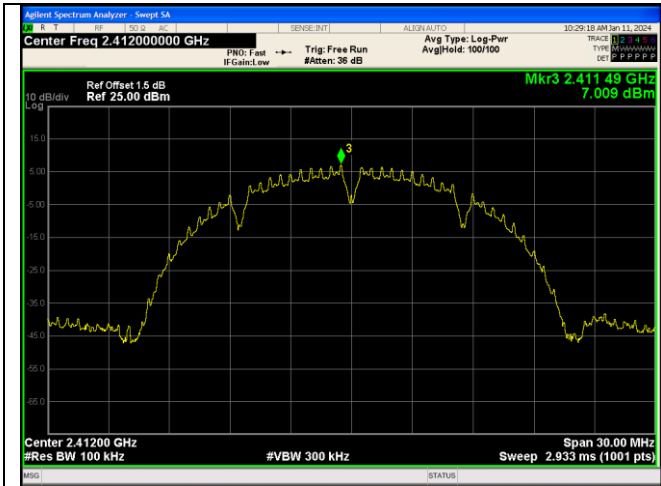


**Test Result**

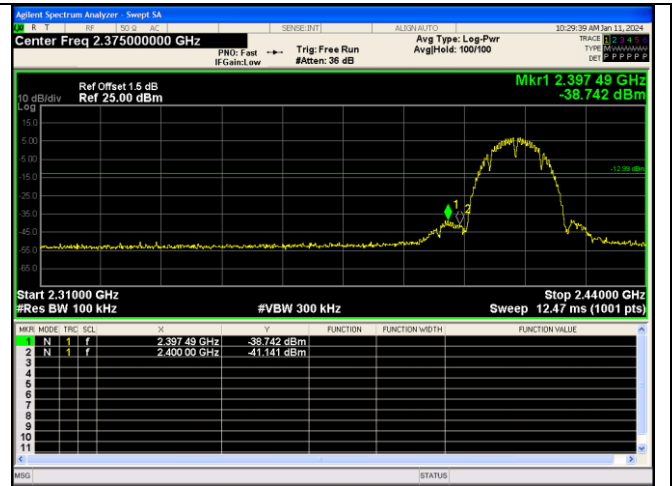
Mode	Channel	Ant.	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	
IEEE 802.11b	1	1	2400.00	-41.141	-12.99	-28.151	PASS	
			2397.49	-38.742	-12.99	-25.752	PASS	
			23520.5	-41.966	-12.99	-28.976	PASS	
	6		23808.3	-43.260	-13.15	-30.110	PASS	
			11	2483.50	-52.116	-13.44	-38.676	PASS
				23605.4	-42.620	-13.44	-29.180	PASS
IEEE 802.11g	1		2400.00	-38.038	-16.79	-21.248	PASS	
			2398.27	-36.739	-16.79	-19.949	PASS	
			23632.9	-43.280	-16.79	-26.490	PASS	
	6		24860.8	-42.719	-16.61	-26.108	PASS	
			11	2483.50	-42.832	-17.59	-25.242	PASS
				23627.2	-43.360	-17.59	-25.770	PASS
IEEE 802.11n_20	1		2400.00	-37.109	-16.68	-20.429	PASS	
			2398.53	-36.679	-16.68	-19.999	PASS	
			23552.3	-43.433	-16.68	-26.753	PASS	
	6		23792.0	-43.234	-16.48	-26.754	PASS	
			11	2483.50	-43.724	-17.16	-26.564	PASS
				24910.7	-42.443	-17.16	-25.283	PASS
IEEE 802.11n_40	3	2400.00	-34.918	-17.25	-17.668	PASS		
		2396.97	-29.418	-17.25	-12.168	PASS		
		24866.4	-43.266	-17.25	-26.016	PASS		
	6	24765.9	-43.051	-17.0	-26.051	PASS		
		9	2483.50	-35.464	-18.35	-17.114	PASS	
			24907.0	-42.916	-18.35	-24.566	PASS	



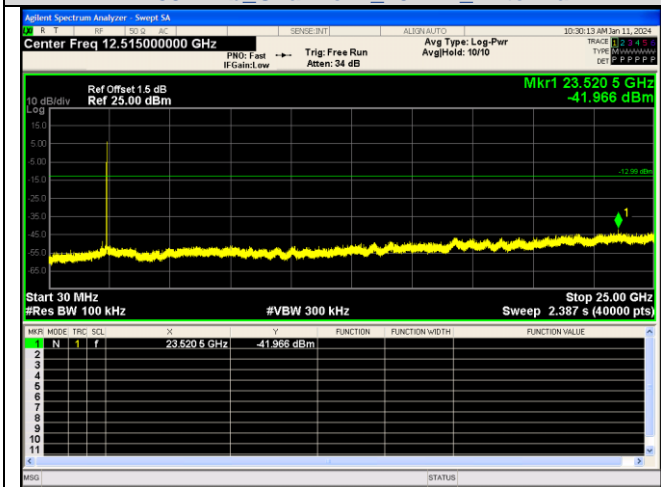
Test Graphs:



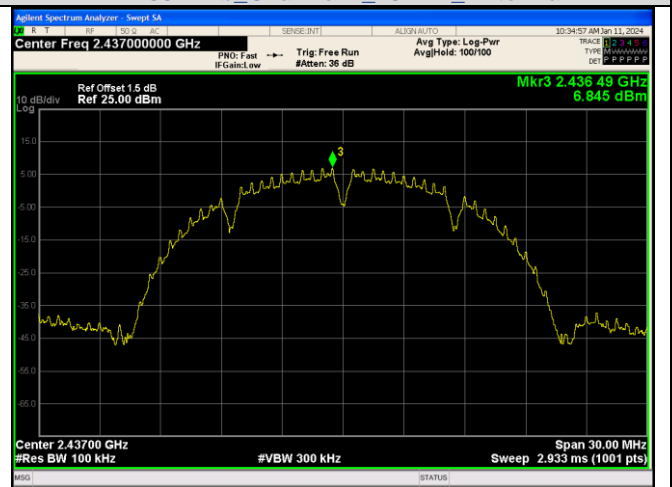
In-Band Reference Level
IEEE 802.11b Channel 1 20MHz Antenna 1



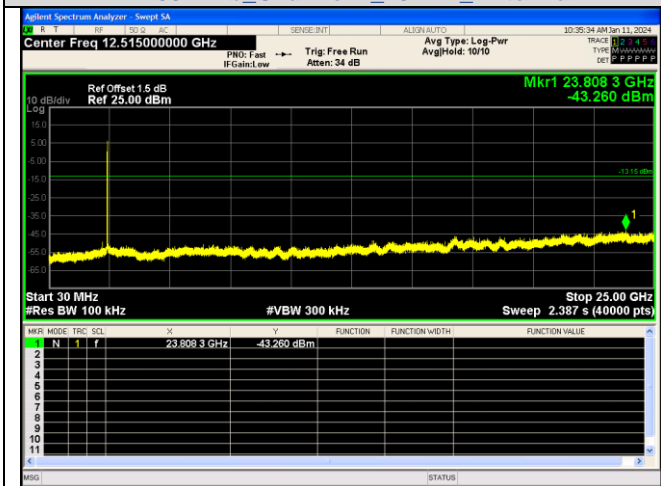
Out Of Band Emission
IEEE 802.11b Channel 1 20MHz Antenna 1



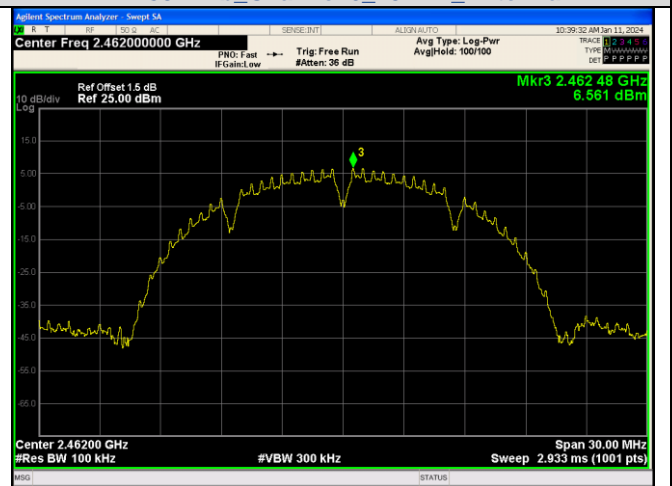
Spurious Emission
IEEE 802.11b Channel 1 20MHz Antenna 1



In-Band Reference Level
IEEE 802.11b Channel 6 20MHz Antenna 1

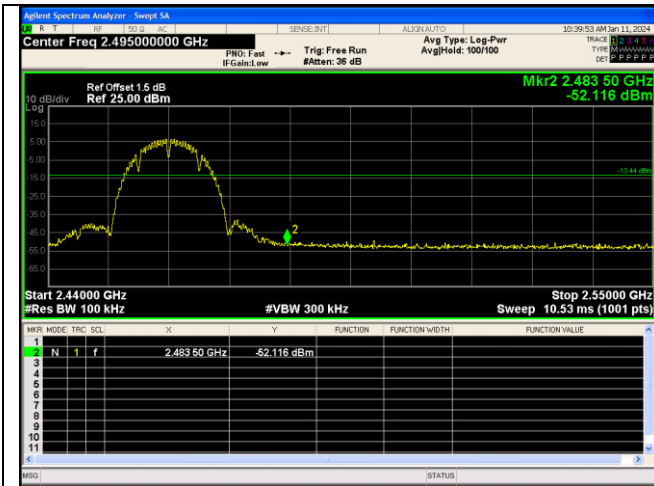


Spurious Emissions
IEEE 802.11b Channel 6 20MHz Antenna 1

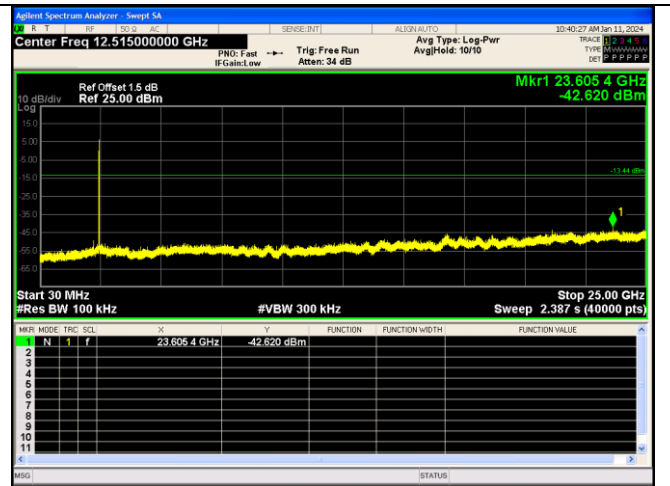


In-Band Reference Level
IEEE 802.11b Channel 11 20MHz Antenna 1

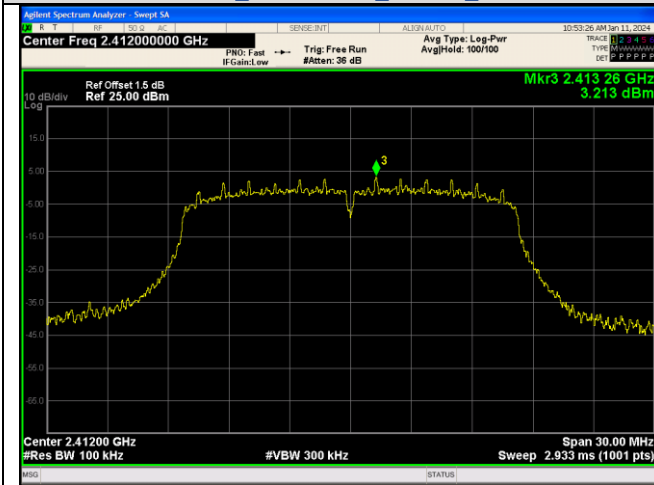




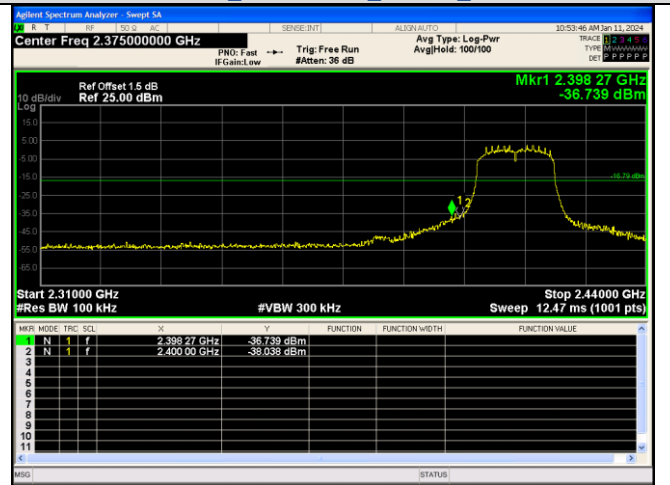
Out Of Band Emission
IEEE 802.11b Channel 11_20MHz_Antenna 1



