, High, Wifi G, High Data Rate, conducted



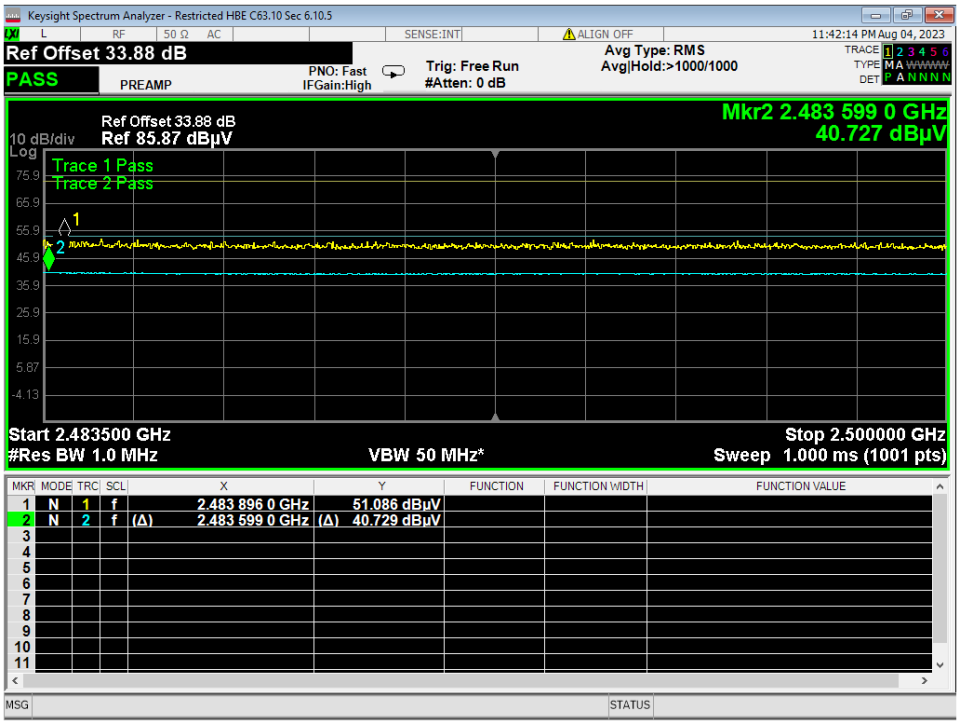
62 Lower Bandedge, Unrestricted, Wifi G, High Data Rate, conducted



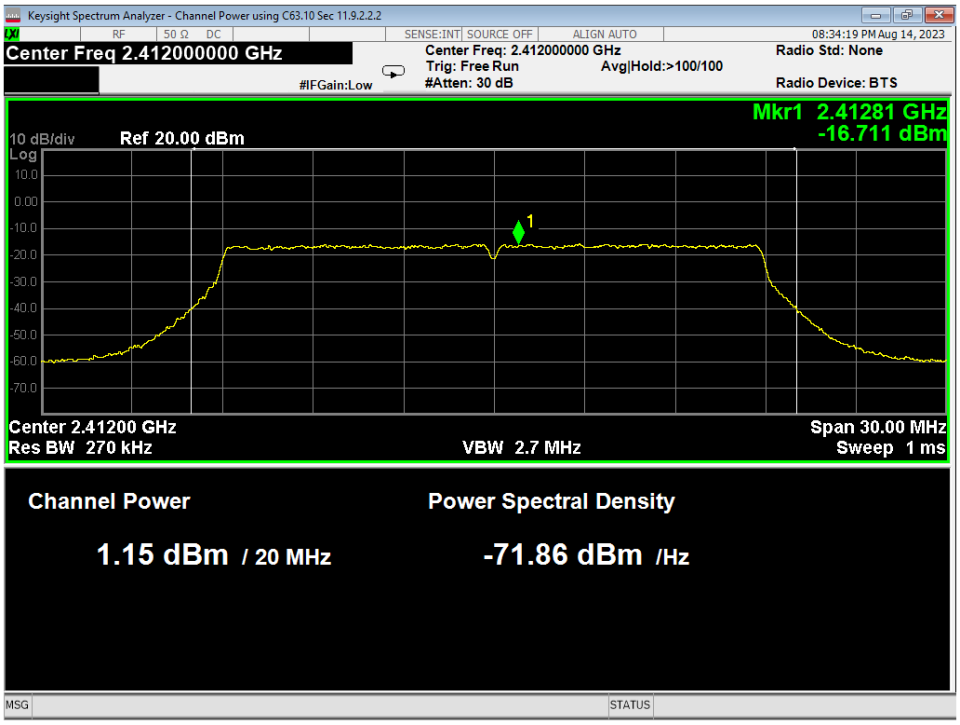
63 Higher Bandedge, Unrestricted, Wifi G, High Data Rate, conducted



