

Appendix A

Report No.:	CISRR240321101
FCC ID:	2BFJP-LP-N110W
Product Name:	Print Server
Model No.:	LP-N110W
Test Engineer:	Lucas Huang
Supervised by:	Rory Huang

1) Conducted Peak Output Power

Test Result

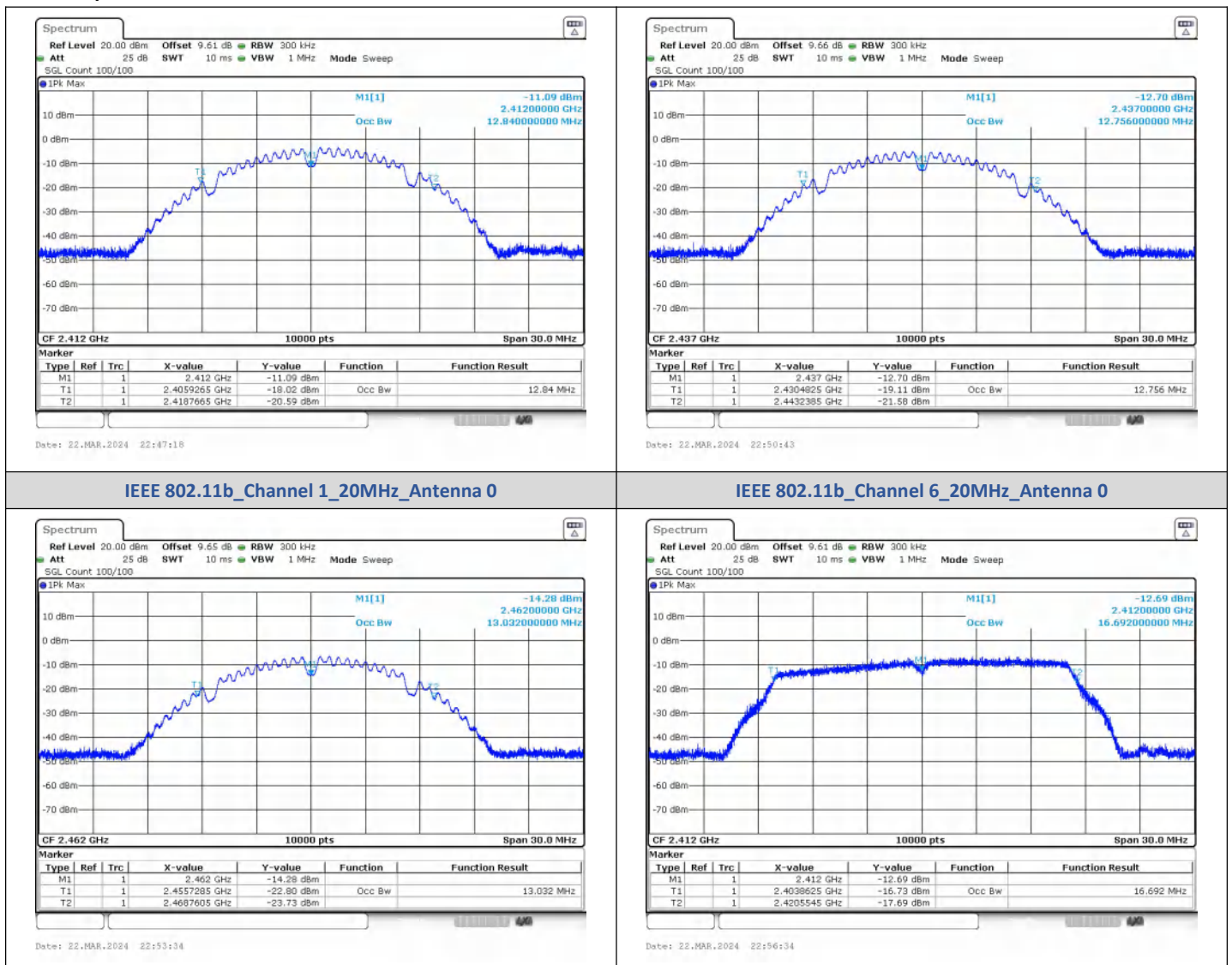
Mode	Channel	Ant. 0 (dBm)	Limit (dBm)	Result
IEEE 802.11b	1	13.77	30	PASS
	6	13.24	30	PASS
	11	12.42	30	PASS
IEEE 802.11g	1	12.87	30	PASS
	6	11.45	30	PASS
	11	11.63	30	PASS
IEEE 802.11n_20	1	11.78	30	PASS
	6	11.70	30	PASS
	11	11.82	30	PASS
IEEE 802.11n_40	3	11.23	30	PASS
	6	10.70	30	PASS
	9	10.41	30	PASS

