7. CHANNEL BANDWIDTH

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	KDB558074 D0115.247 Meas Guidance v05r02

7.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS

7.2 TEST PROCEDURE

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 xRBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP

7.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

7.6 TEST RESULT

Temperature :	26℃	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX Mode-ANT1		

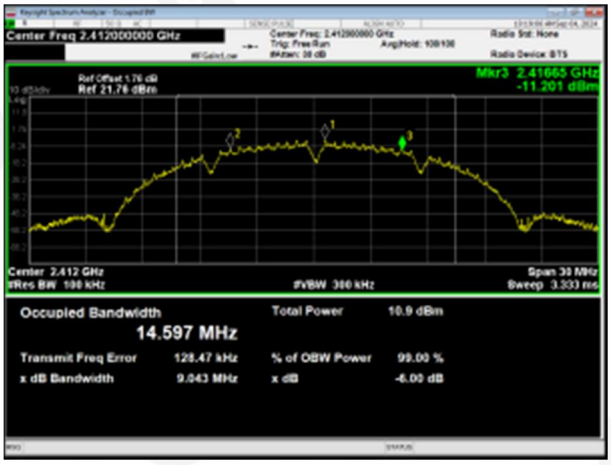
	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
802.11b	2412	9.043	>500	Pass
	2437	9.554	>500	Pass
	2462	10.044	>500	Pass
802.11g	2412	16.317	>500	Pass
	2437	16.316	>500	Pass
	2462	16.30	>500	Pass
802.11n20	2412	17.042	>500	Pass
	2437	16.655	>500	Pass
	2462	17.531	>500	Pass
802.11n40	2422	33.790	>500	Pass
	2437	35.034	>500	Pass
	2452	35.079	>500	Pass

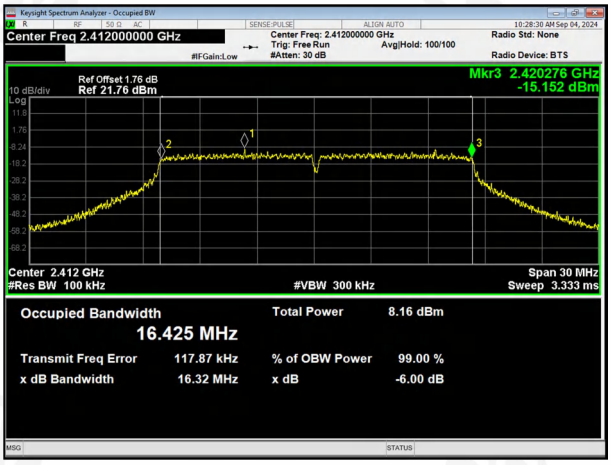
Test plot as follows:

802.11b

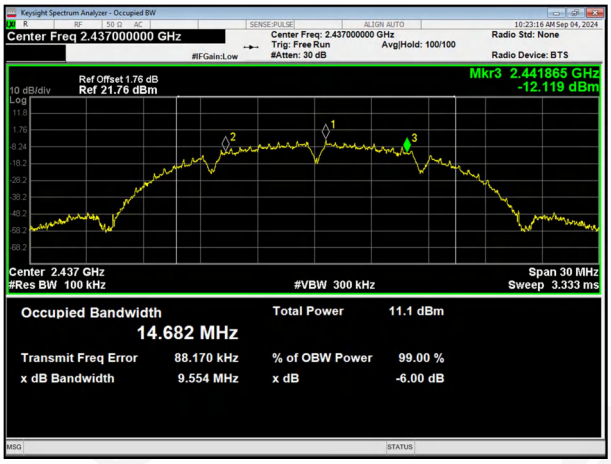
802.11g

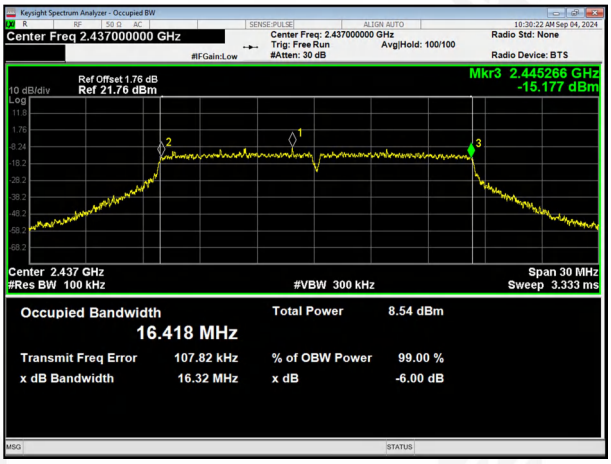
Lowest channel



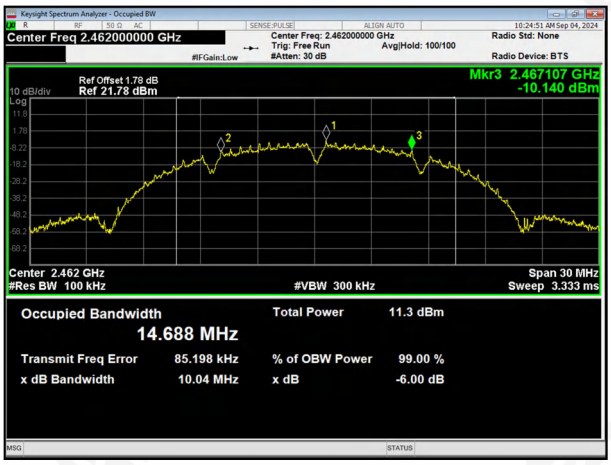


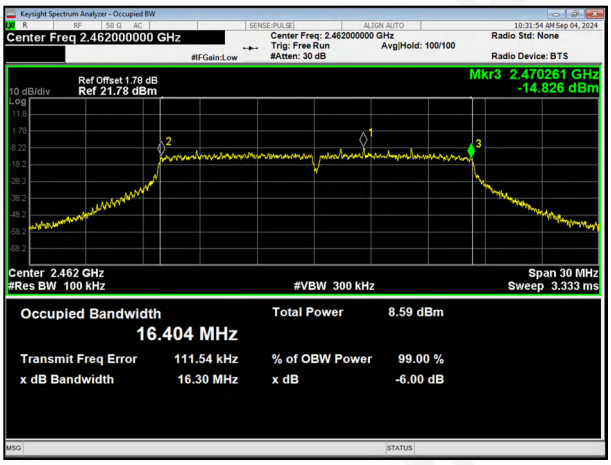
Middle channel





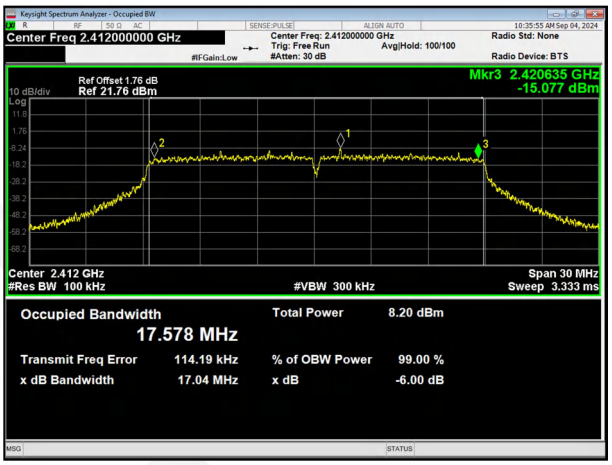
Highest channel

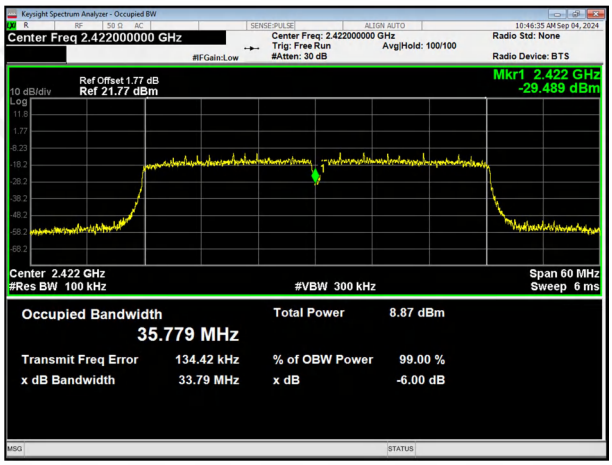




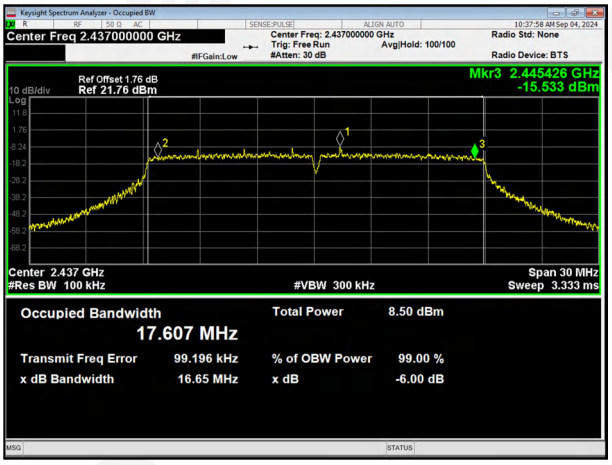
802.11n20 801.11n40

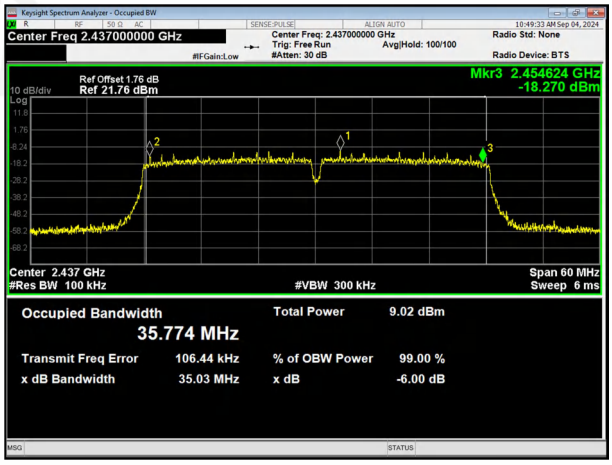
Lowest channel



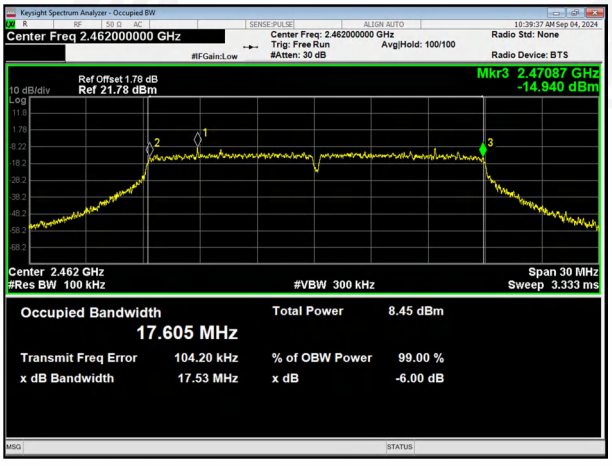


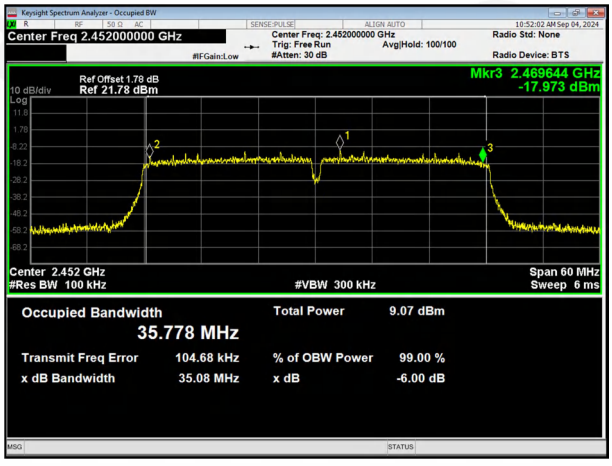
Middle channel





Highest channel





Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX Mode-ANT2		

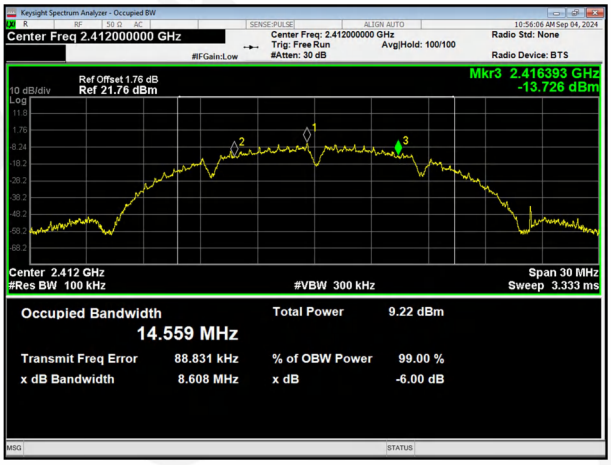
	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
802.11b	2412	8.608	>500	Pass
	2437	8.576	>500	Pass
	2462	9.499	>500	Pass
802.11g	2412	16.330	>500	Pass
	2437	16.331	>500	Pass
	2462	16.284	>500	Pass
802.11n20	2412	17.304	>500	Pass
	2437	16.920	>500	Pass
	2462	17.072	>500	Pass
802.11n40	2422	35.109	>500	Pass
	2437	35.154	>500	Pass
	2452	35.100	>500	Pass

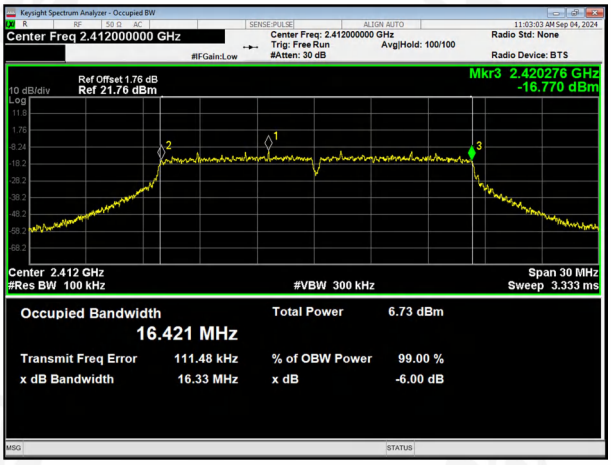
Test plot as follows:

802.11b

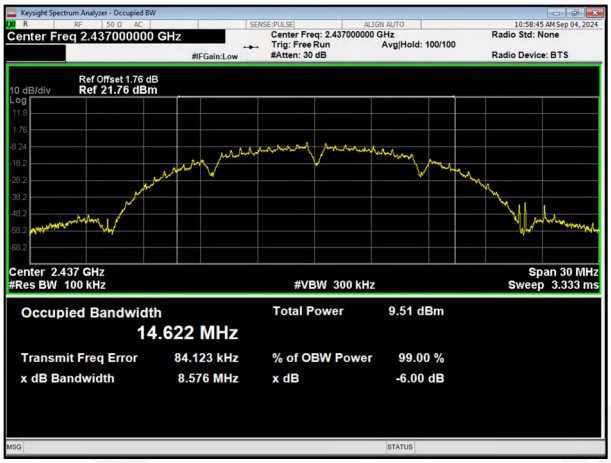
802.11g

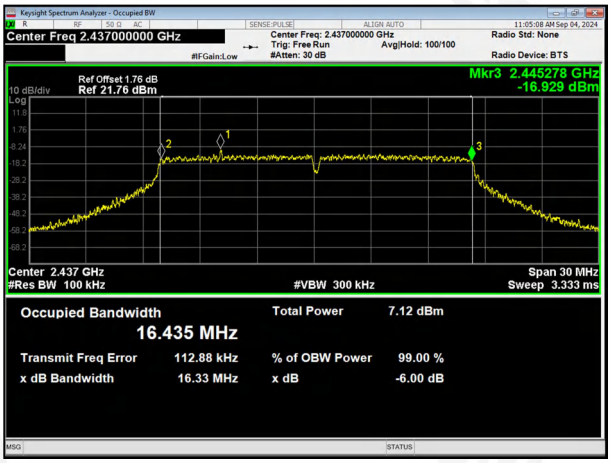
Lowest channel



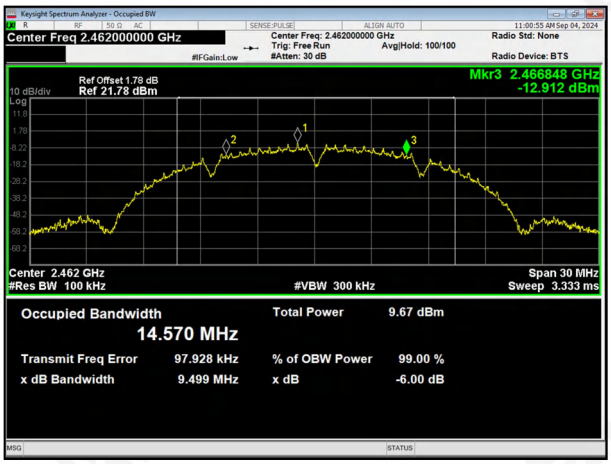


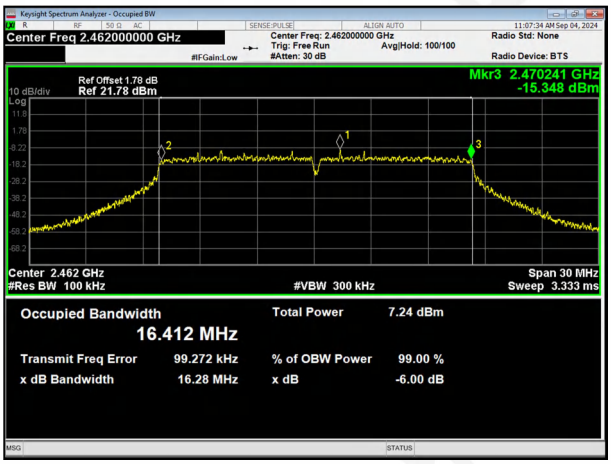
Middle channel





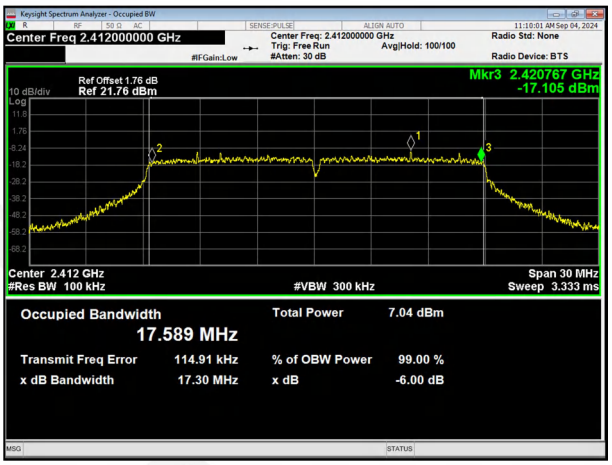
Highest channel

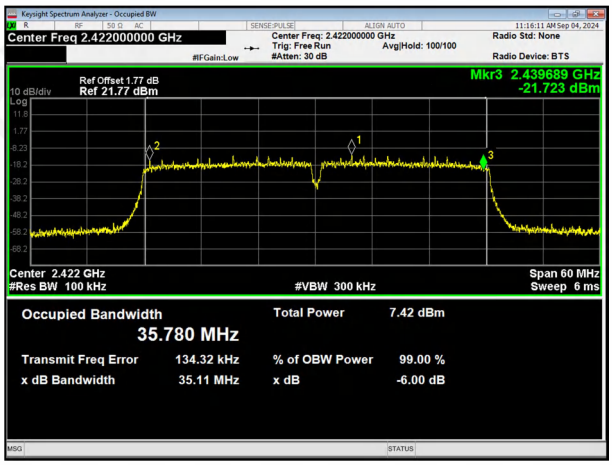




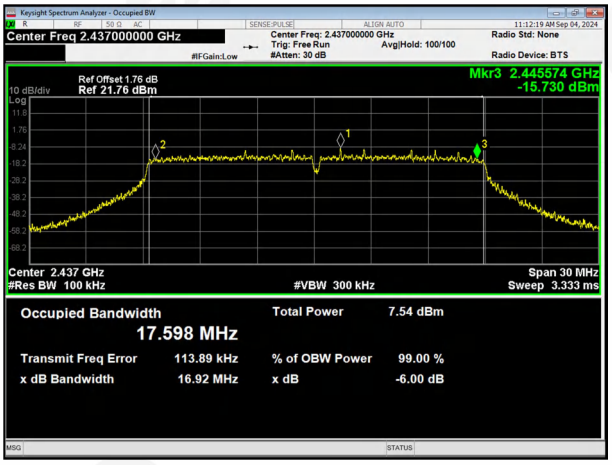
802.11n20 801.11n40

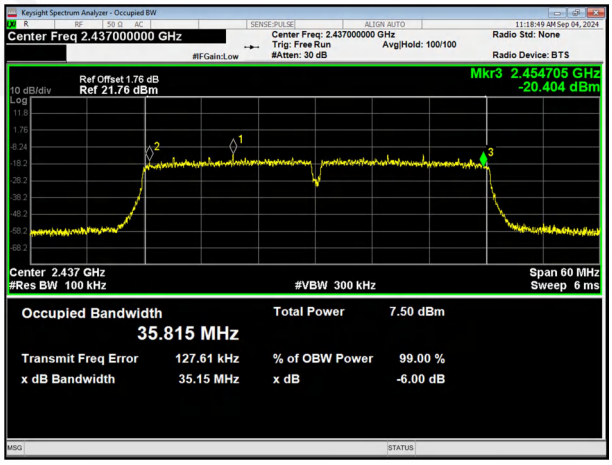
Lowest channel



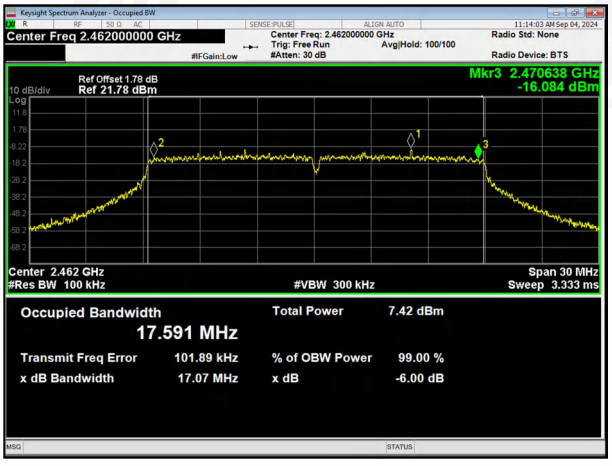


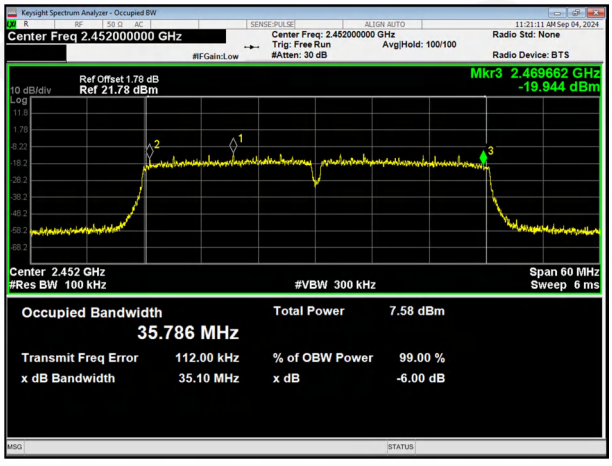
Middle channel





Highest channel





8.PEAK OUTPUT POWER TEST

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	KDB558074 D0115.247 Meas Guidance v05r02

8.1 APPLIED PROCEDURES/LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

8.2 TEST PROCEDURE

a. The EUT was directly connected to the Power meter

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP

8.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

8.6 TEST RESULT

Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz

Test CH	Peak Output Power (dBm)				Limit(dBm)	Result
	802.11b		802.11g			
	ANT1	ANT2	ANT1	ANT2		
Lowest	5.882	4.224	6.98	5.592	30.00	Pass
Middle	6.139	4.561	7.396	6.025		
Highest	6.321	4.693	7.398	5.953		