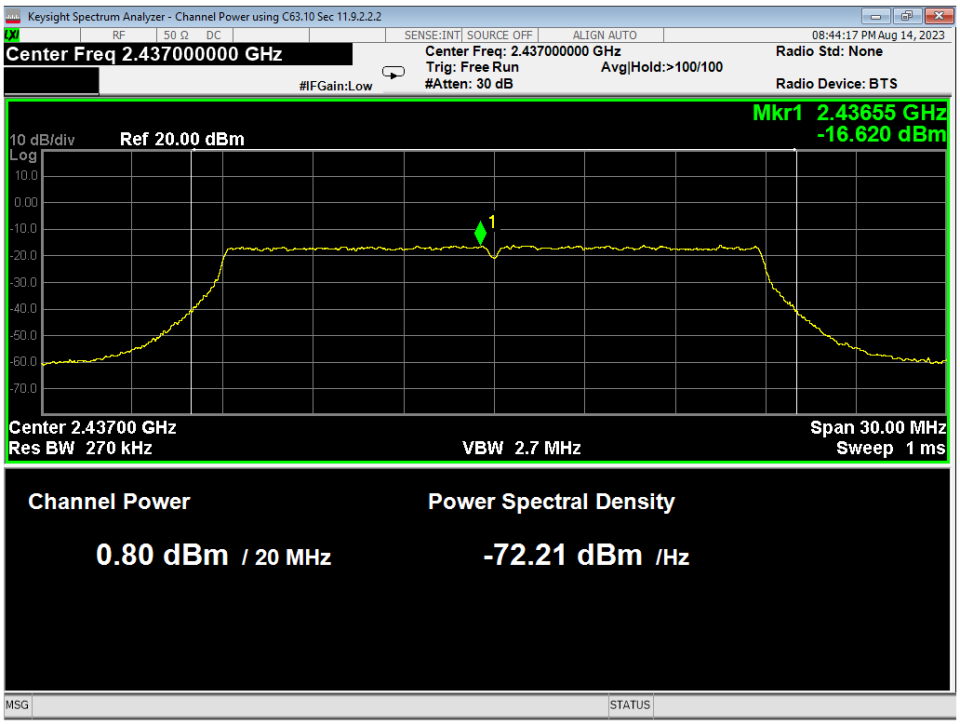
64 Lower Bandedge, Restricted, Wifi G, High Data Rate, radiated