2) 99% Bandwidth

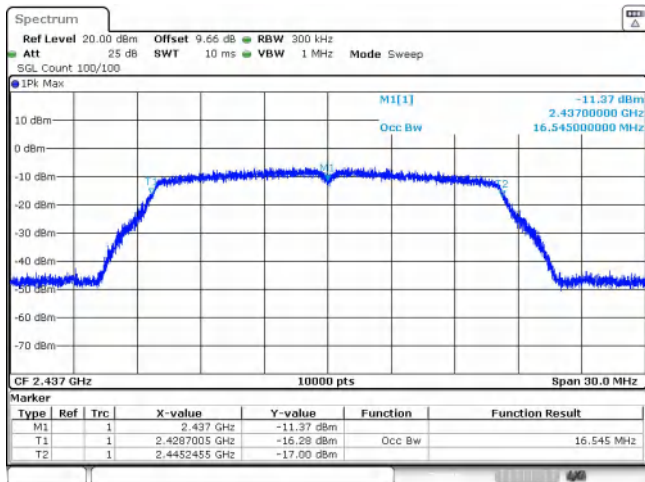
Test Result

Mode	Channel	Ant.	99% BW (MHz)
IEEE 802.11b	1	0	12.840
	6		12.760
	11		13.030
IEEE 802.11g	1		16.690
	6		16.550
	11		16.760
IEEE 802.11n_20	1		17.770
	6		17.660
	11		17.800
IEEE 802.11n_40	3		35.380
	6		35.750
	9		36.640