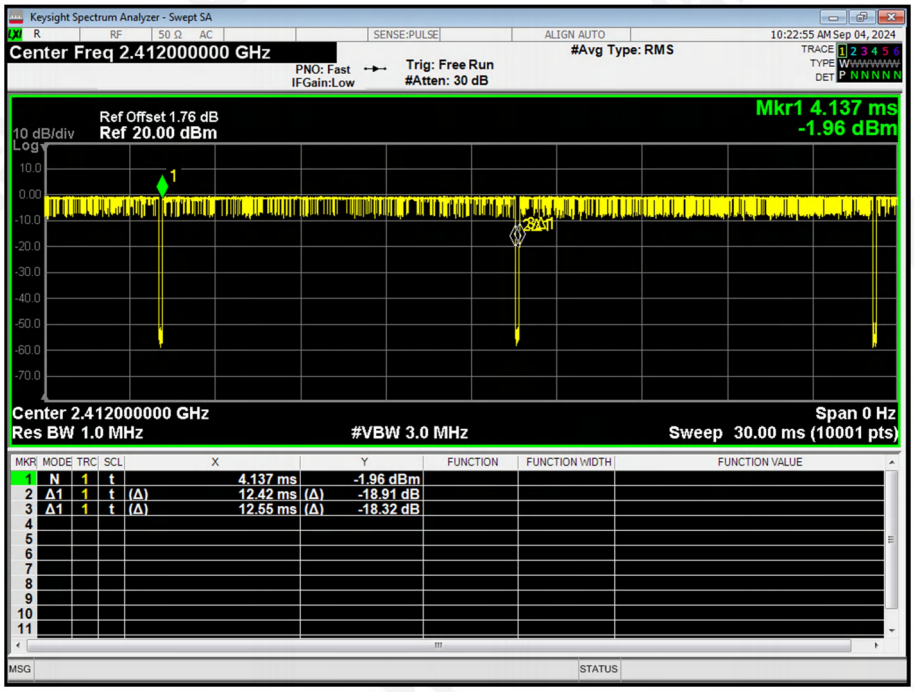
Test CH	Peak Output Power (dBm)								Total power(dBm)	
	802.11n(HT20) (dBm)		802.11n(HT40) (dBm)		802.11n(HT20) (mW)		802.11n(HT40) (mW)		802.11n (HT20) (dBm)	802.11n (HT40) (dBm)
/	ANT1	ANT2	ANT1	ANT2	ANT1	ANT2	ANT1	ANT2	/	/
Lowest	6.978	5.894	7.459	6.024	4.987	3.885	5.571	4.003	9.480	9.811
Middle	7.403	6.376	7.642	6.113	5.499	4.341	5.810	4.086	9.929	9.954
Highest	7.385	6.221	7.637	6.125	5.476	4.189	5.804	4.097	9.852	9.957

	Frequency	Output Power	Antenna gain	EIRP
	(MHz)	(dBm)	(dBi)	(dBm)
802.11b	Lowest	5.882	2.5	8.382
	Middle	6.139	2.5	8.639
	Highest	6.321	2.5	8.821
802.11g	Lowest	6.980	2.5	9.480
	Middle	7.396	2.5	9.896
	Highest	7.398	2.5	9.898
802.11n20	Lowest	9.480	5.51	14.990
	Middle	9.929	5.51	15.439
	Highest	9.852	5.51	15.362
802.11n40	Lowest	9.811	5.51	15.321
	Middle	9.954	5.51	15.464
	Highest	9.957	5.51	15.467

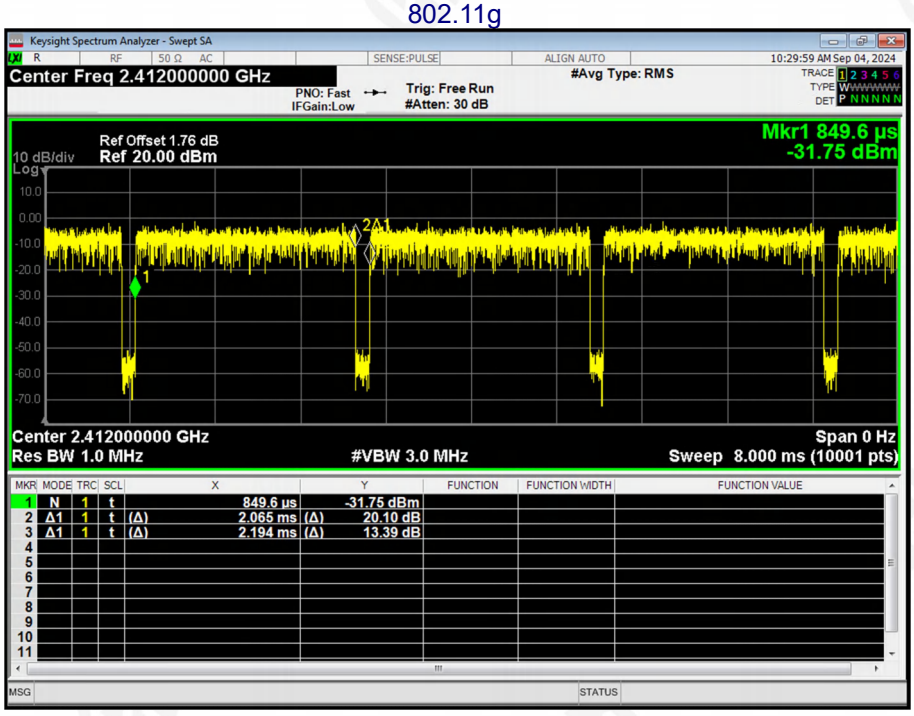
Duty Cycly:

Condition	Mode	Frequency (MHz)	Antenna	On Time (ms)	Period (ms)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)	Final settingFor VBW (kHz)
NVNT	b	2412	Ant1	12.42	12.55	98.96	0	0.08	1
NVNT	g	2412	Ant1	2.06	2.19	94.06	0.27	0.48	1
NVNT	n20	2412	Ant1	1.92	2.05	93.66	0.28	0.52	1
NVNT	n40	2422	Ant1	0.95	1.07	88.79	0.52	1.06	1