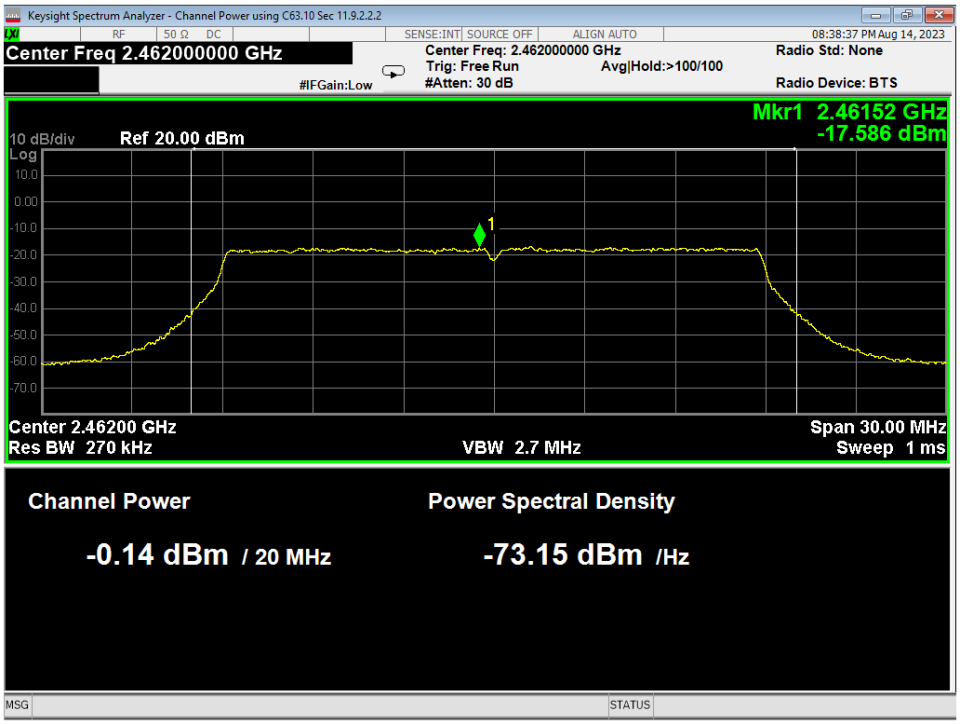
65 Higher Bandedge, Restricted, Wifi G, High Data Rate, radiated



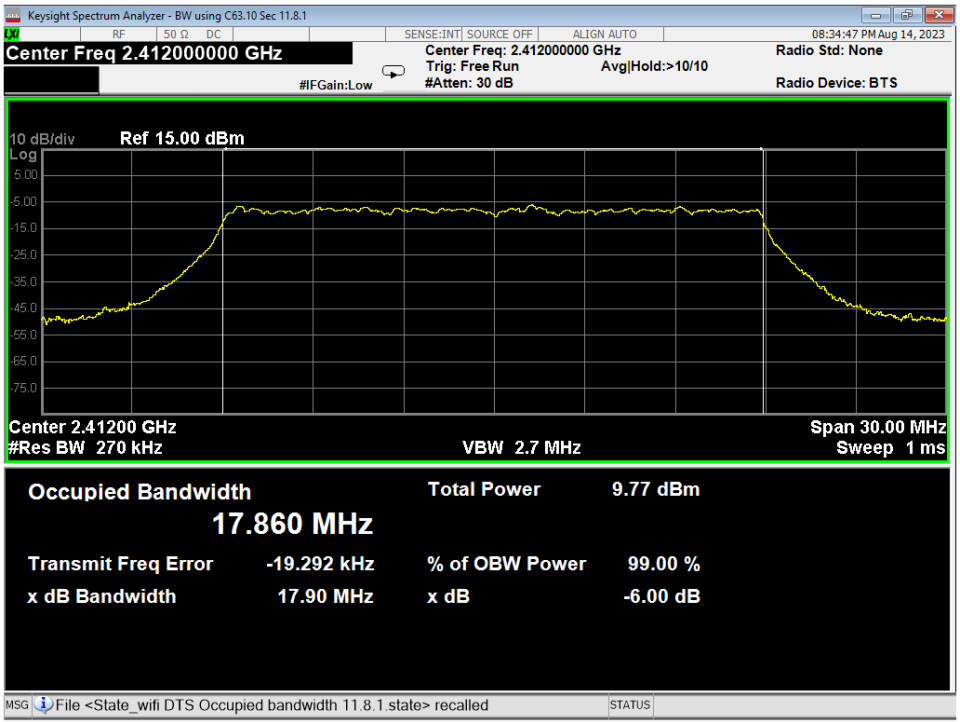
66 Average Power, Low, Wifi N, High Data Rate, conducted