Test Graphs

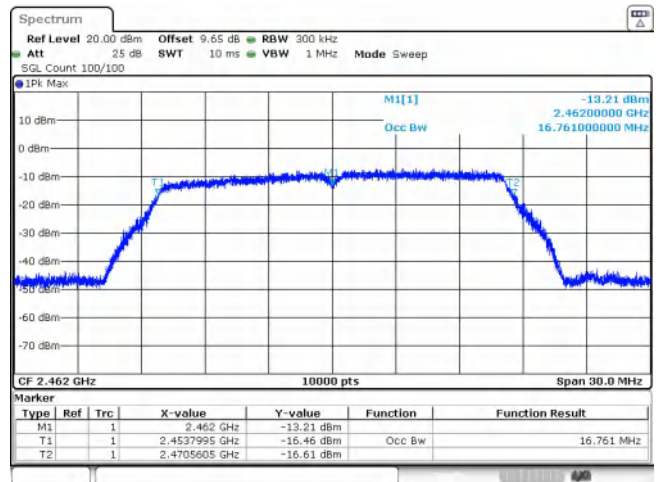


IEEE 802.11b_Channel 11_20MHz_Antenna 0



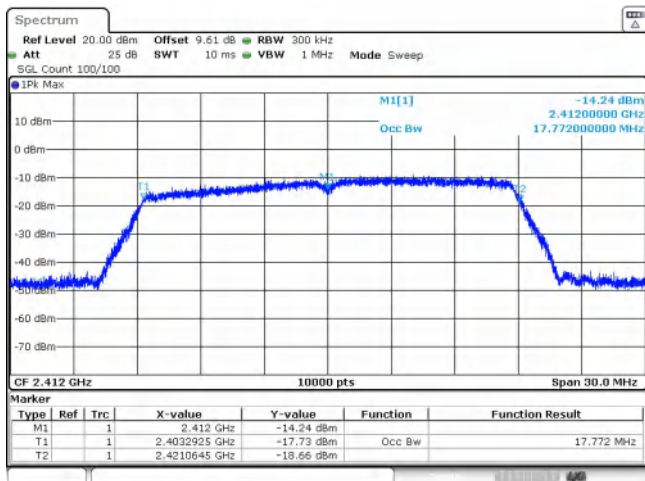
Date: 22.MAR.2024 22:59:20

IEEE 802.11g_Channel 1_20MHz_Antenna 0



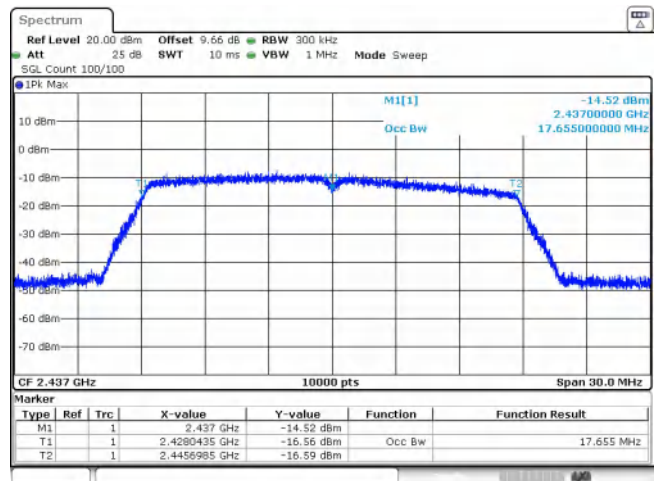
Date: 22.MAR.2024 23:01:57

IEEE 802.11g_Channel 6_20MHz_Antenna 0



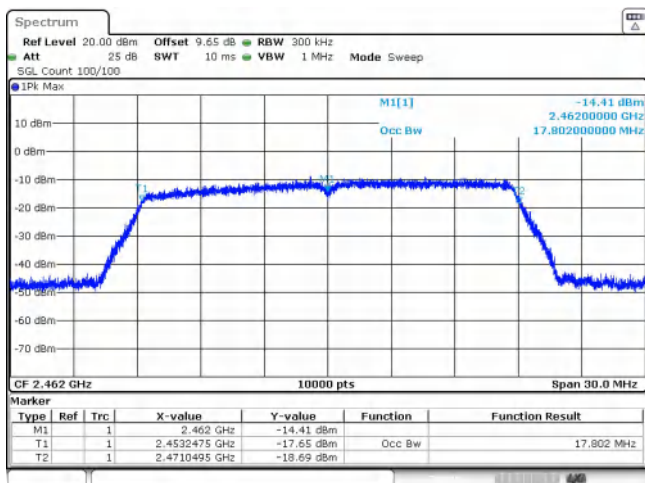
Date: 22.MAR.2024 23:04:59

IEEE 802.11g_Channel 11_20MHz_Antenna 0