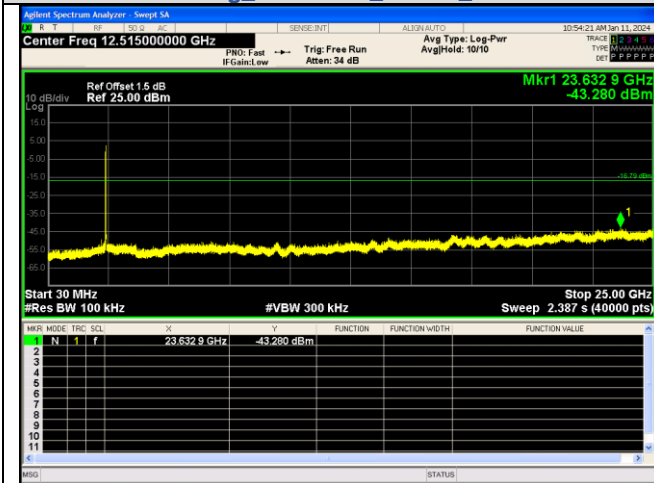
Spurious Emission
IEEE 802.11b Channel 11_20MHz_Antenna 1



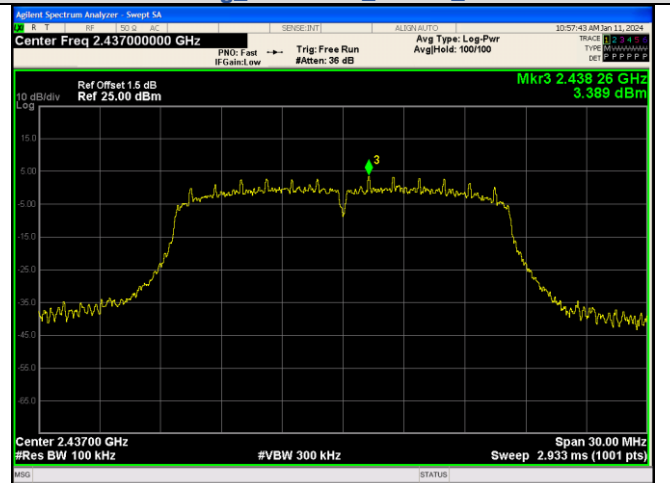
In-Band Reference Level
IEEE 802.11g Channel 1_20MHz_Antenna 1



Out Of Band Emission
IEEE 802.11g Channel 1_20MHz_Antenna 1

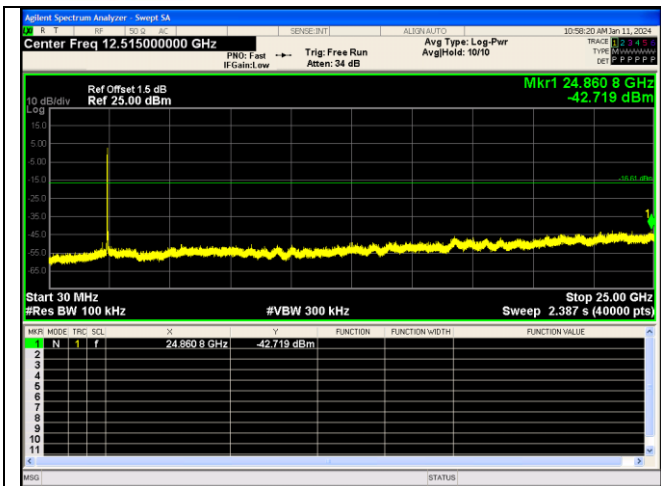


Spurious Emission
IEEE 802.11g Channel 1_20MHz_Antenna 1

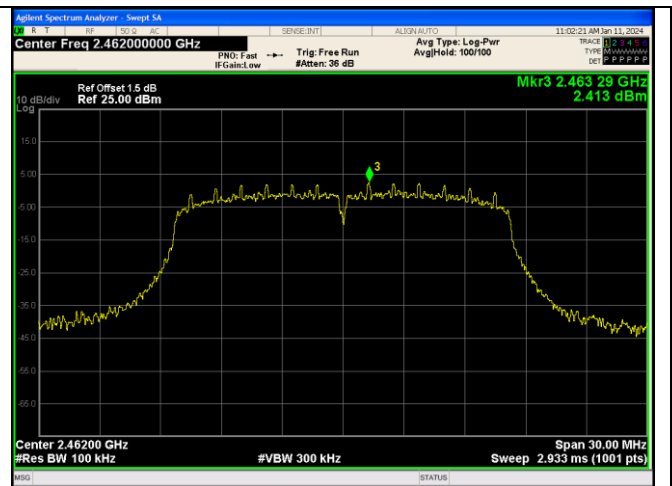


In-Band Reference Level
IEEE 802.11g Channel 6_20MHz_Antenna 1

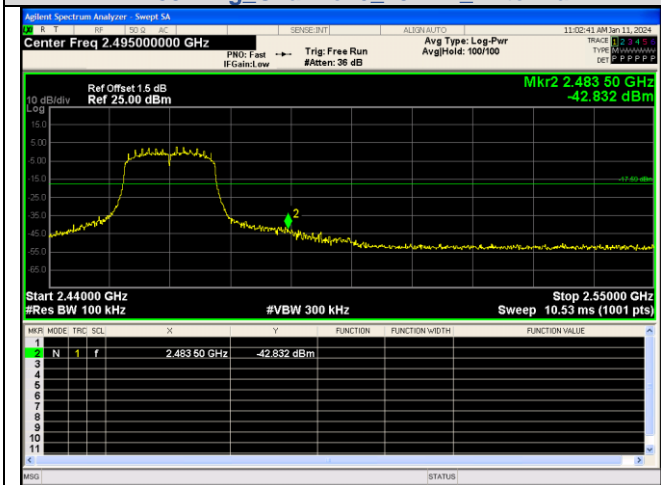




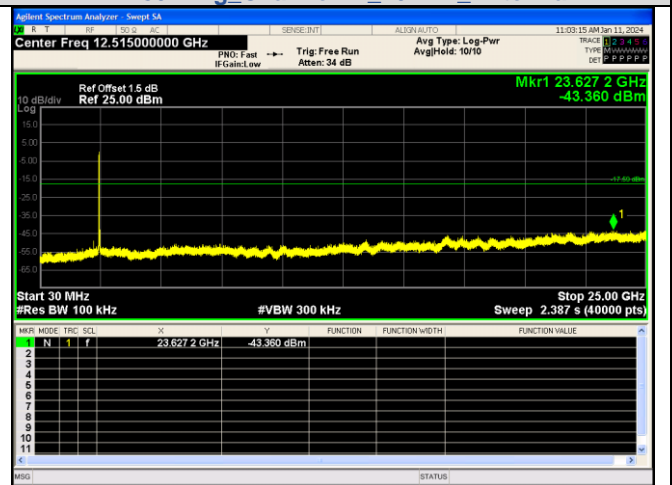
Spurious Emissions
IEEE 802.11g Channel 6_20MHz_Antenna 1



In-Band Reference Level
IEEE 802.11g Channel 11_20MHz_Antenna 1



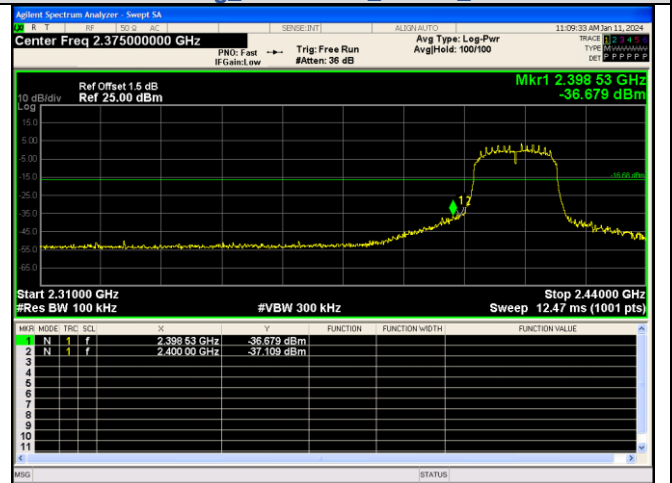
Out Of Band Emission
IEEE 802.11g Channel 11_20MHz_Antenna 1



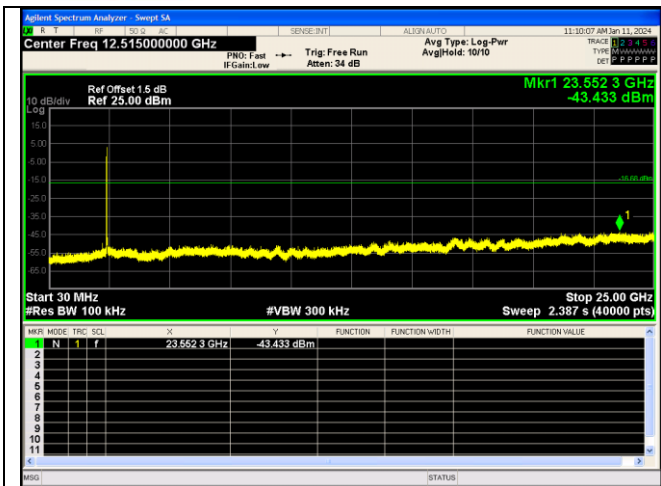
Spurious Emission
IEEE 802.11g Channel 11_20MHz_Antenna 1



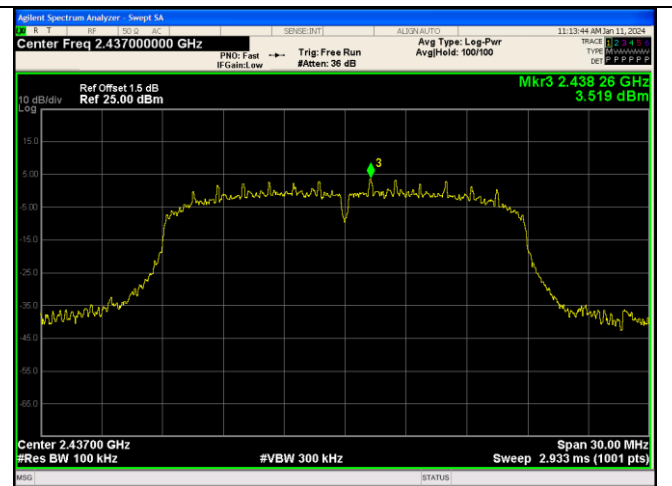
In-Band Reference Level
IEEE 802.11n Channel 1_20MHz_Antenna 1