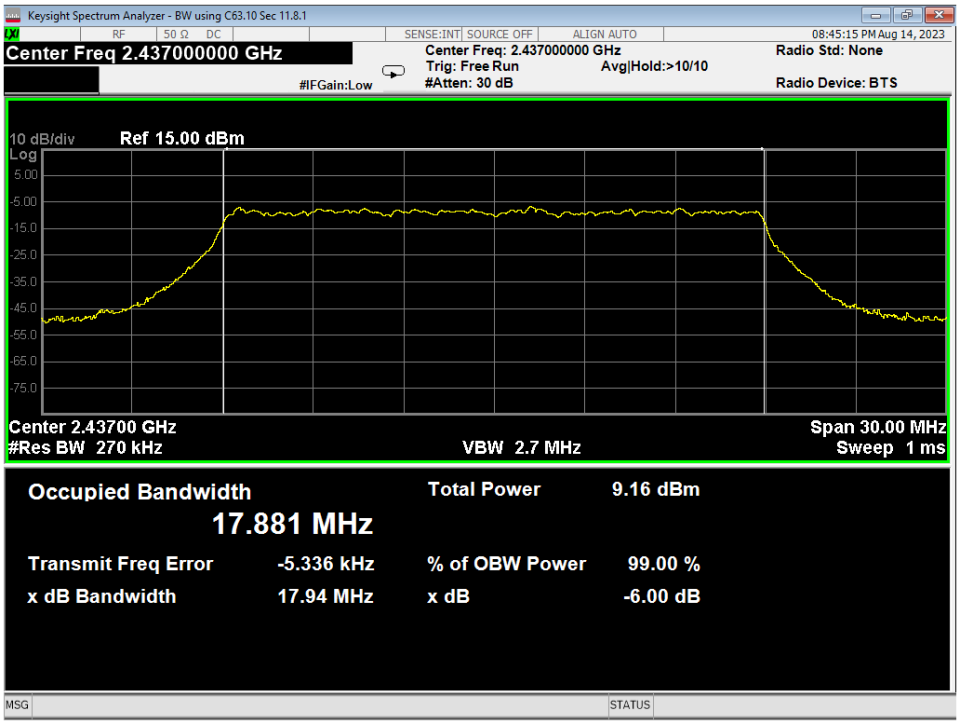
67 Average Power, Mid, Wifi N, High Data Rate, conducted



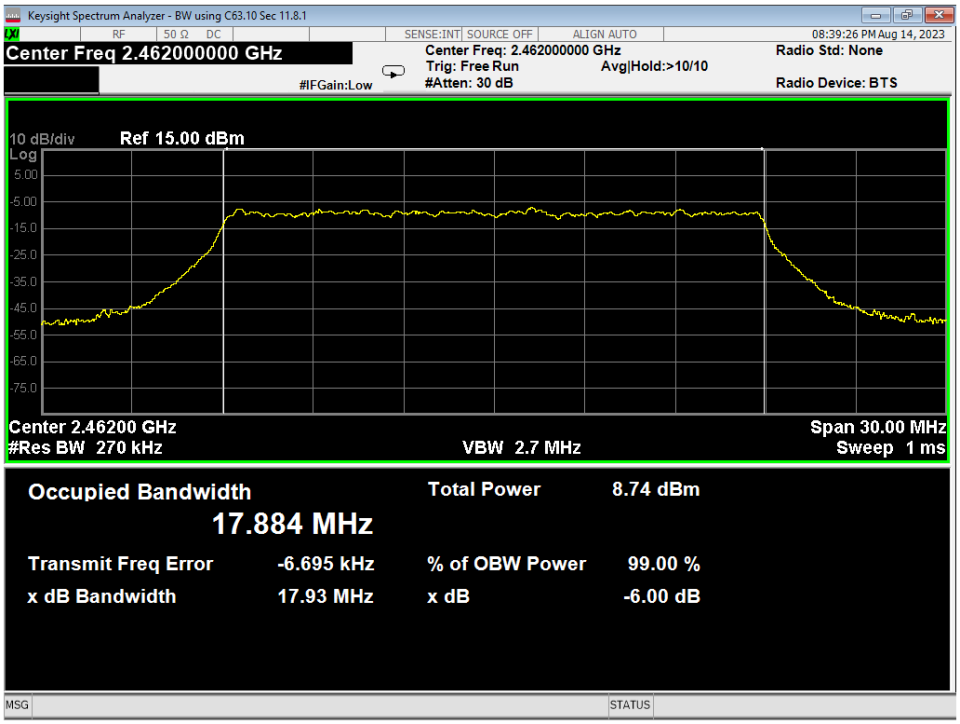
68 Average Power, High, Wifi N, High Data Rate, conducted