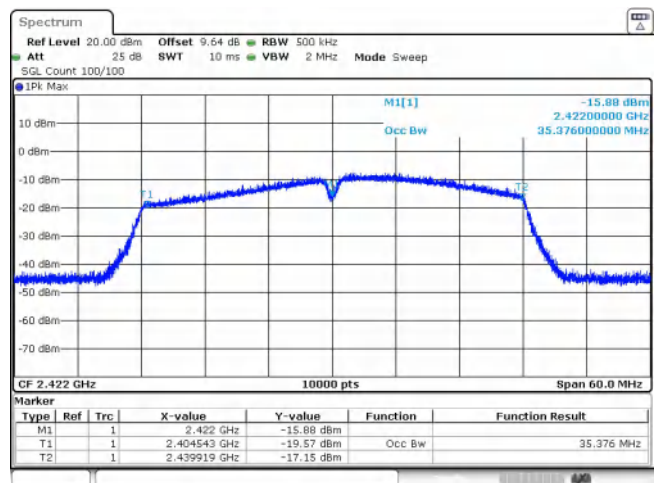
Date: 22.MAR.2024 23:12:51

IEEE 802.11n_Channel 1_20MHz_Antenna 0



Date: 22.MAR.2024 23:15:28

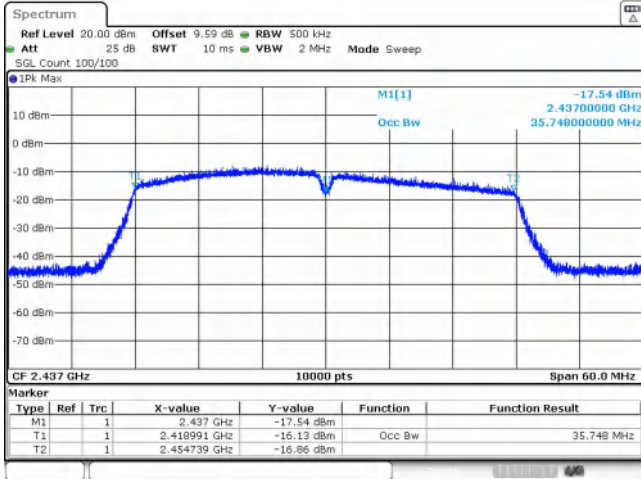
IEEE 802.11n_Channel 6_20MHz_Antenna 0



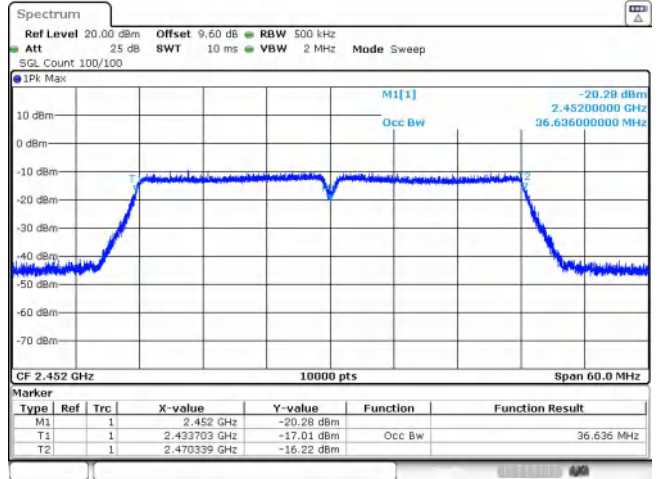
Date: 22.MAR.2024 23:16:47

IEEE 802.11n_Channel 11_20MHz_Antenna 0

IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



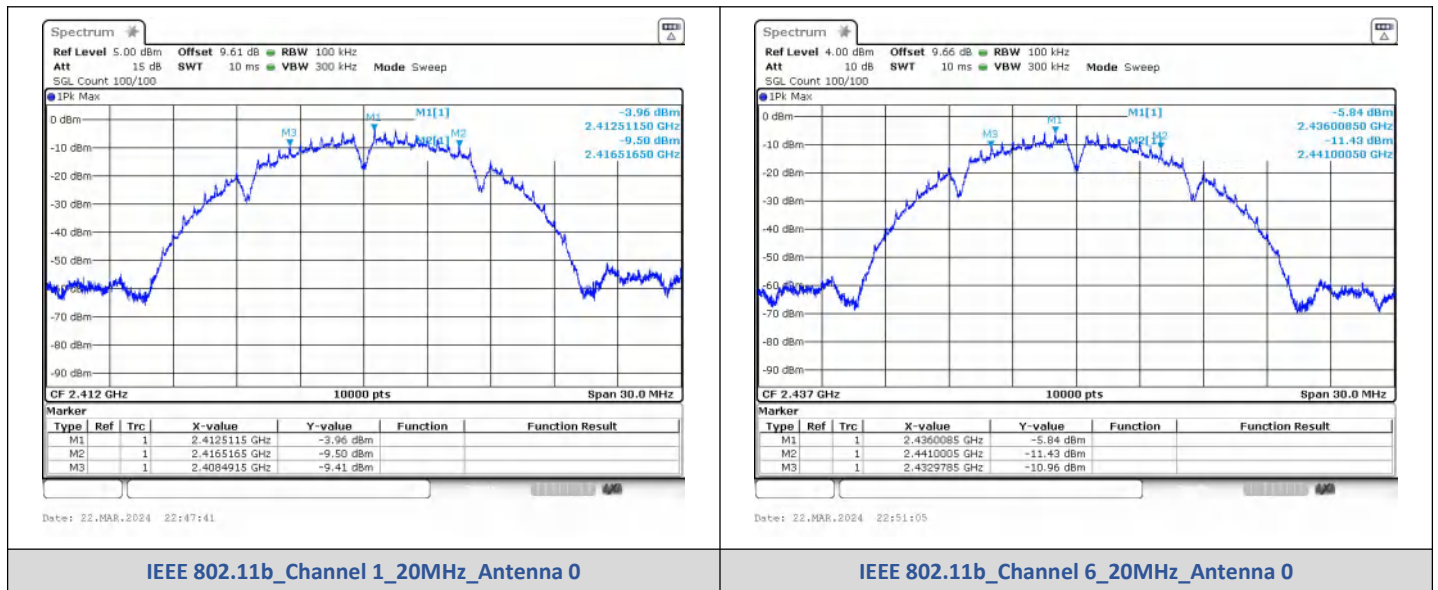
IEEE 802.11n_Channel 9_40MHz_Antenna 0