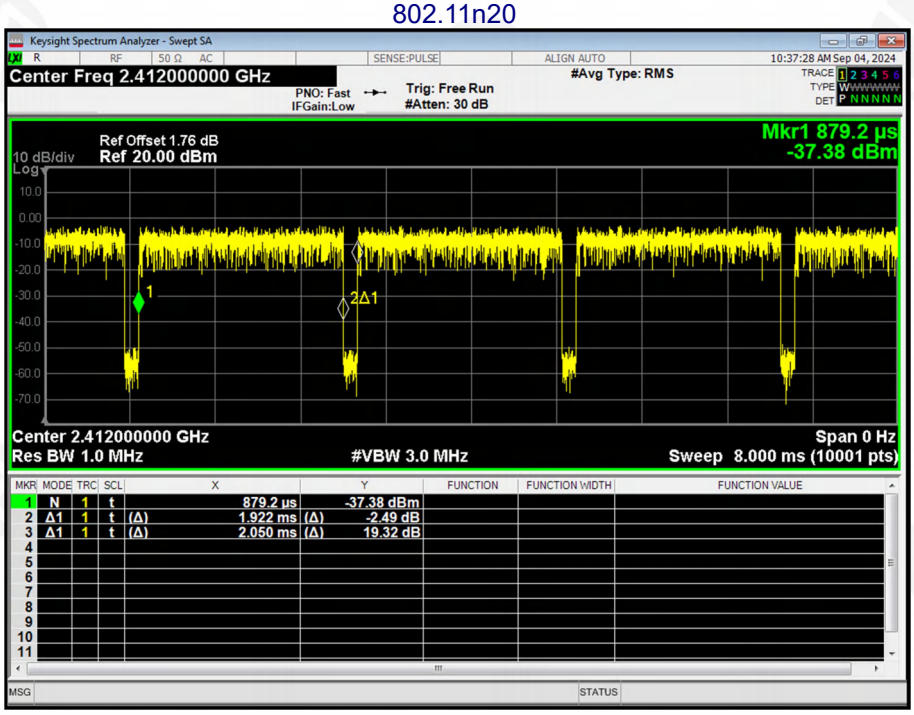
802.11b



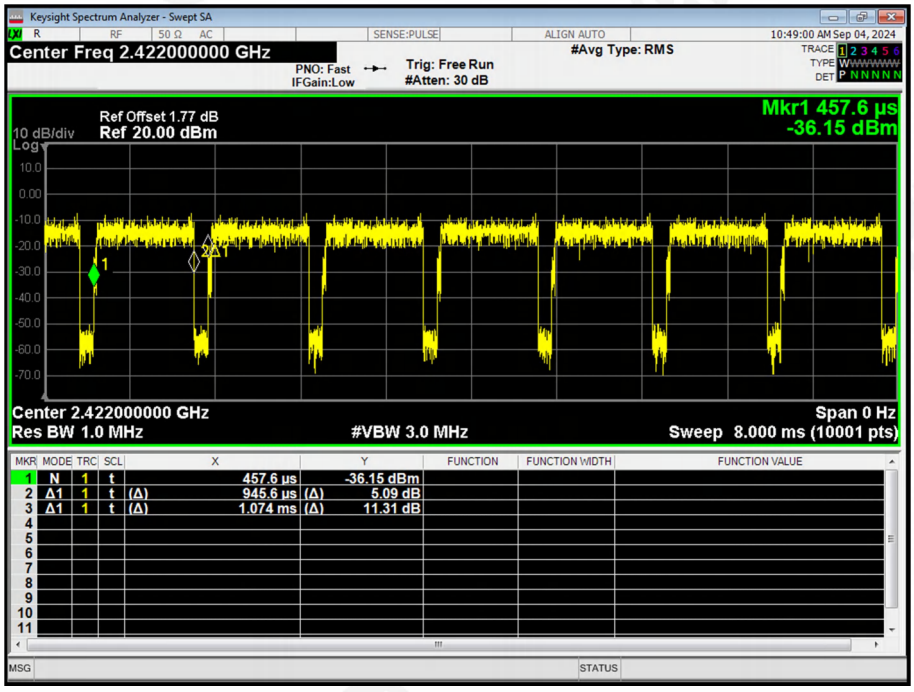
802.11g



802.11n20



802.11n40



9. CONDUCTED BAND EDGE AND SPURIOUS EMISSION

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D0115.247 Meas Guidance v05r02

9.1 APPLICABLE STANDARD

in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, 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 in15.209(a).

9.2 TEST PROCEDURE

Using the following spectrum analyzer setting:

A) Set the RBW = 100KHz.
B) Set the VBW = 300KHz.
C) Sweep time = auto couple.
D) Detector function = peak.
E) Trace mode = max hold.
F) Allow trace to fully stabilize.

9.3 DEVIATION FROM STANDARD

No deviation.

9.4 TEST SETUP

9.5 EUT OPERATION CONDITIONS

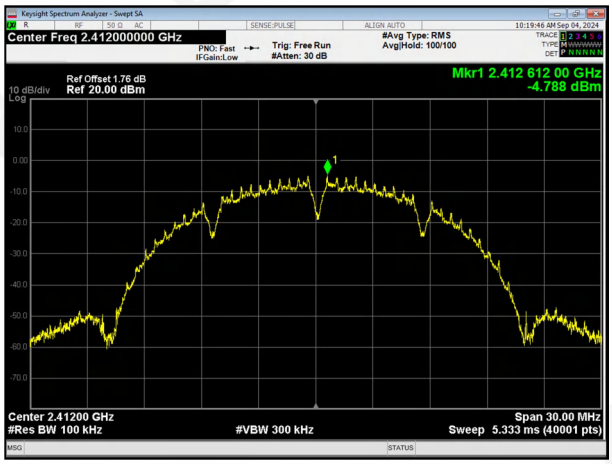
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

9.6 TEST RESULTS

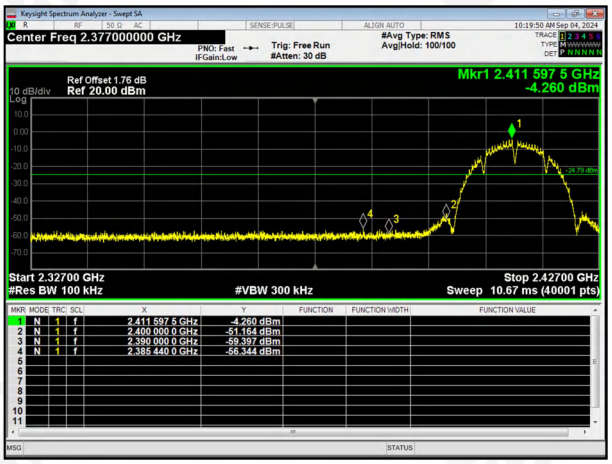
Test plot as follows:

ANT1

Test mode:	802.11b

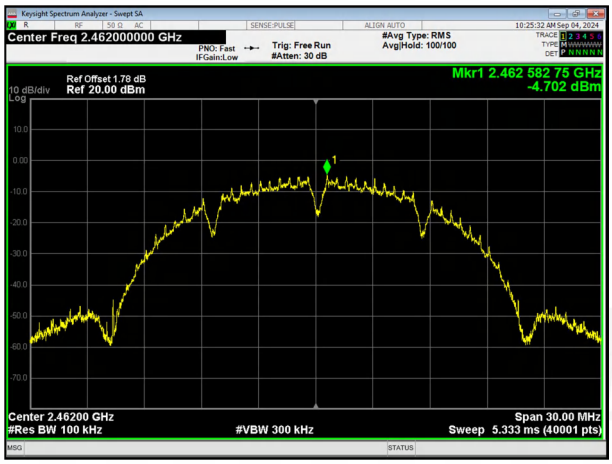


Lowest channel

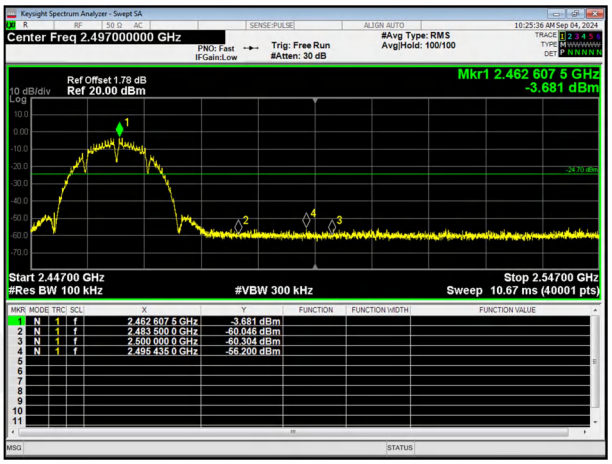


Highest channel

Test mode:	802.11b

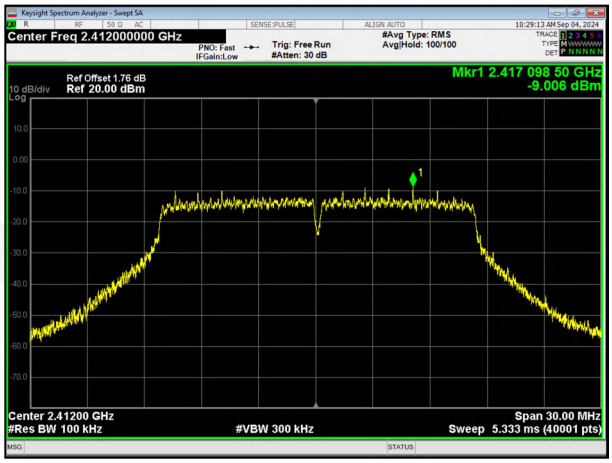


Lowest channel

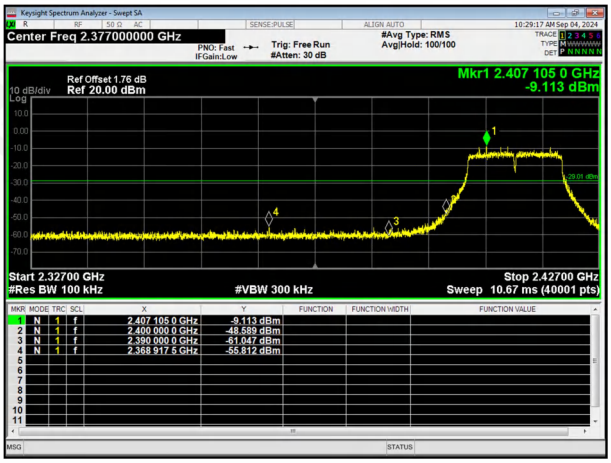


Highest channel

Test mode:	802.11g

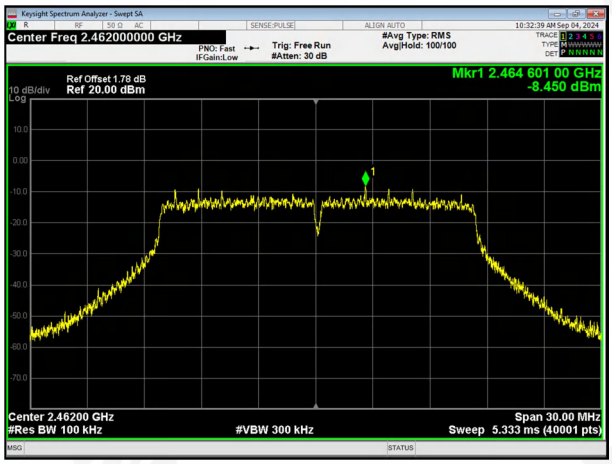


Lowest channel

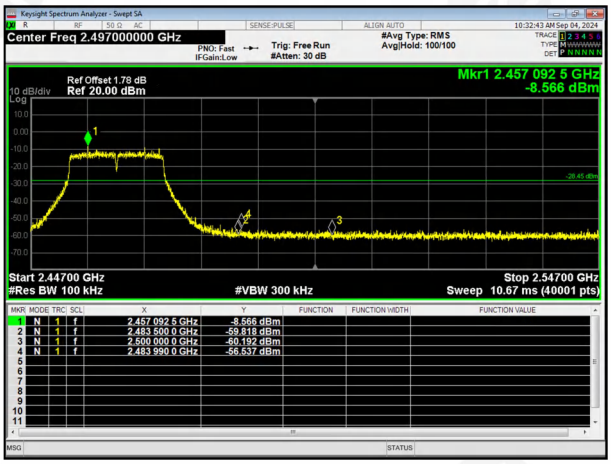


Highest channel

Test mode:	802.11g

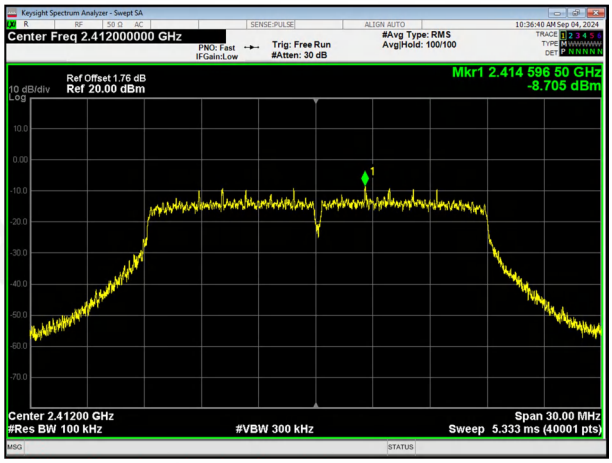


Lowest channel

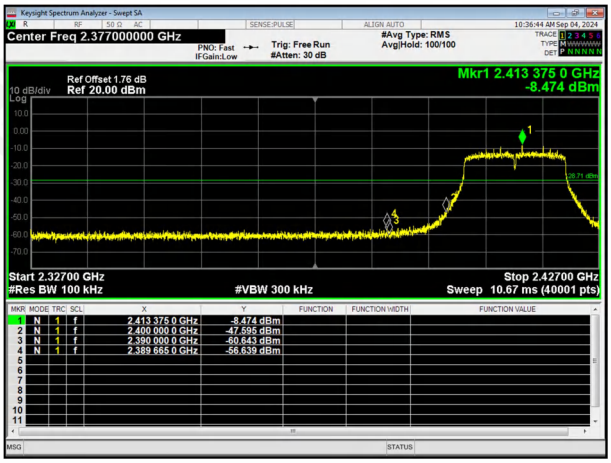


Highest channel

Test mode:	802.11n(HT20)

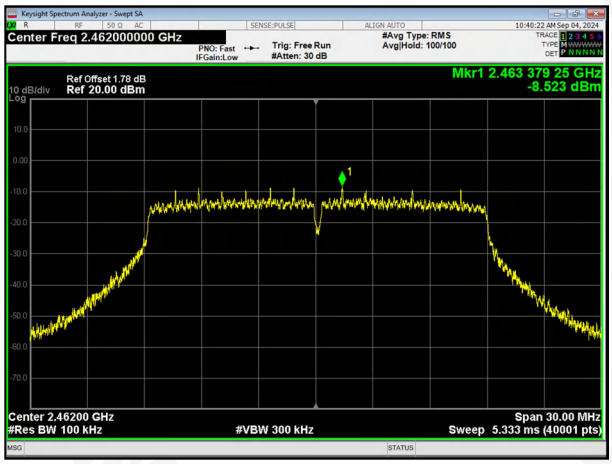


Lowest channel

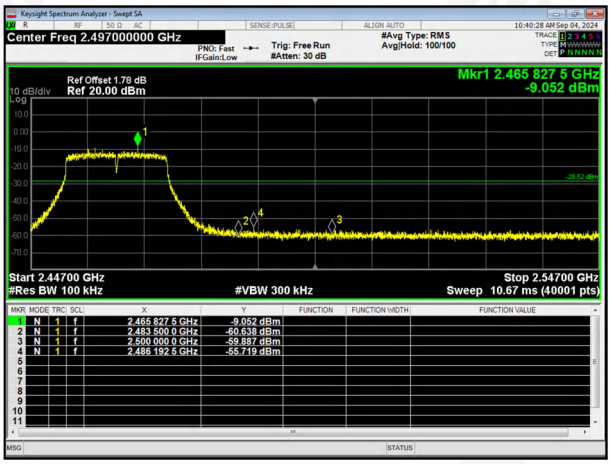


Highest channel

Test mode:	802.11n(HT20)

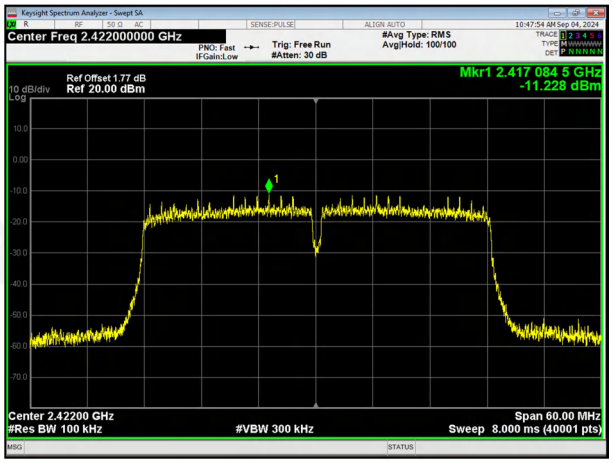


Lowest channel

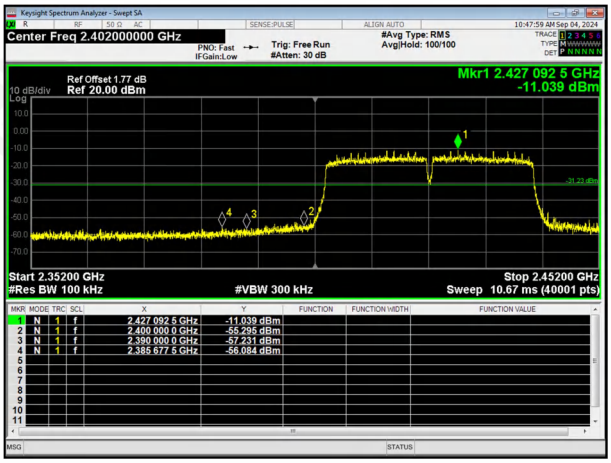


Highest channel

Test mode:	802.11n(HT40)