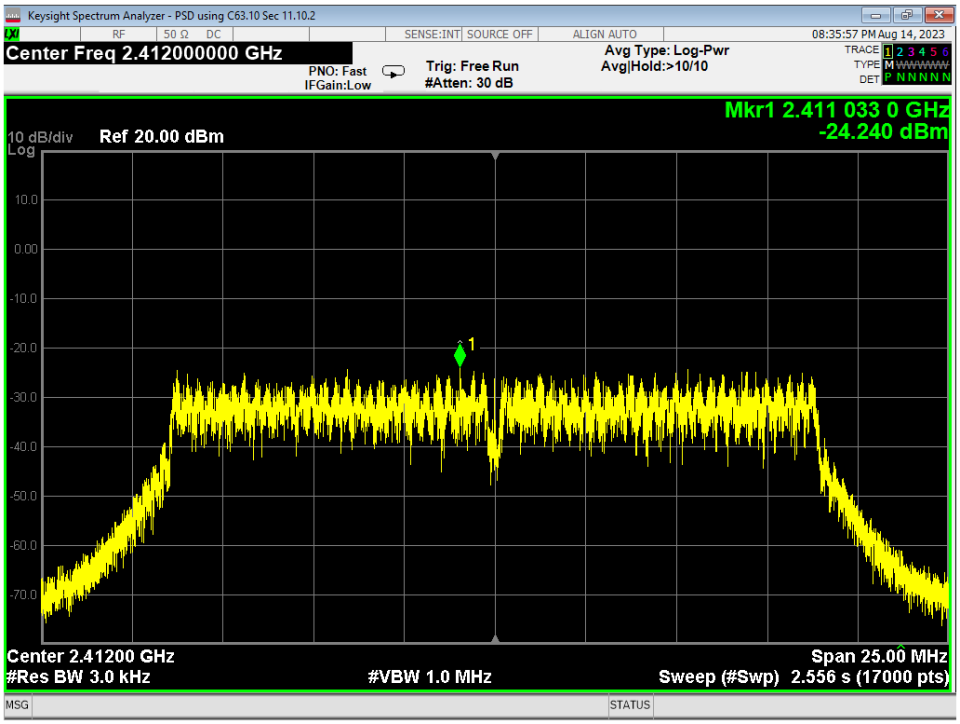
69 6dB Bandwidth, Low, Wifi N, High Data Rate, conducted



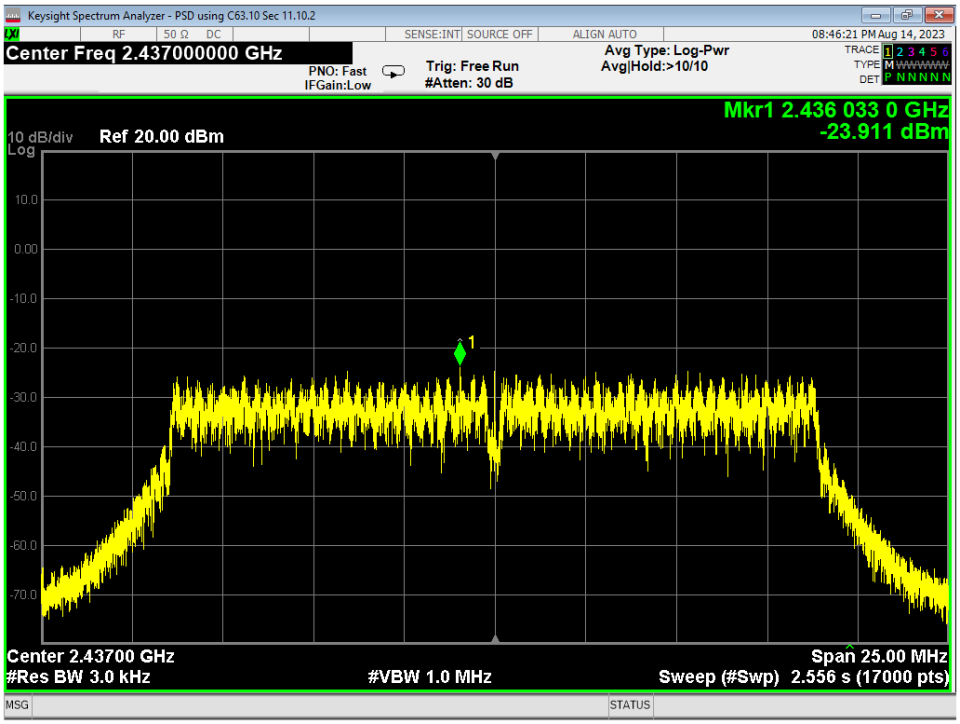
70 6dB Bandwidth, Mid, Wifi N, High Data Rate, conducted