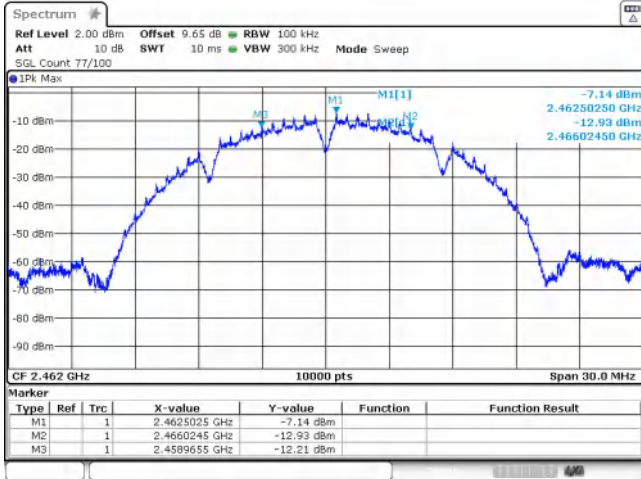
3) 6dB Bandwidth

Test Result

Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11b	1	0	2412	8.030	0.5	PASS
	6		2437	8.020		PASS
	11		2462	7.050		PASS
IEEE 802.11g	1		2412	15.63		PASS
	6		2437	15.05		PASS
	11		2462	15.61		PASS
IEEE 802.11n_20	1		2412	16.28		PASS
	6		2437	16.29		PASS
	11		2462	16.29		PASS
IEEE 802.11n_40	3		2422	23.74		PASS
	6		2437	30.03		PASS
	9		2452	36.29		PASS