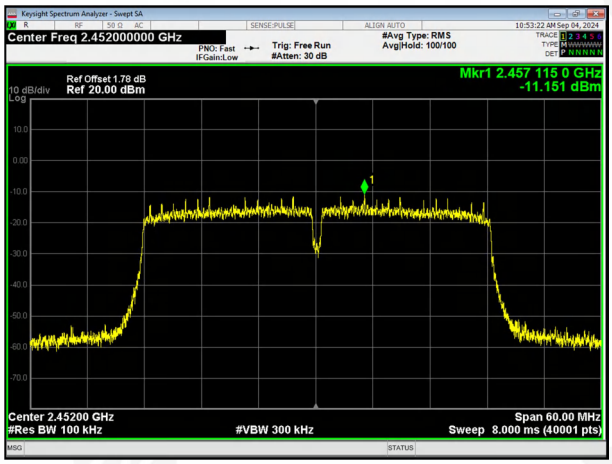


Lowest channel

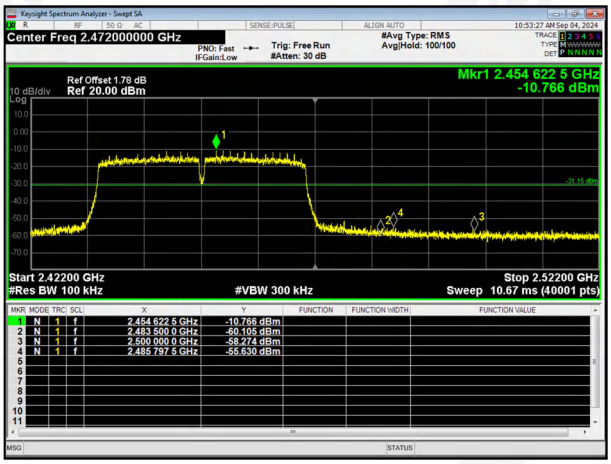


Highest channel

Test mode:	802.11n(HT40)