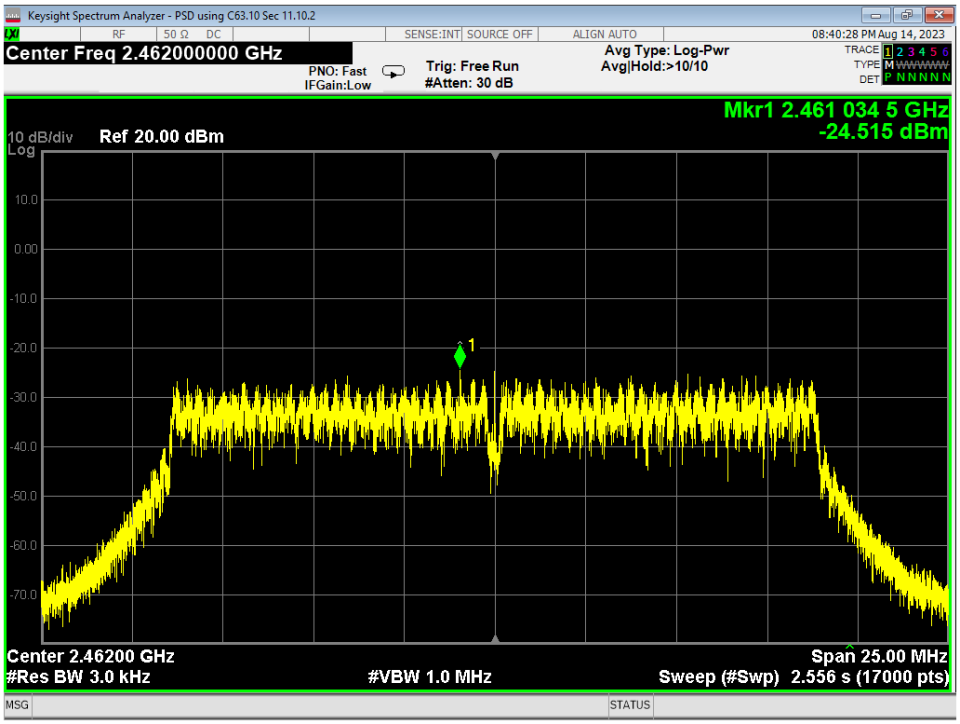
71 6dB Bandwidth, High, Wifi N, High Data Rate, conducted



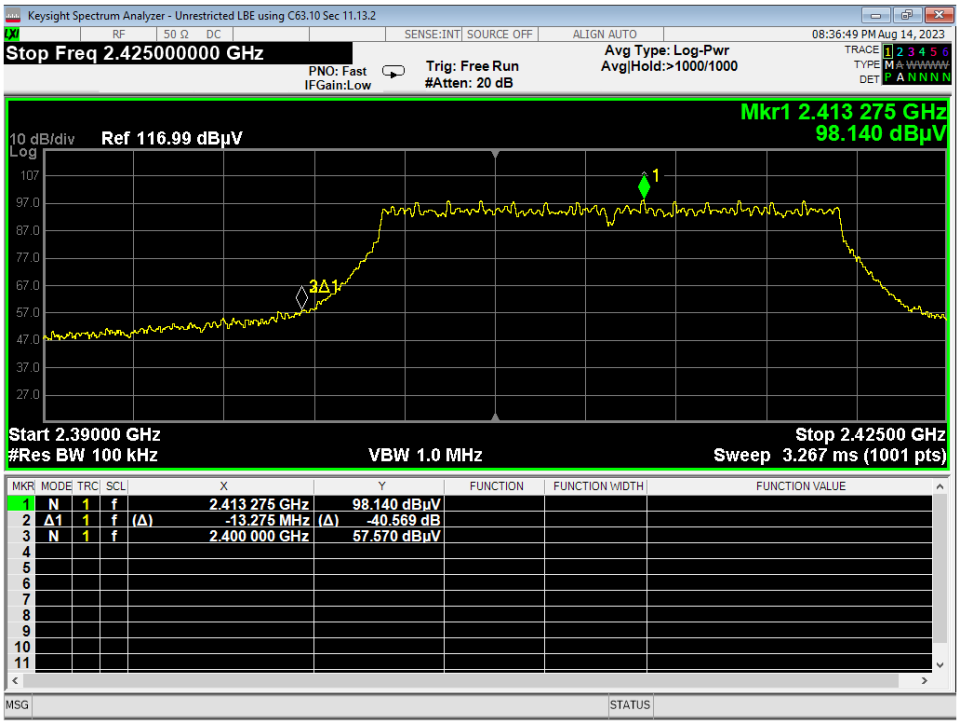
72 PSD, Low, Wifi N, High Data Rate, conducted