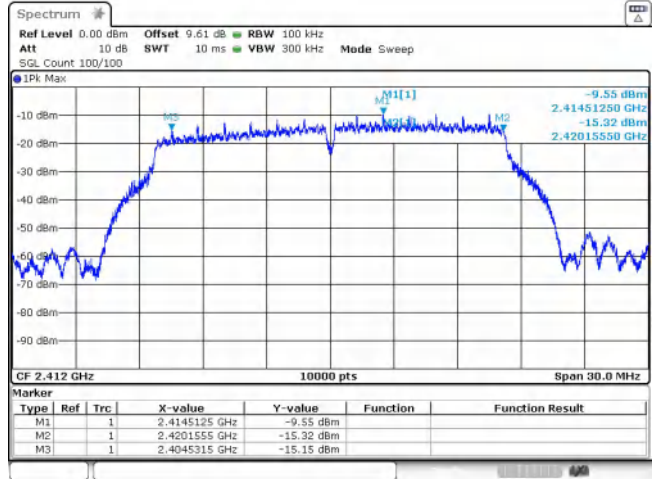
Test Graphs





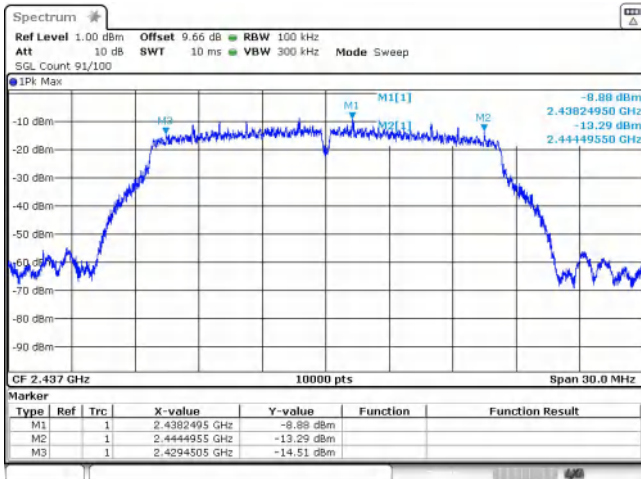
Date: 22.MAR.2024 22:53:57

IEEE 802.11b_Channel 11_20MHz_Antenna 0



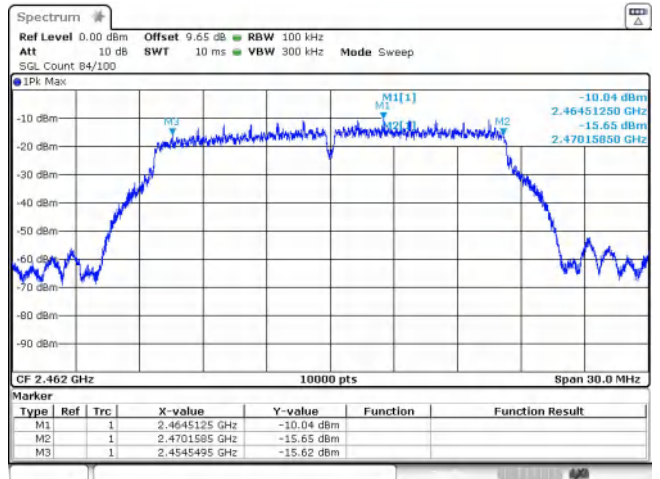
Date: 22.MAR.2024 22:56:56

IEEE 802.11g_Channel 1_20MHz_Antenna 0



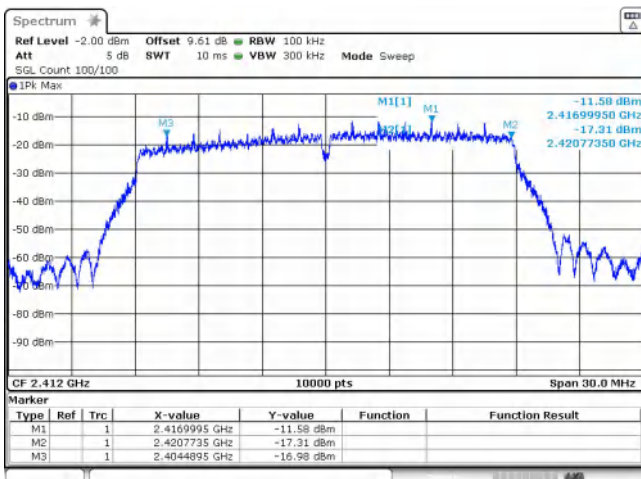
Date: 22.MAR.2024 22:59:42

IEEE 802.11g_Channel 6_20MHz_Antenna 0



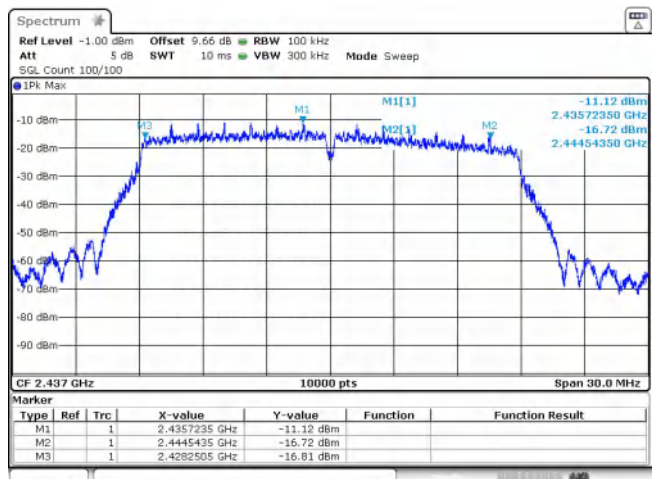
Date: 22.MAR.2024 23:02:20

IEEE 802.11g_Channel 11_20MHz_Antenna 0