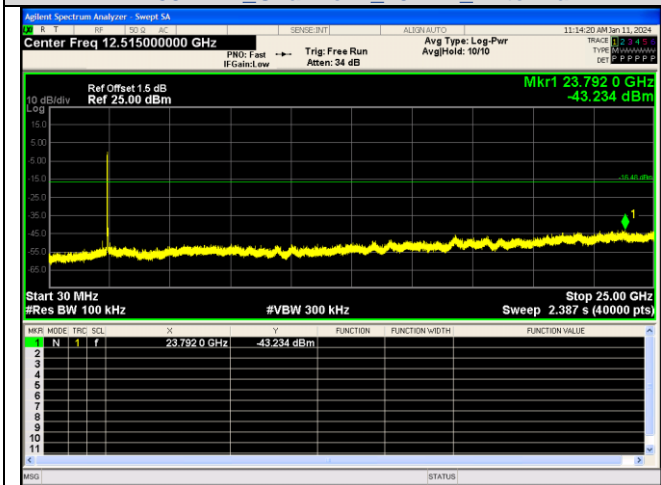
Out Of Band Emission
IEEE 802.11n Channel 1_20MHz_Antenna 1



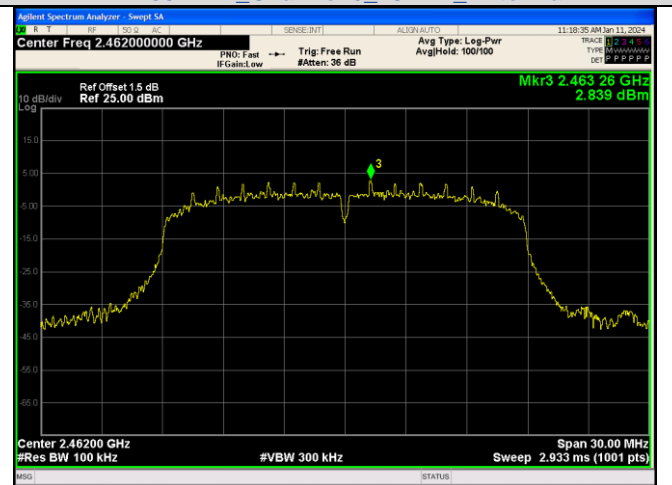
Spurious Emission
IEEE 802.11n_Channel 1_20MHz_Antenna 1



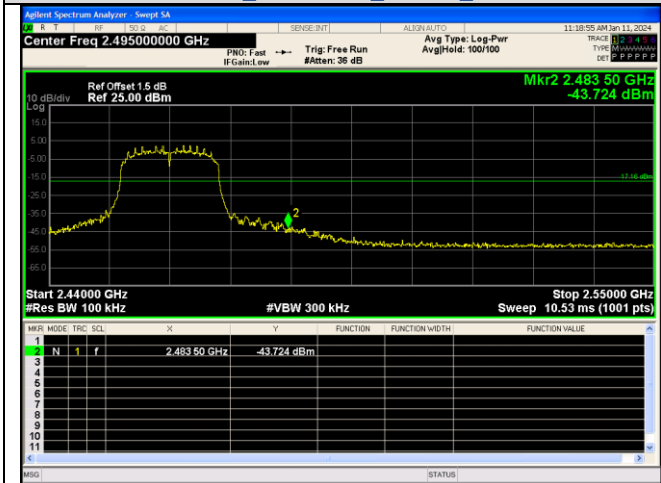
In-Band Reference Level
IEEE 802.11n_Channel 6_20MHz_Antenna 1



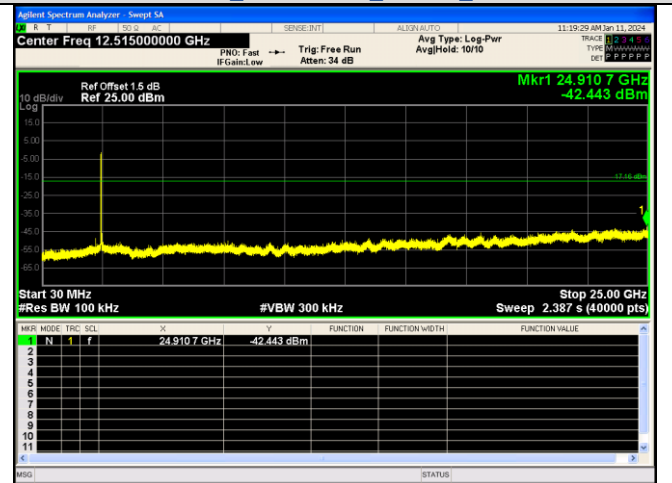
Spurious Emissions
IEEE 802.11n_Channel 6_20MHz_Antenna 1



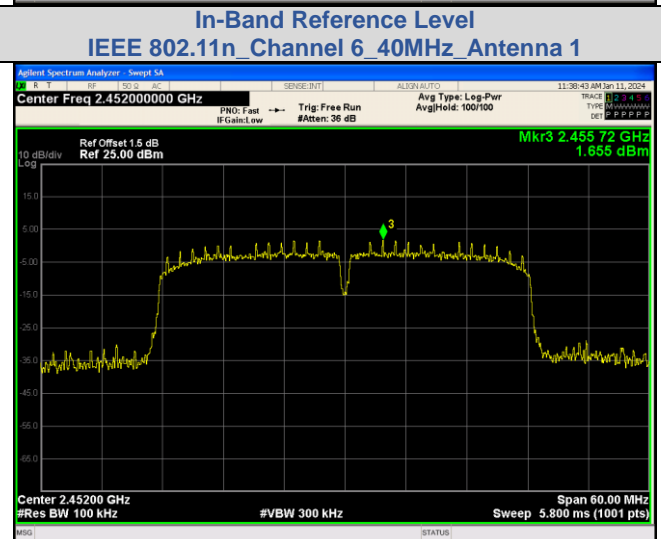
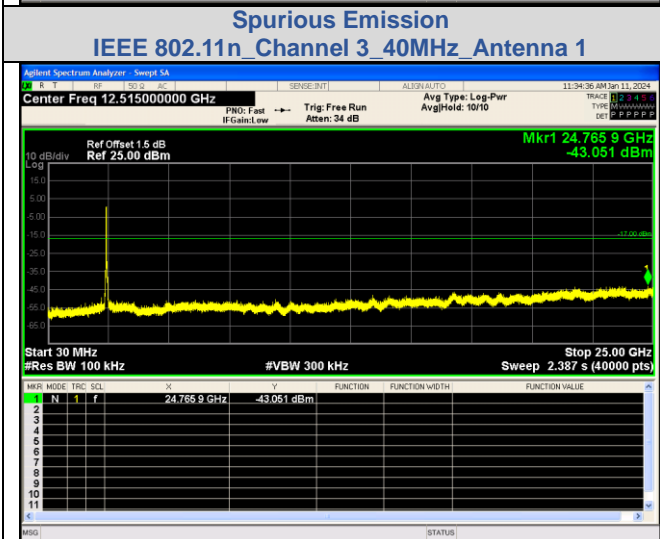
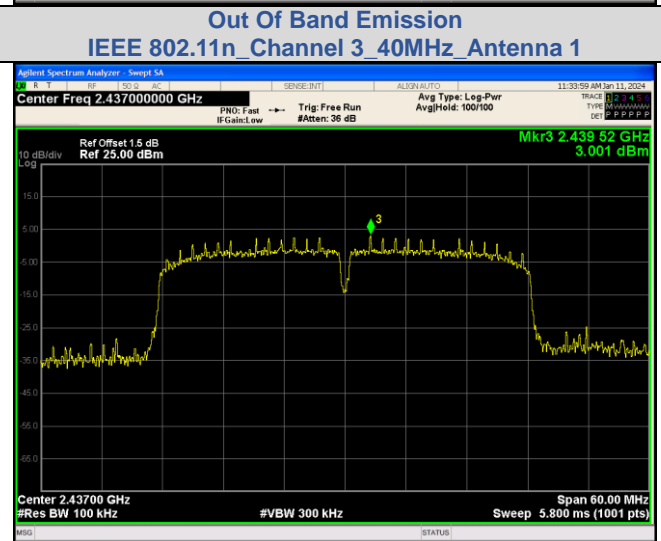
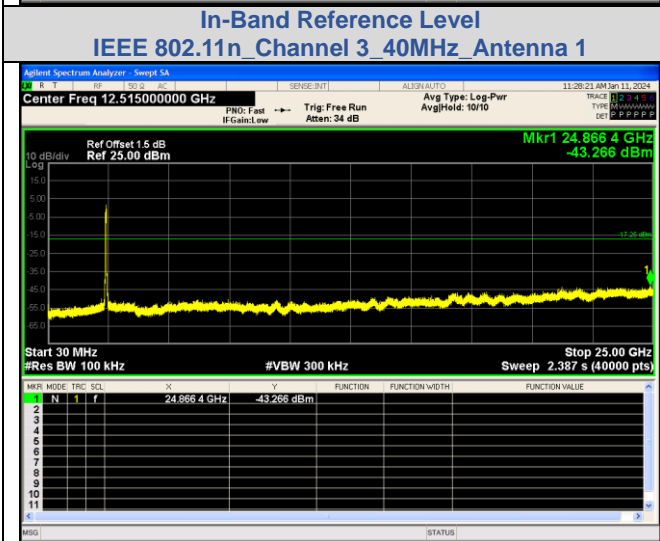
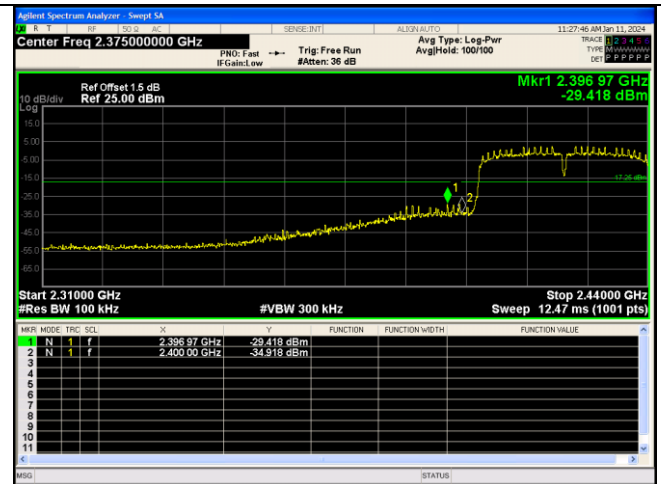
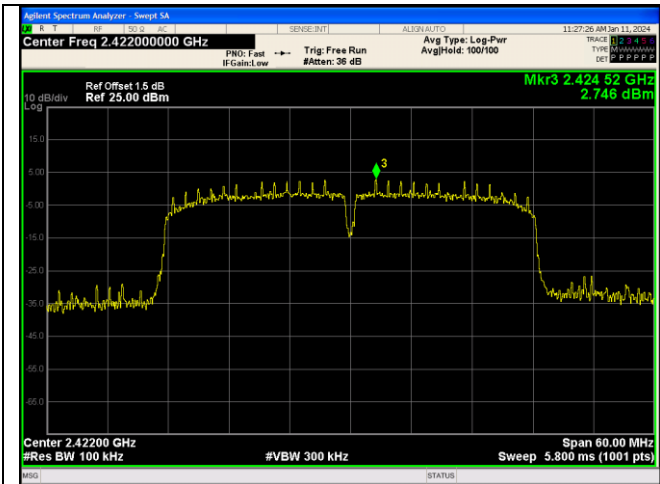
In-Band Reference Level
IEEE 802.11n_Channel 11_20MHz_Antenna 1