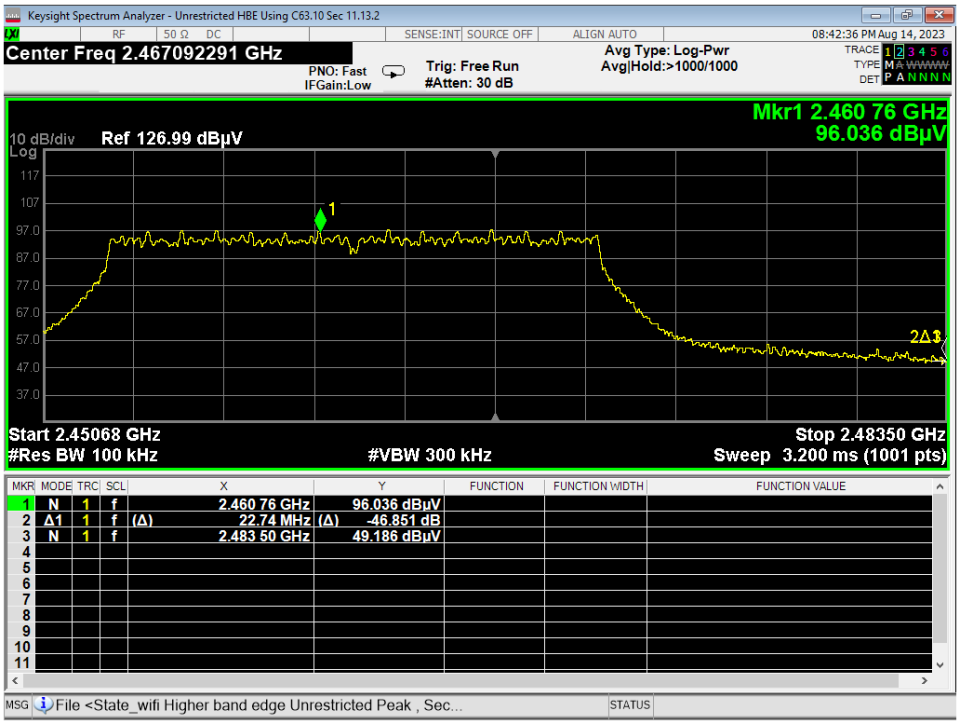
73 PSD, Mid, Wifi N, High Data Rate, conducted