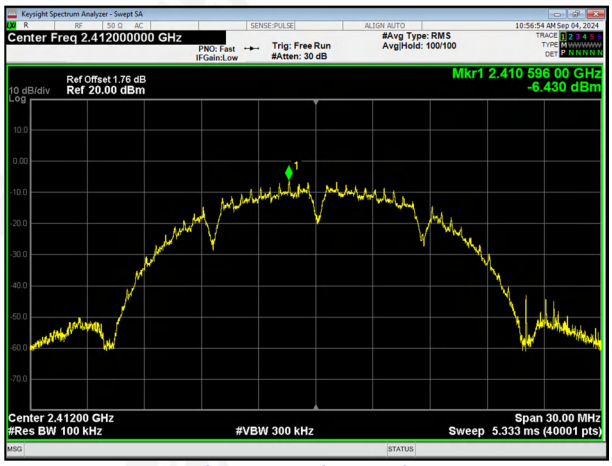
Lowest channel



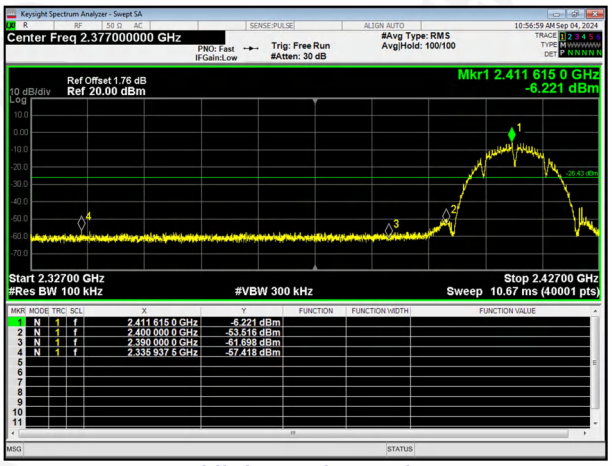
Highest channel

ANT2

Test mode:	802.11b

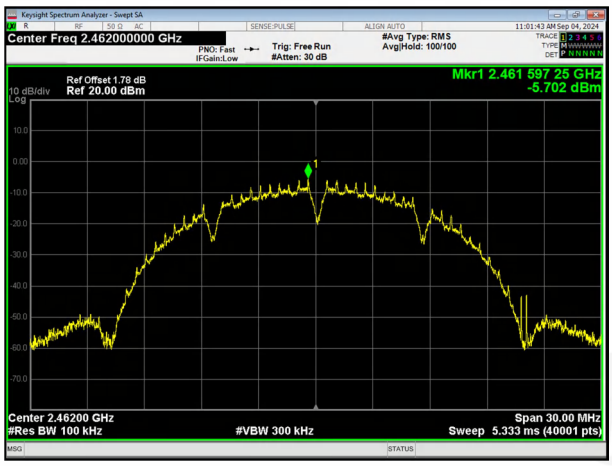


Lowest channel

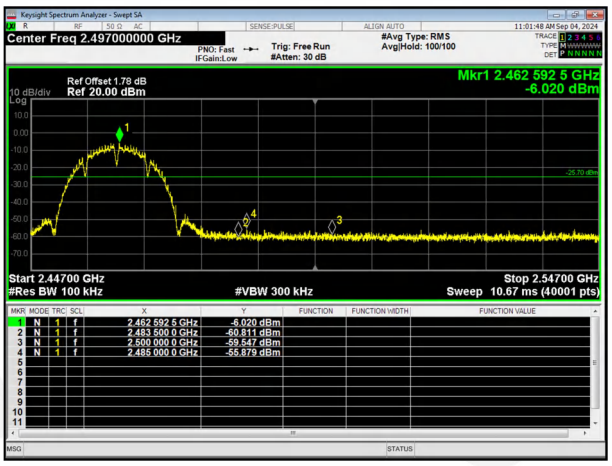


Highest channel

Test mode:	802.11b

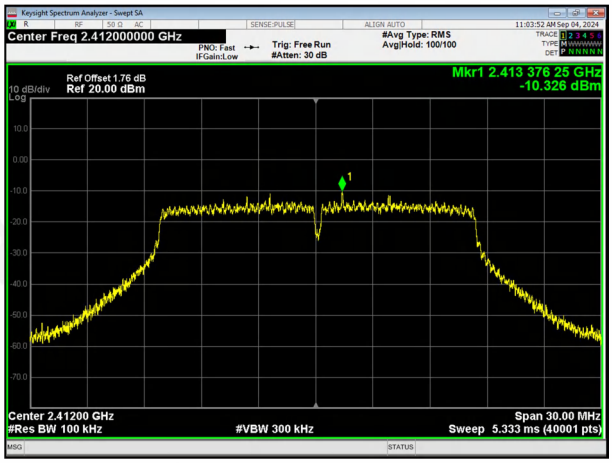


Lowest channel

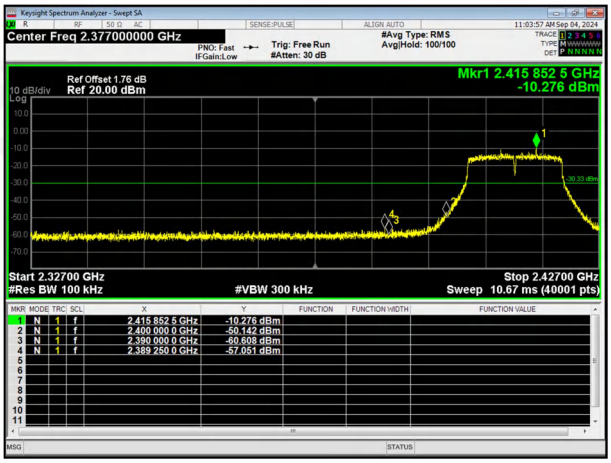


Highest channel

Test mode:	802.11g

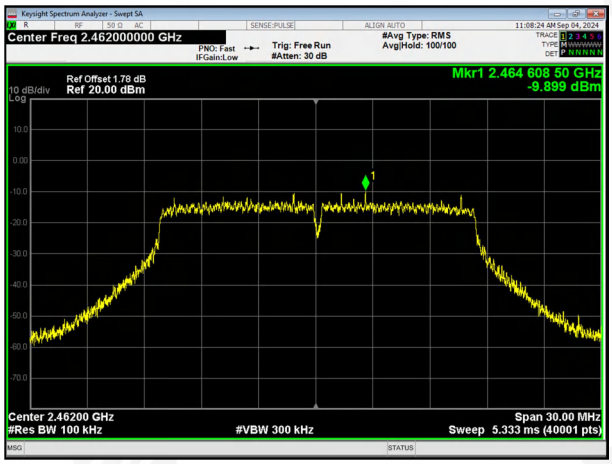


Lowest channel

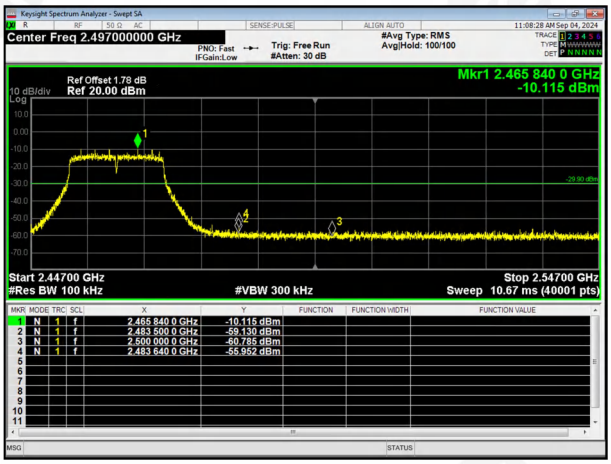


Highest channel

Test mode:	802.11g

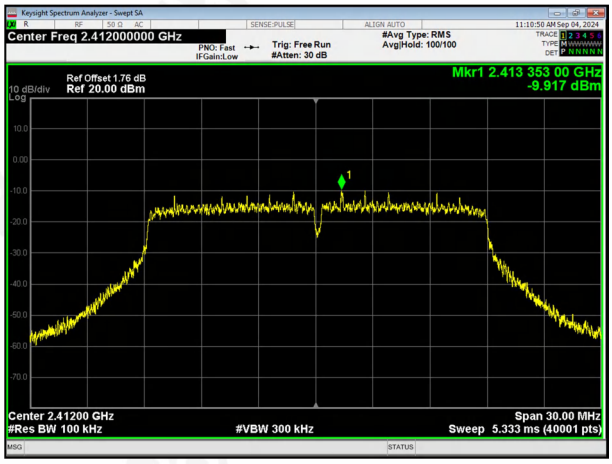


Lowest channel

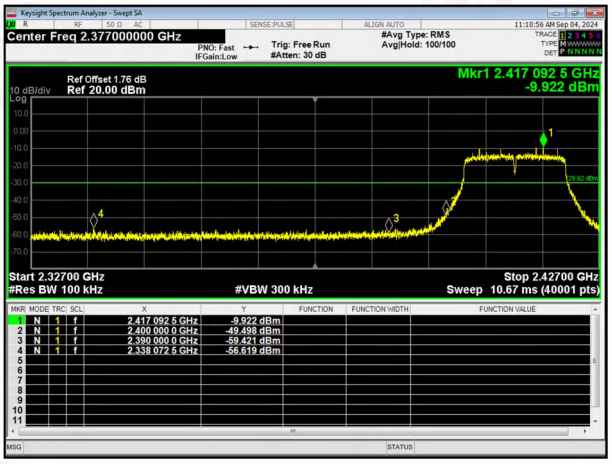


Highest channel

Test mode:	802.11n(HT20)

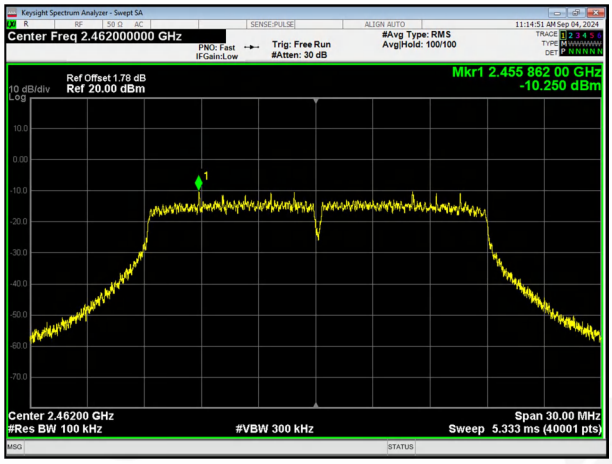


Lowest channel

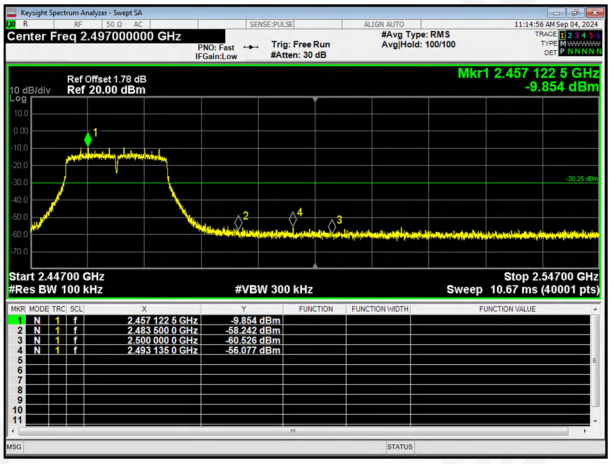


Highest channel

Test mode:	802.11n(HT20)

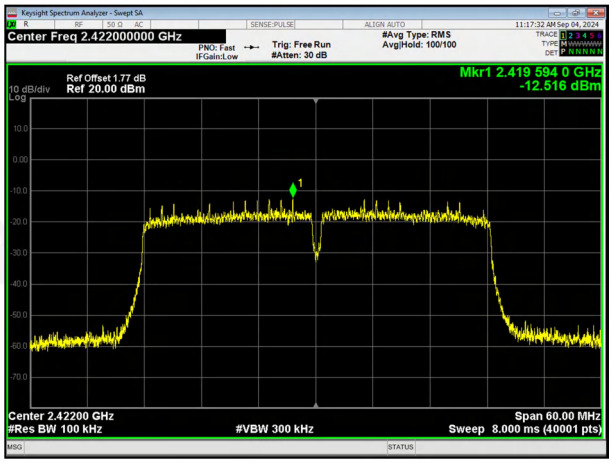


Lowest channel

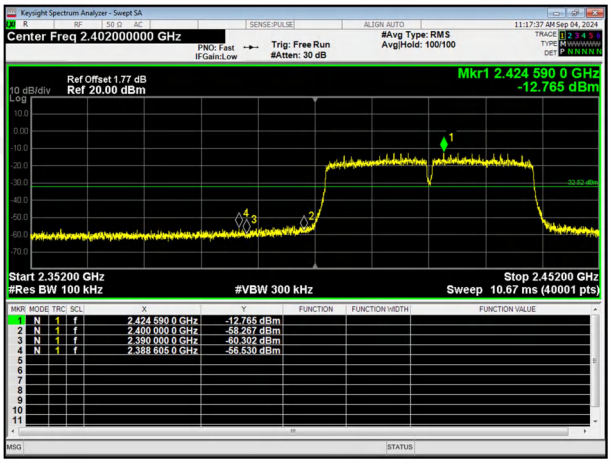


Highest channel

Test mode:	802.11n(HT40)

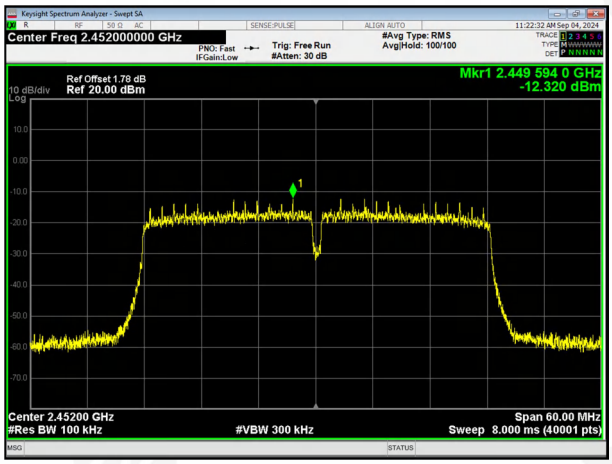


Lowest channel

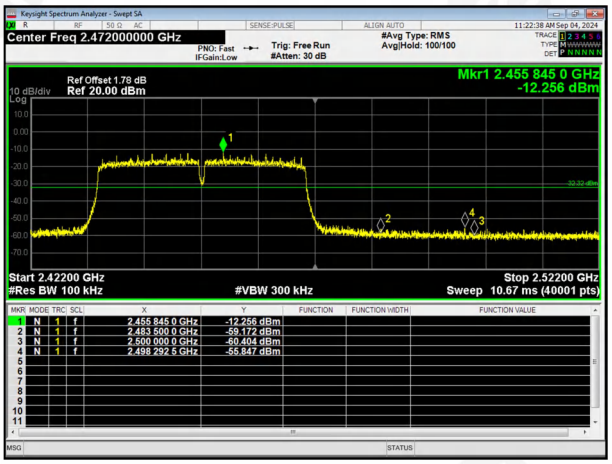


Highest channel

Test mode:	802.11n(HT40)



Lowest channel



Highest channel