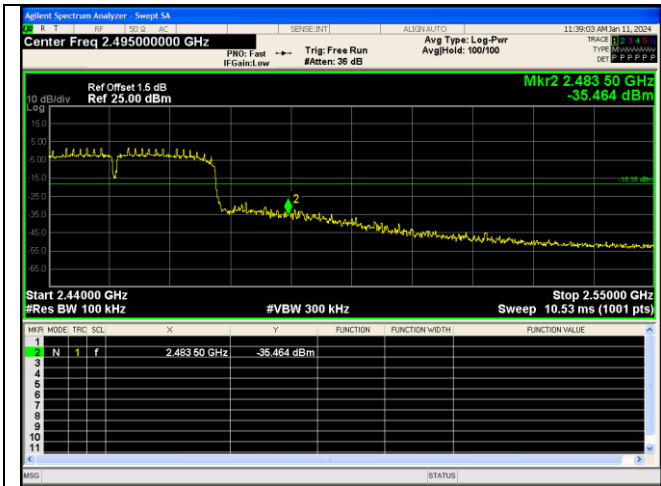


Out Of Band Emission
IEEE 802.11n_Channel 11_20MHz_Antenna 1

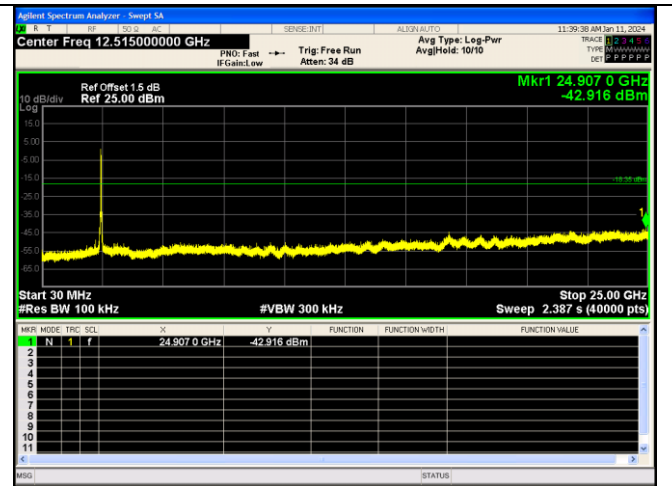


Spurious Emission
IEEE 802.11n_Channel 11_20MHz_Antenna 1





Out Of Band Emission
IEEE 802.11n_Channel 9_40MHz_Antenna 1



Spurious Emission
IEEE 802.11n_Channel 9_40MHz_Antenna 1



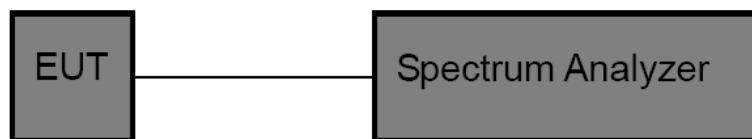
3.5. DTS Bandwidth

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(2) / RSS-247 5.2 a

Test Item	Limit	Frequency Range (MHz)
DTS Bandwidth	≥500 kHz (6dB bandwidth)	2400~2483.5

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. DTS Spectrum Setting:
 - (1) Set RBW = 100 kHz.
 - (2) Set the video bandwidth (VBW) ≥ 3 RBW.
 - (3) Detector = Peak.
 - (4) Trace mode = Max hold.
 - (5) Sweep = Auto couple.OCB Spectrum Setting:
 - (1) Set RBW = 1% ~ 5% occupied bandwidth.
 - (2) Set the video bandwidth (VBW) ≥ 3 RBW.
 - (3) Detector = Peak.
 - (4) Trace mode = Max hold.
 - (5) Sweep = Auto couple.

NOTE: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

Test Mode

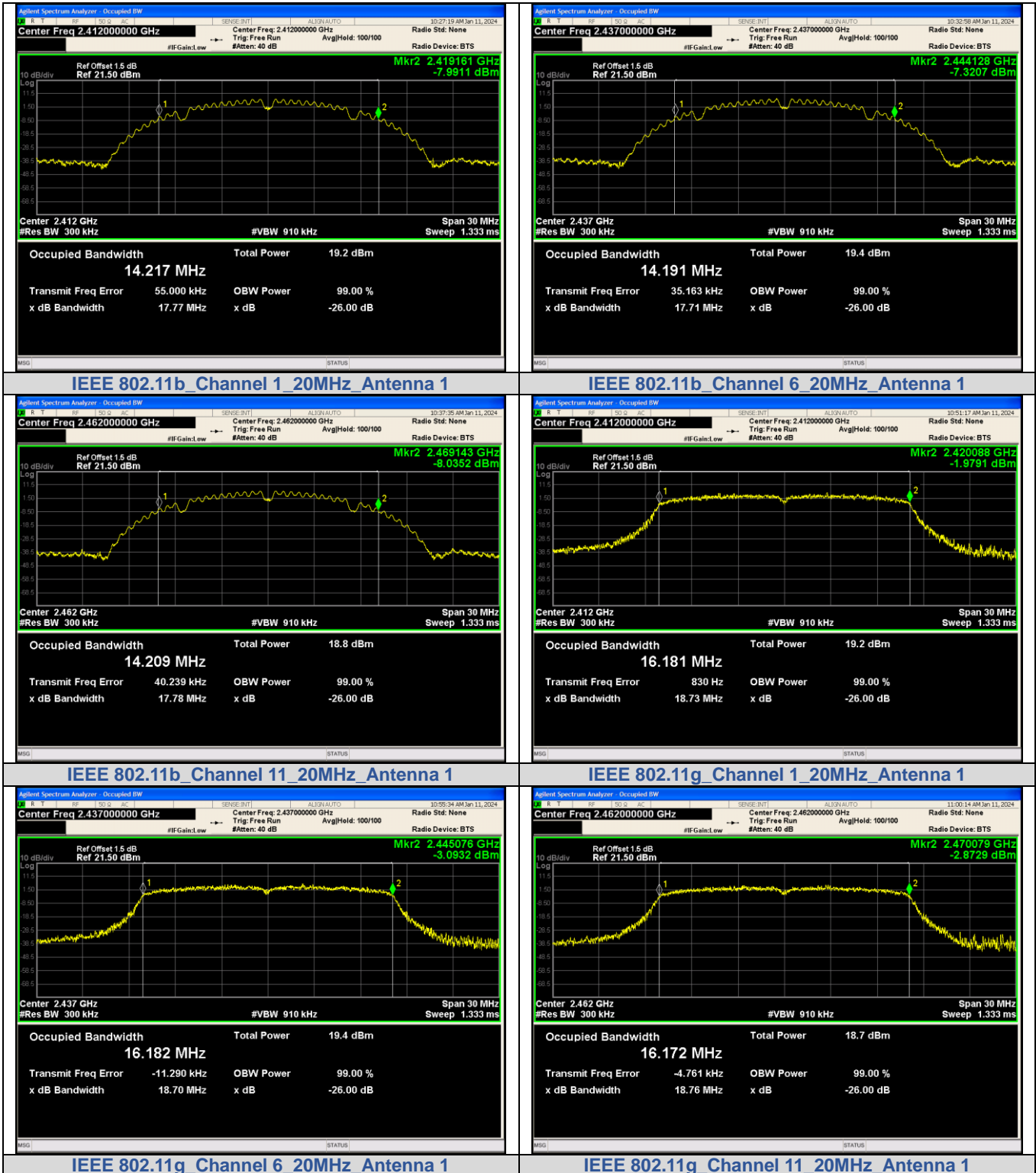
Please refer to the clause 2.4.

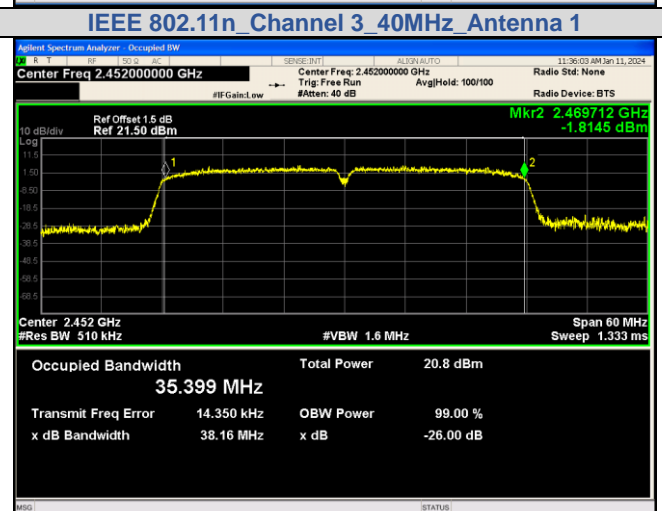
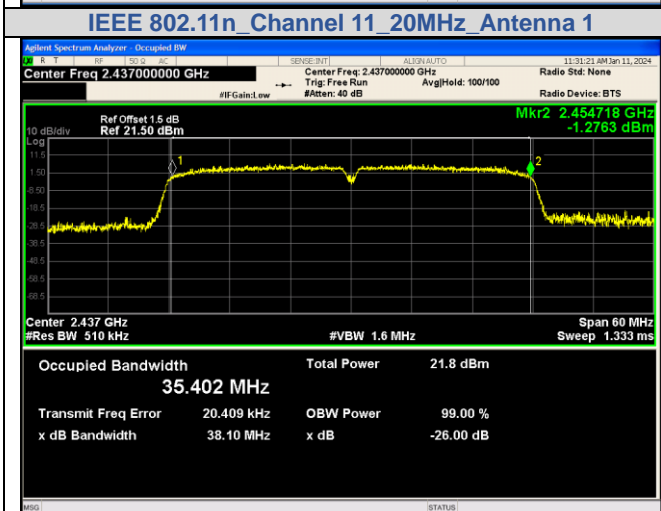
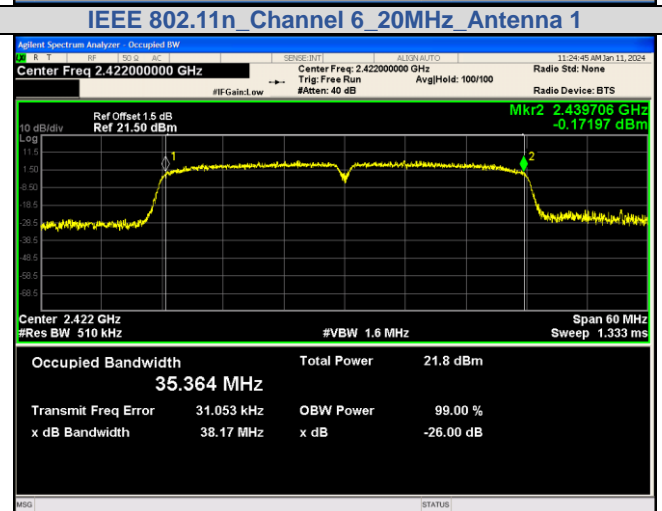
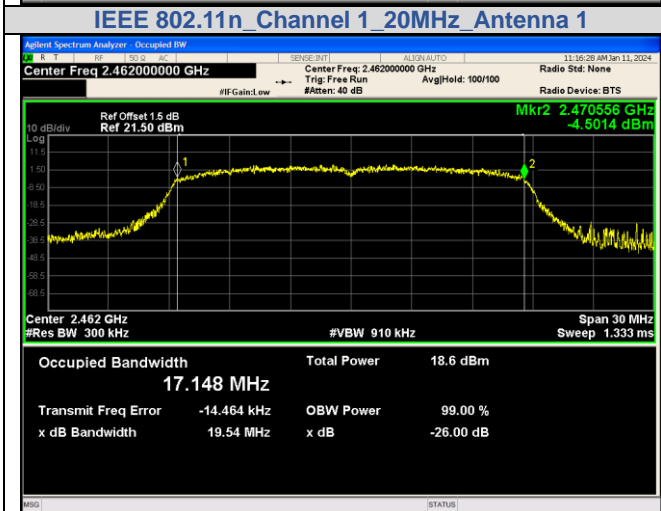
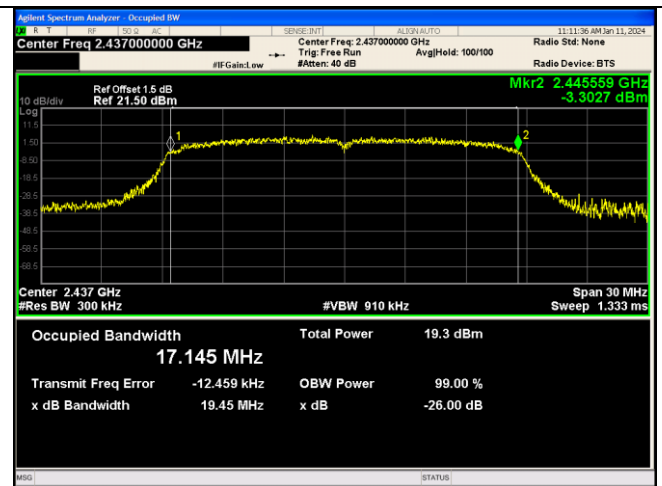
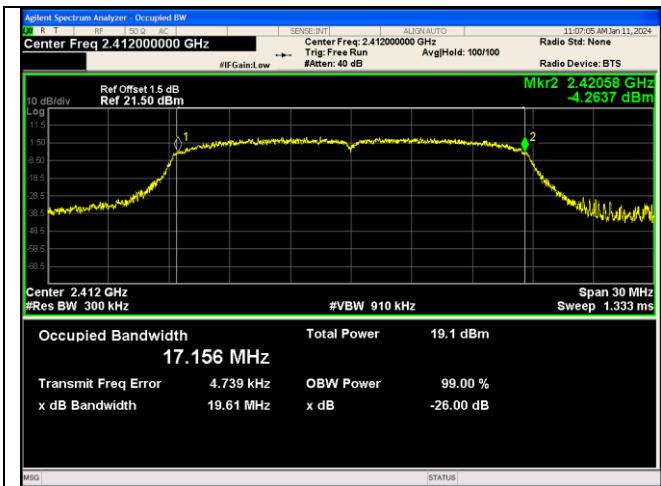
**Test Result**