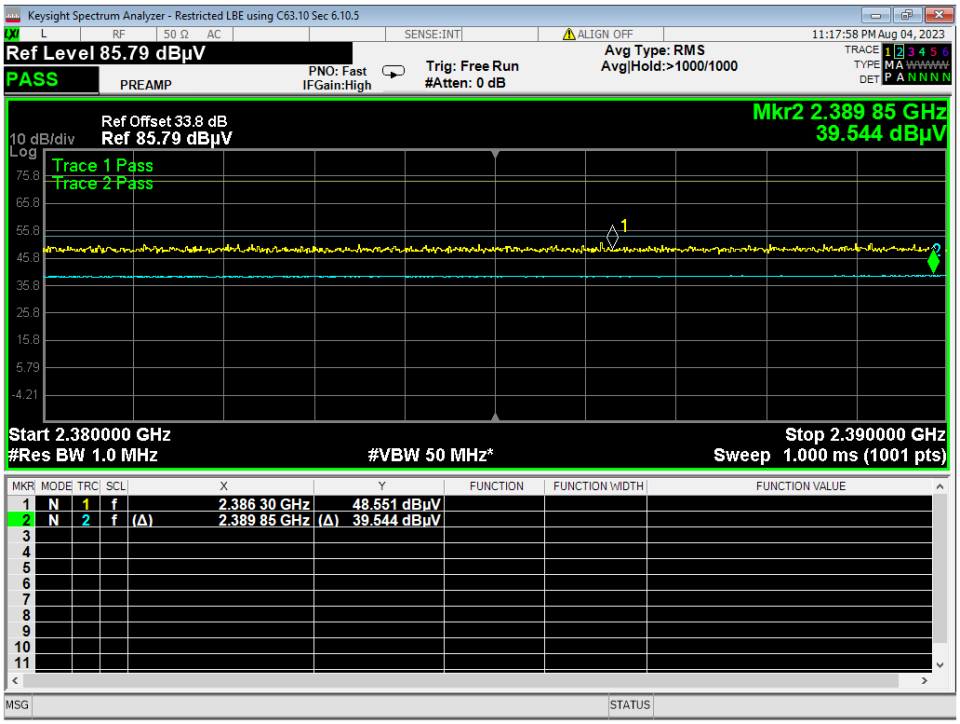
74 PSD, High, Wifi N, High Data Rate, conducted



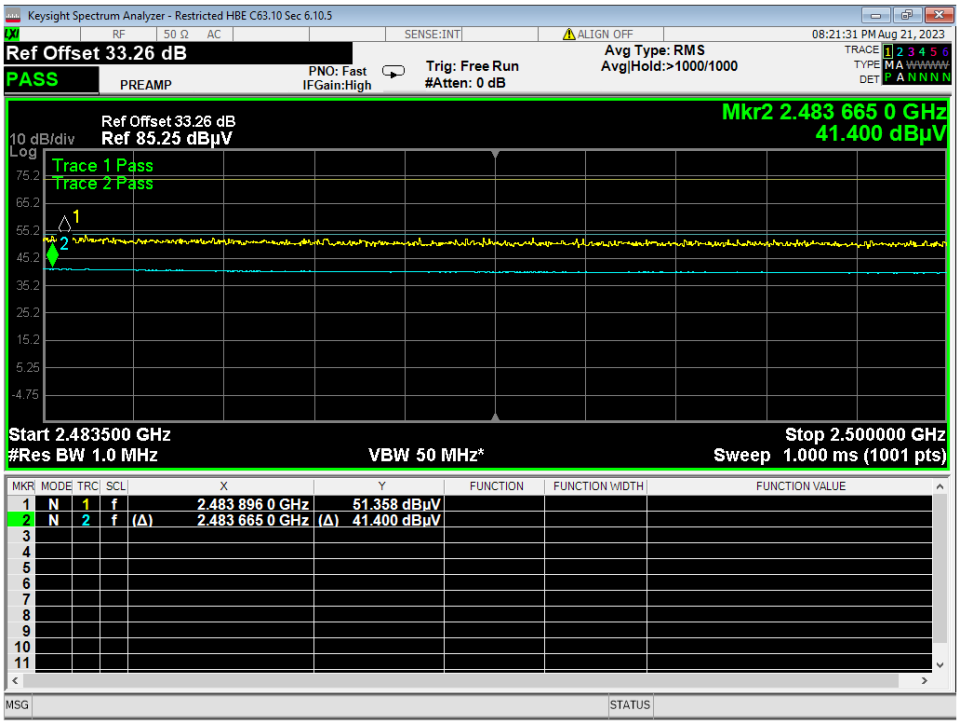
75 Lower Bandedge, Unrestricted, Wifi N, High Data Rate, conducted



76 Higher Bandedge, Unrestricted, Wifi N, High Data Rate, conducted



77 Lower Bandedge, Restricted, Wifi N, High Data Rate, radiated



78 Higher Bandedge, Restricted, Wifi N, High Data Rate, radiated

REPORT END