Test Mode	Antenna	Channel	OCB [MHz]	DTS BW [MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	14.217	10.04	0.5	PASS
		2437	14.191	9.041	0.5	PASS
		2462	14.209	9.081	0.5	PASS
11G	Ant1	2412	16.181	15.12	0.5	PASS
		2437	16.182	15.12	0.5	PASS
		2462	16.172	15.10	0.5	PASS
11N20SISO	Ant1	2412	17.156	15.06	0.5	PASS
		2437	17.145	14.93	0.5	PASS
		2462	17.148	15.12	0.5	PASS
11N40SISO	Ant1	2422	35.364	35.06	0.5	PASS
		2437	35.402	35.03	0.5	PASS
		2452	35.399	35.07	0.5	PASS



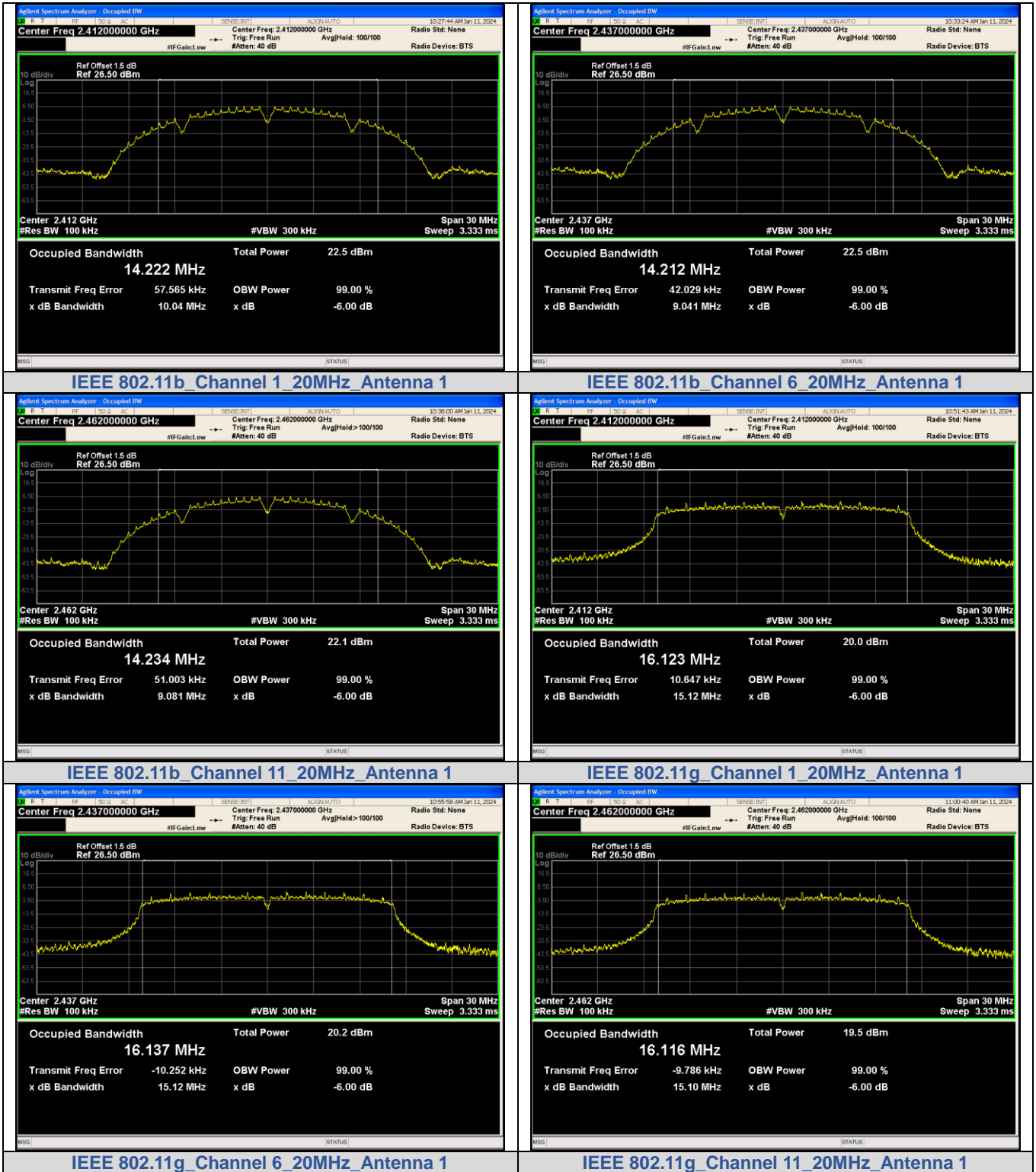
Occupied Bandwidth:

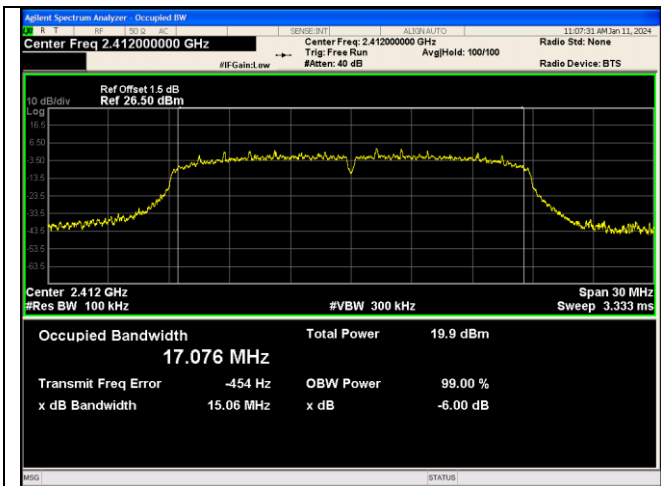




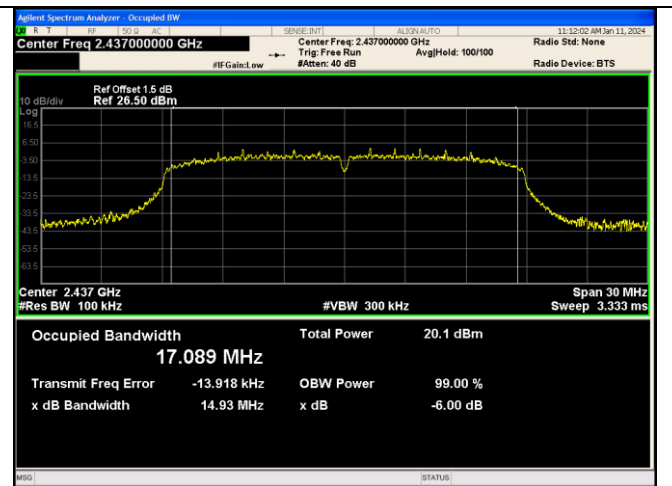


DTS Bandwidth:

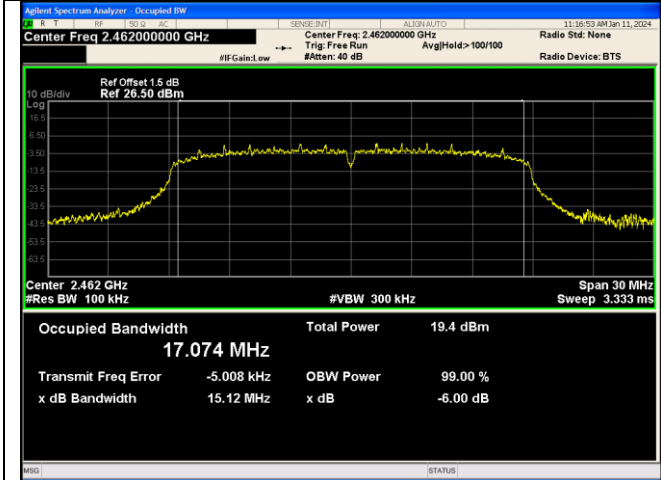




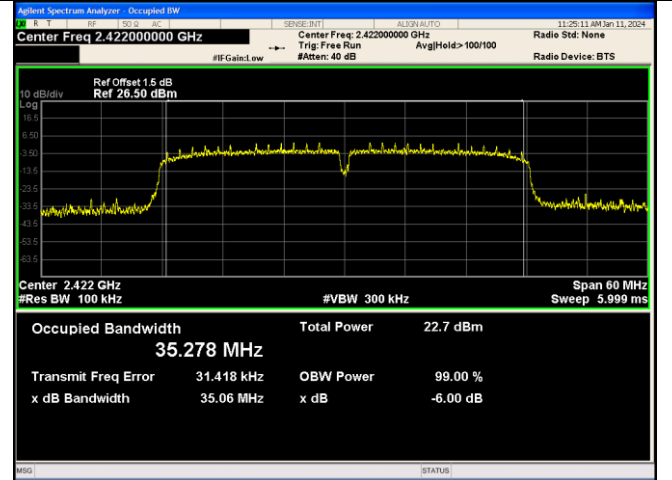
IEEE 802.11n Channel 1 20MHz Antenna 1



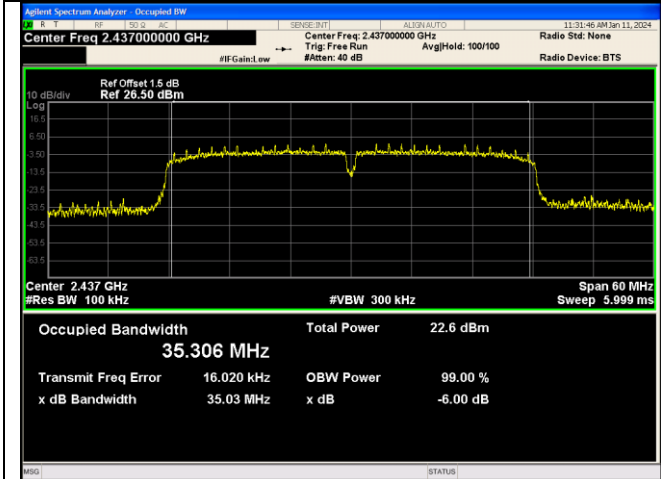
IEEE 802.11n Channel 6 20MHz Antenna 1



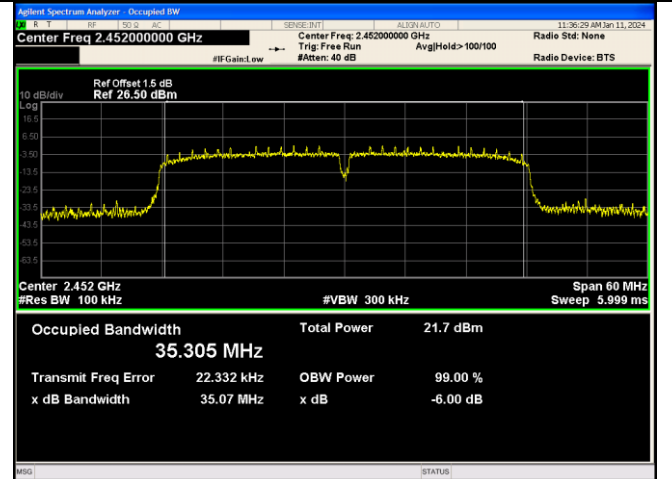
IEEE 802.11n Channel 11 20MHz Antenna 1



IEEE 802.11n Channel 6 20MHz Antenna 1



IEEE 802.11n Channel 6 40MHz Antenna 1



IEEE 802.11n Channel 9 40MHz Antenna 1





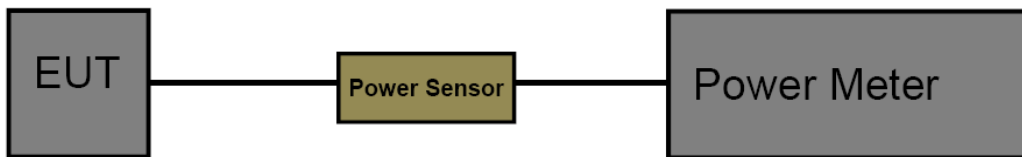
3.6. Peak Output Power

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(3) / RSS-247 5.4 d

Section	Test Item	Limit	Frequency Range (MHz)
FCC CFR 47 Part15.247 (b)(3)	Maximum Conducted Output Power	1 Watt or 30dBm	2400~2483.5
ISED RSS-247 5.4 d	EIRP	4 Watt or 36dBm	2400~2483.5

Test Configuration



Test Procedure

1. The maximum conducted output power may be measured using a broadband Peak RF power meter.
2. 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.
3. 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.
Record the measurement data.

Test Mode

Please refer to the clause 2.4.

**Test Result**

Test Mode	Antenna	Channel	Peak Output Power[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	18.28	≤30	PASS
		2437	18.34	≤30	PASS
		2462	17.74	≤30	PASS
11G	Ant1	2412	20.71	≤30	PASS
		2437	20.87	≤30	PASS
		2462	20.28	≤30	PASS
11N20SISO	Ant1	2412	20.47	≤30	PASS
		2437	20.64	≤30	PASS
		2462	20.05	≤30	PASS
11N40SISO	Ant1	2422	23.20	≤30	PASS
		2437	23.12	≤30	PASS
		2452	22.40	≤30	PASS

Test Mode	Antenna	Channel	EIRP[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	20.28	≤36	PASS
		2437	20.34	≤36	PASS
		2462	19.74	≤36	PASS
11G	Ant1	2412	22.71	≤36	PASS
		2437	22.87	≤36	PASS
		2462	22.28	≤36	PASS
11N20SISO	Ant1	2412	22.47	≤36	PASS
		2437	22.64	≤36	PASS
		2462	22.05	≤36	PASS
11N40SISO	Ant1	2422	25.20	≤36	PASS
		2437	25.12	≤36	PASS
		2452	25.40	≤36	PASS



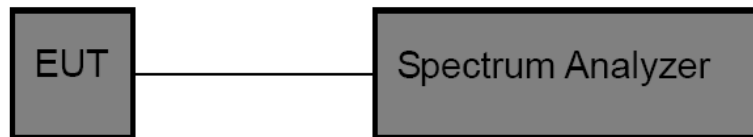
3.7. Power Spectral Density

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (e) / RSS-247 5.2 b

Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	8 dBm (in any 3 kHz)	2400~2483.5

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:
 Set analyzer center frequency to DTS channel center frequency.
 Set the span to 1.5 times the DTS bandwidth.
 Set the RBW to: 3 kHz.
 Set the VBW to: 10 kHz.
 Detector: peak.
 Sweep time: auto.
 Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

Test Mode

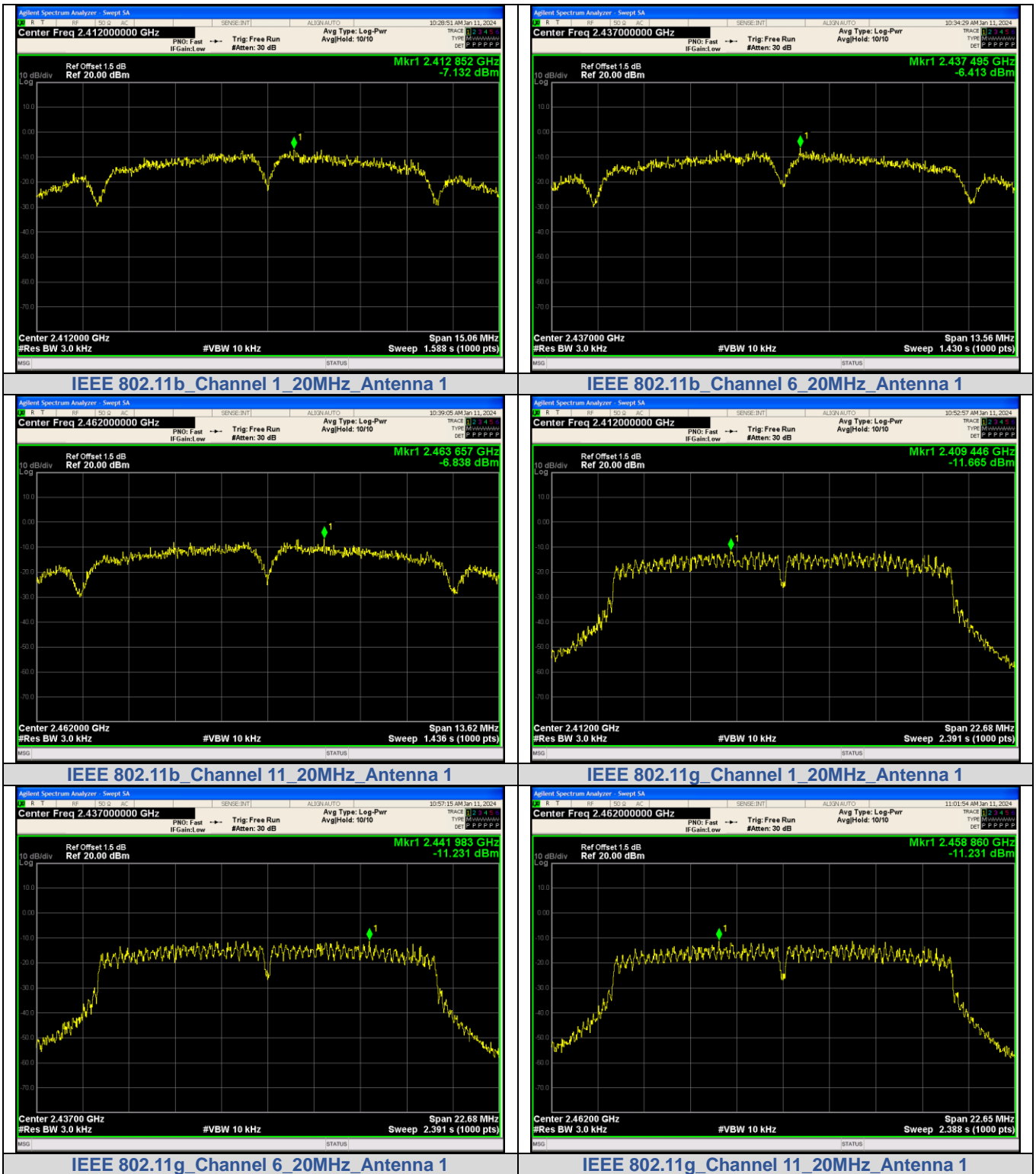
Please refer to the clause 2.4.

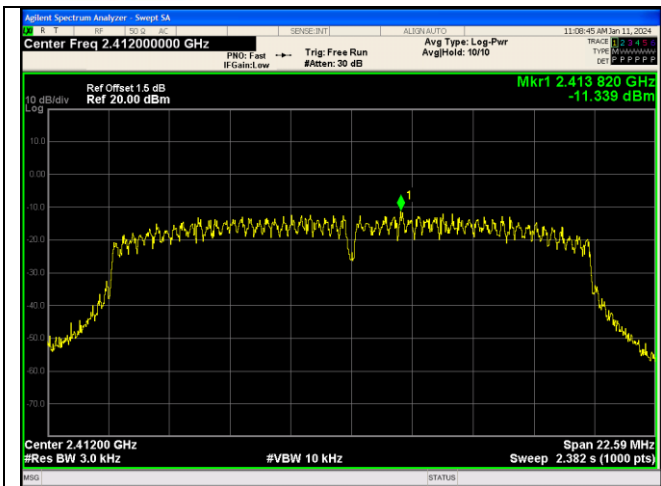
**Test Result**

Test Mode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-7.132	≤8	PASS
		2437	-6.413	≤8	PASS
		2462	-6.838	≤8	PASS
11G	Ant1	2412	-11.665	≤8	PASS
		2437	-11.231	≤8	PASS
		2462	-11.231	≤8	PASS
11N20SISO	Ant1	2412	-11.339	≤8	PASS
		2437	-11.456	≤8	PASS
		2462	-12.314	≤8	PASS
11N40SISO	Ant1	2422	-12.132	≤8	PASS
		2437	-11.483	≤8	PASS
		2452	-12.429	≤8	PASS

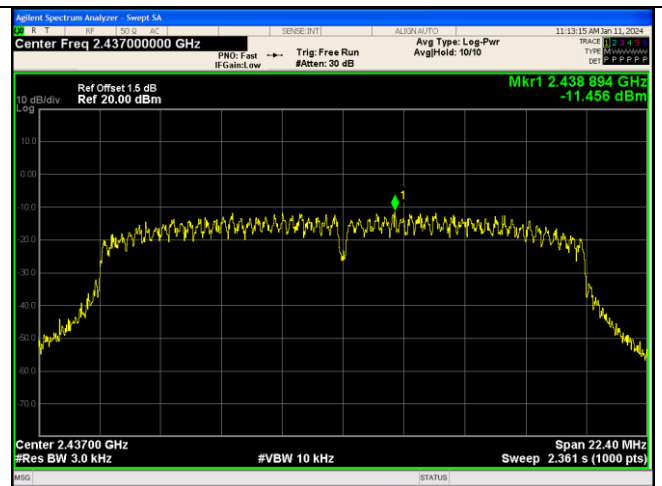


Test Graphs:

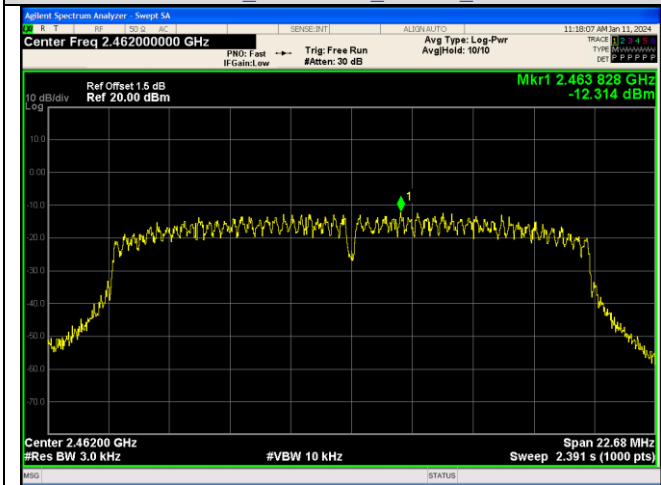




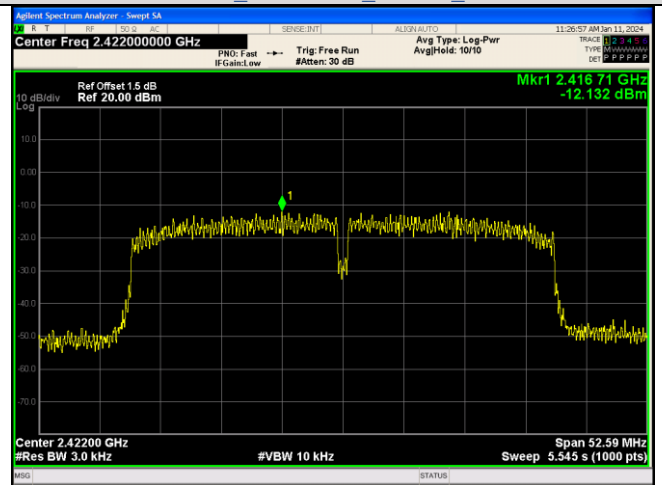
IEEE 802.11n Channel 1 20MHz Antenna 1



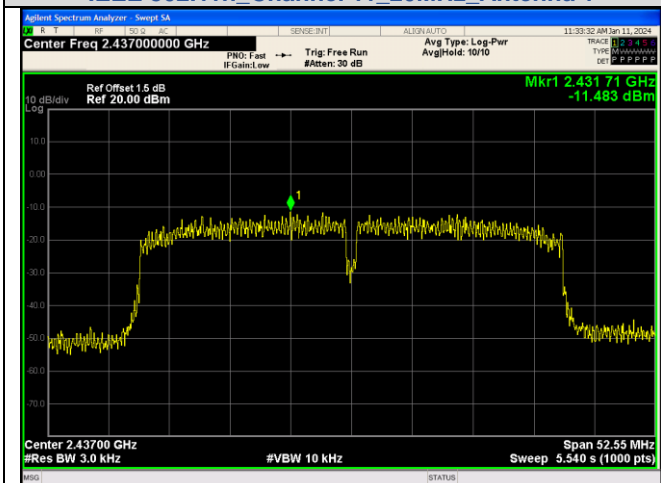
IEEE 802.11n Channel 6 20MHz Antenna 1



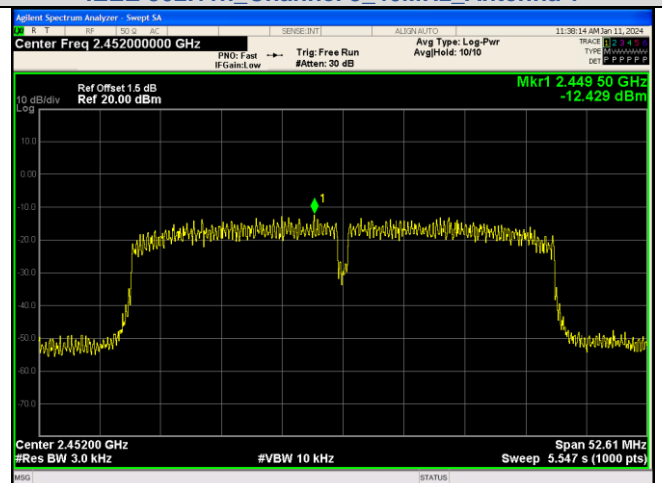
IEEE 802.11n Channel 11 20MHz Antenna 1



IEEE 802.11n Channel 3 40MHz Antenna 1



IEEE 802.11n Channel 6 40MHz Antenna 1



IEEE 802.11n Channel 9 40MHz Antenna 1



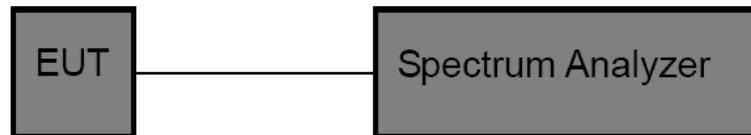


3.8. Duty Cycle

Limit

None, for report purposes only.

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:
Set analyzer center frequency to test channel center frequency.
Set the span to 0Hz.
Set the RBW to 10MHz.
Set the VBW to 10MHz.
Detector: Peak.
Sweep time: Auto.
Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

Test Mode

Please refer to the clause 2.4.

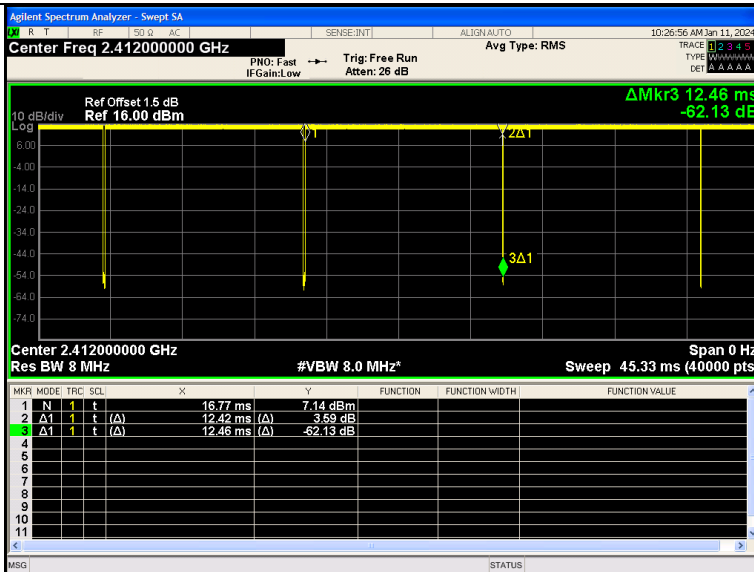
**Test Result**

Test Mode	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T Minimum VBW (kHz)	Final Setting for VBW (kHz)
11B	2412	12.419	12.462	99.65	0.08	1
	2437	12.419	15.540	79.92	0.08	1
	2462	12.418	12.561	98.86	0.08	1
11G	2412	2.065	2.145	96.27	0.48	1
	2437	2.065	2.100	98.33	0.48	1
	2462	2.065	2.154	95.86	0.48	1
11N20SISO	2412	1.921	2.073	92.67	0.52	1
	2437	1.921	2.019	95.15	0.52	1
	2462	1.921	2.010	95.56	0.52	1
11N40SISO	2422	0.945	1.088	86.86	1.06	3
	2437	0.945	1.061	89.05	1.06	3
	2452	0.945	1.061	89.07	1.06	3

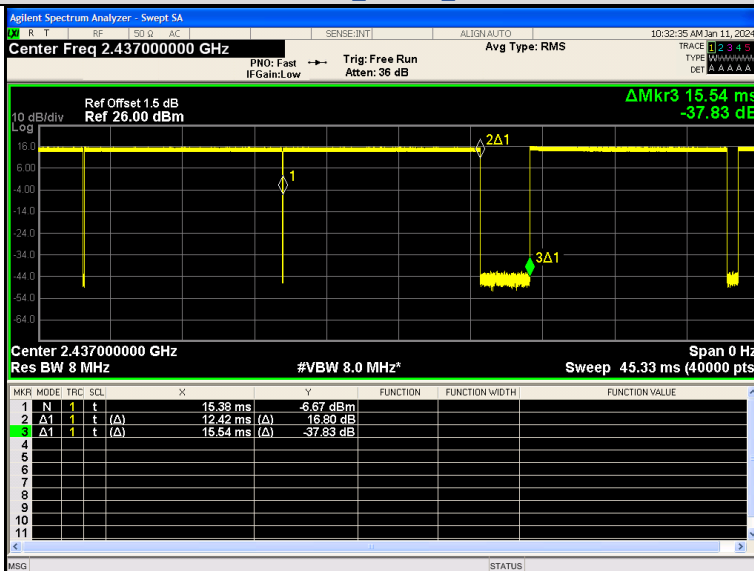
Note: Duty Cycle>98%, VBW=10Hz



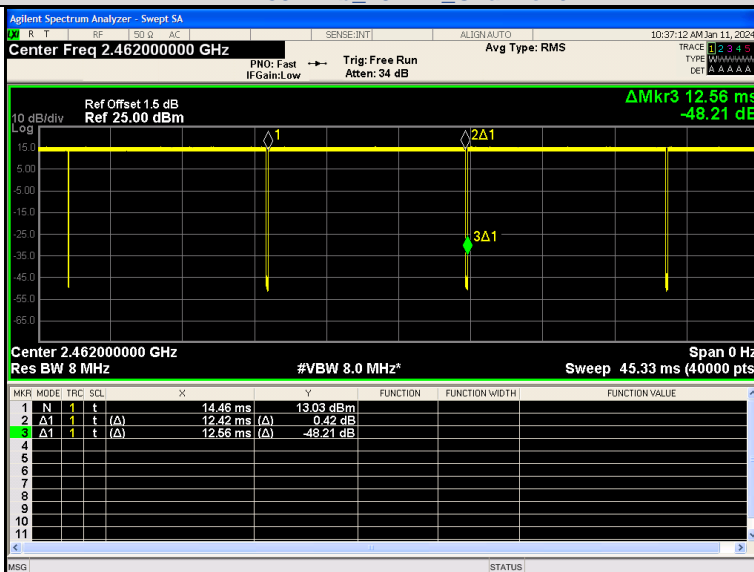
Test Graphs:



IEEE 802.11b_20MHz_Channel 1

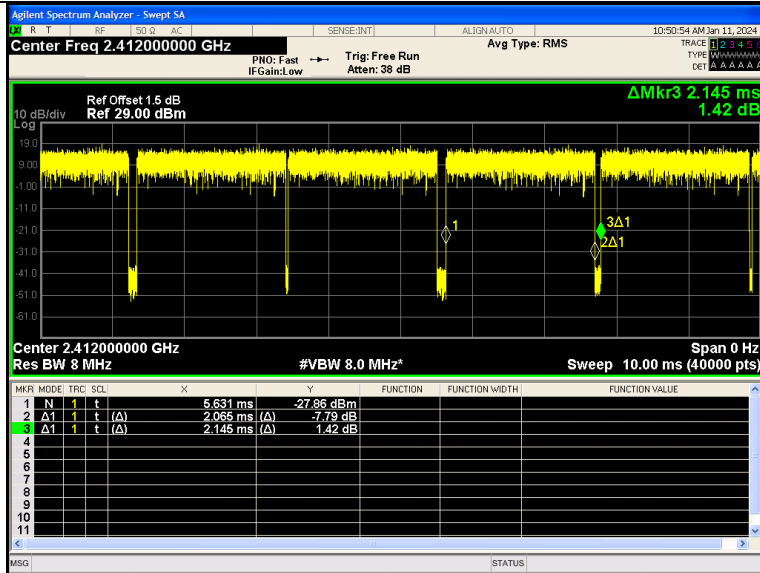


IEEE 802.11b_20MHz_Channel 6

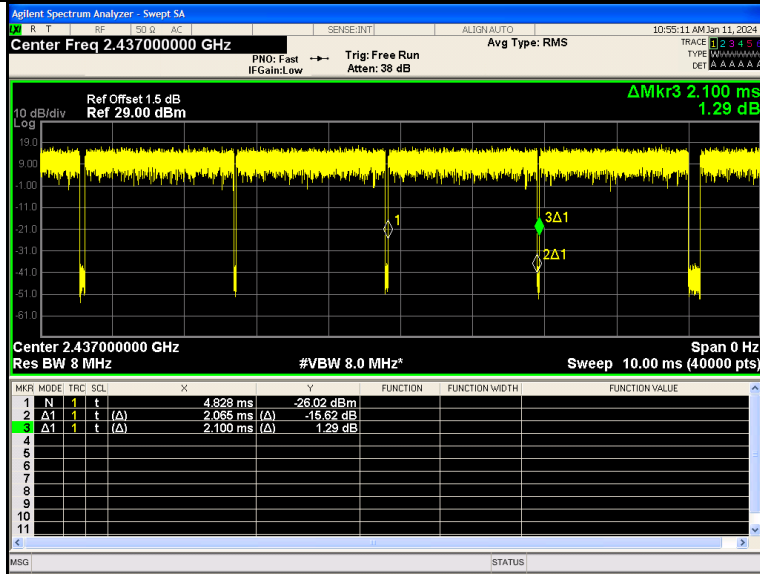


IEEE 802.11b_20MHz_Channel 11

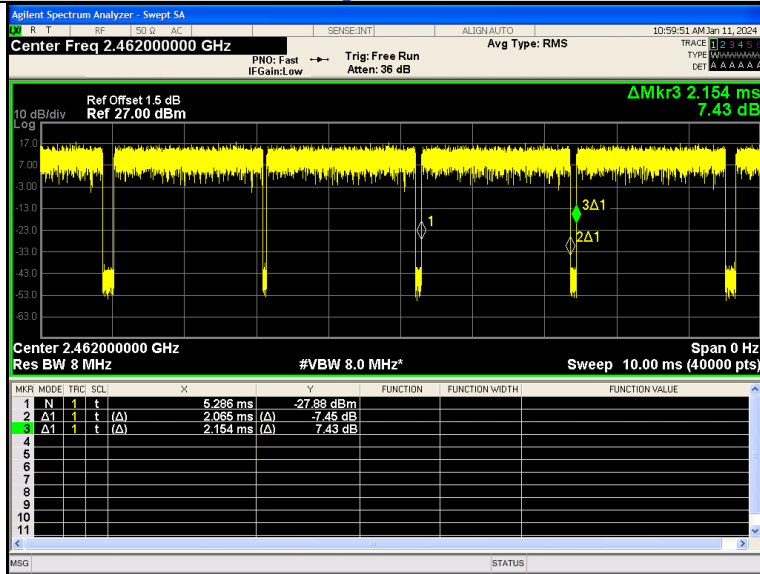




IEEE 802.11g 20MHz Channel 1

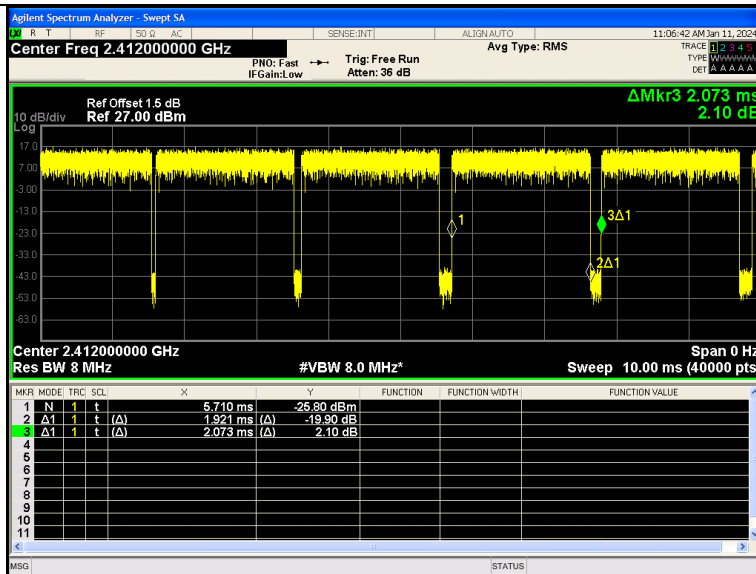


IEEE 802.11g 20MHz Channel 6

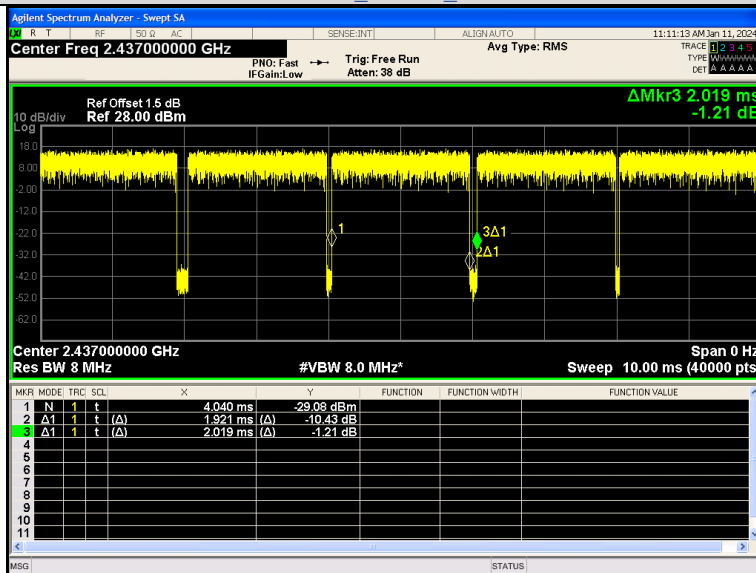


IEEE 802.11g 20MHz Channel 11

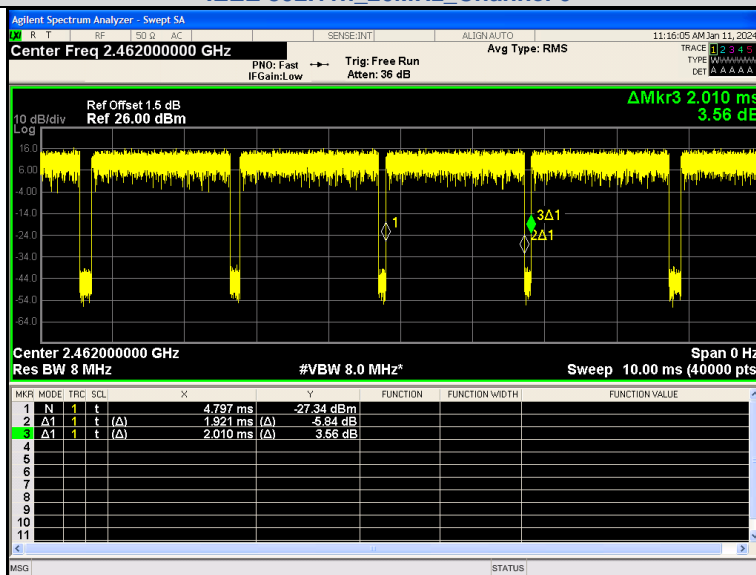




IEEE 802.11n 20MHz Channel 1



IEEE 802.11n 20MHz Channel 6



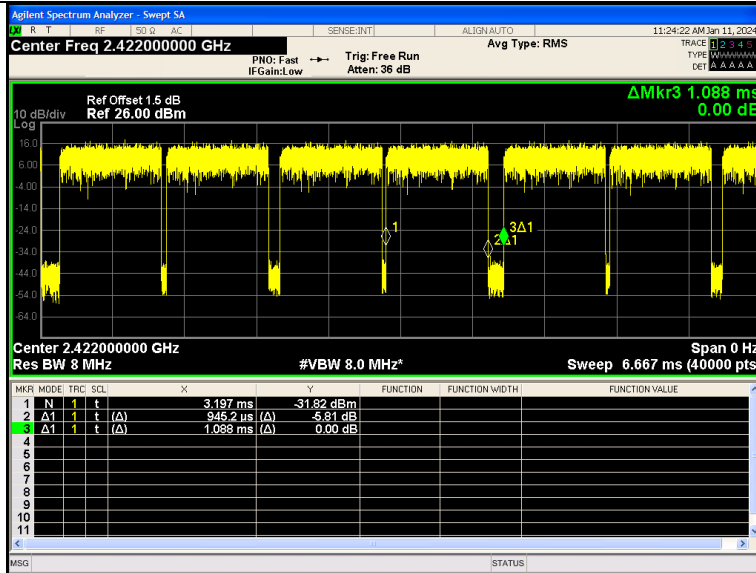
IEEE 802.11n 20MHz Channel 11

CTC Laboratories, Inc.

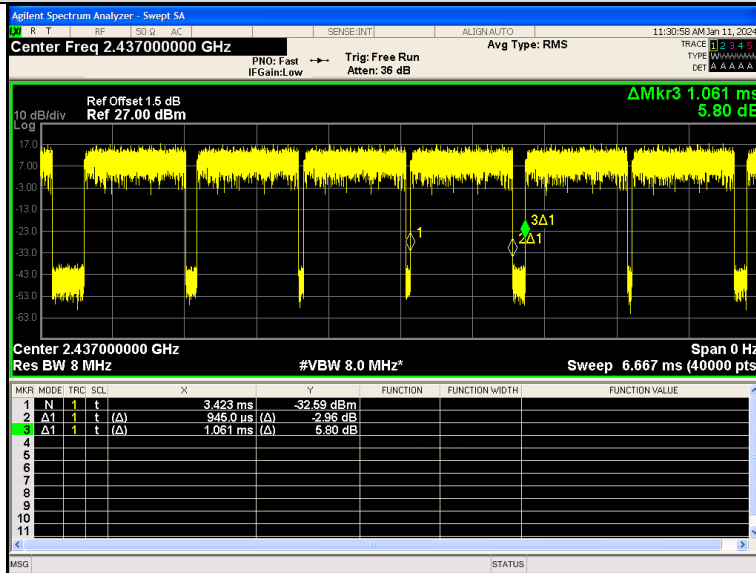
2/F., Building 1 and 1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Longhua District, Shenzhen, Guangdong, China
Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn



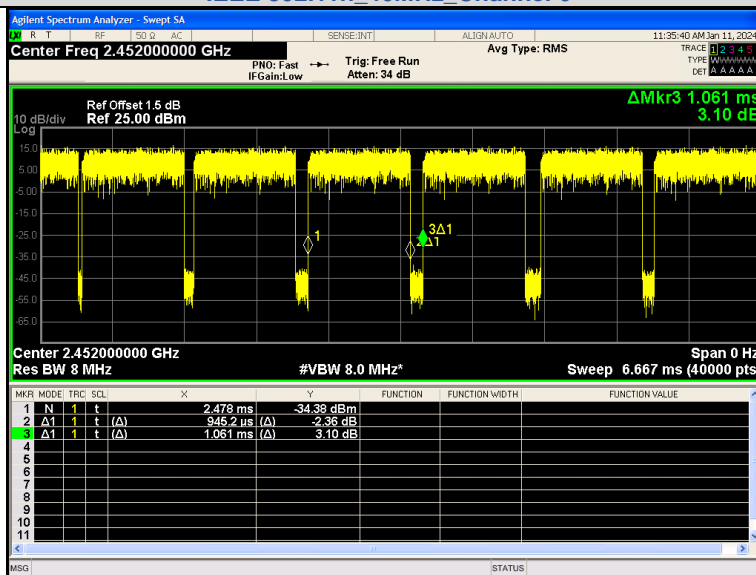
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : <http://yz.cnca.cn>



IEEE 802.11n_40MHz_Channel 3



IEEE 802.11n_40MHz_Channel 6



IEEE 802.11n_40MHz_Channel 9



3.9. Antenna Requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C Section 15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i)

(i) Systems operating in the 2400~2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

Test Result

The directional gain of the antenna is less than 6dBi, please refer to the EUT internal photographs antenna photo.

*****THE END*****