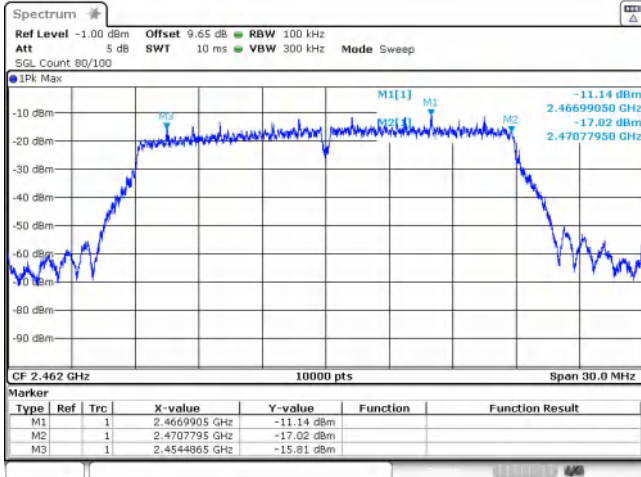
Date: 22.MAR.2024 23:05:22

IEEE 802.11n_Channel 1_20MHz_Antenna 0



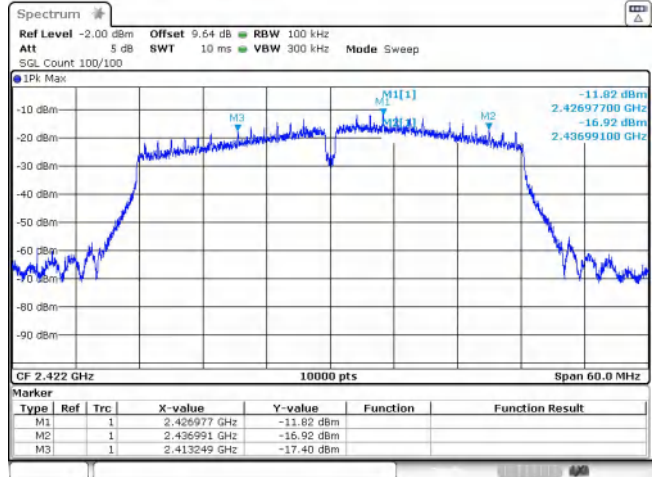
Date: 22.MAR.2024 23:13:13

IEEE 802.11n_Channel 6_20MHz_Antenna 0



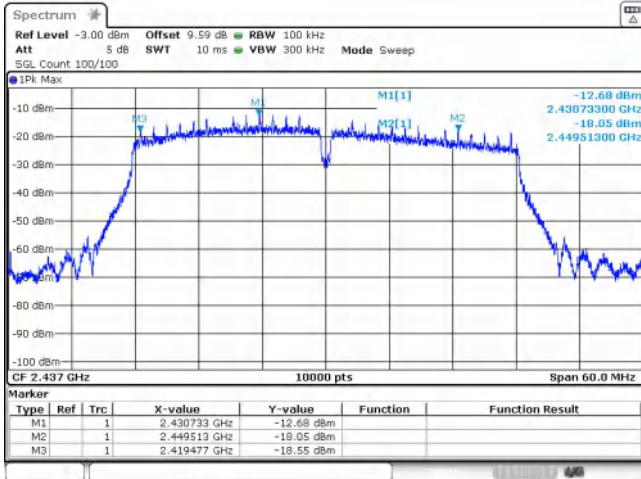
Date: 22.MAR.2024 23:15:46

IEEE 802.11n_Channel 11_20MHz_Antenna 0



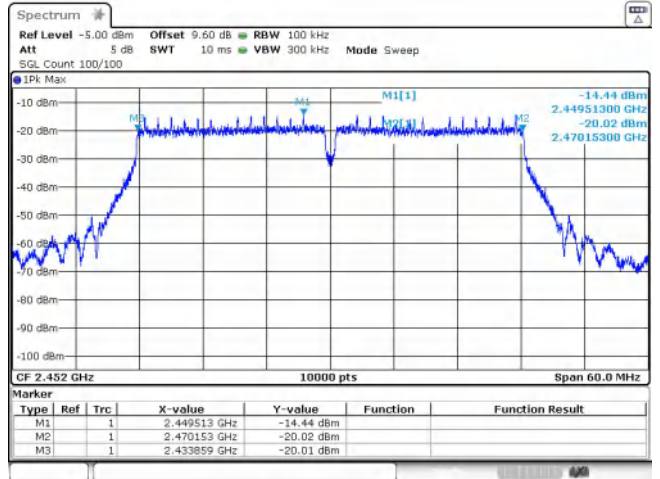
Date: 22.MAR.2024 23:19:09

IEEE 802.11n_Channel 3_40MHz_Antenna 0



Date: 22.MAR.2024 23:22:07

IEEE 802.11n_Channel 6_40MHz_Antenna 0



Date: 22.MAR.2024 23:25:39

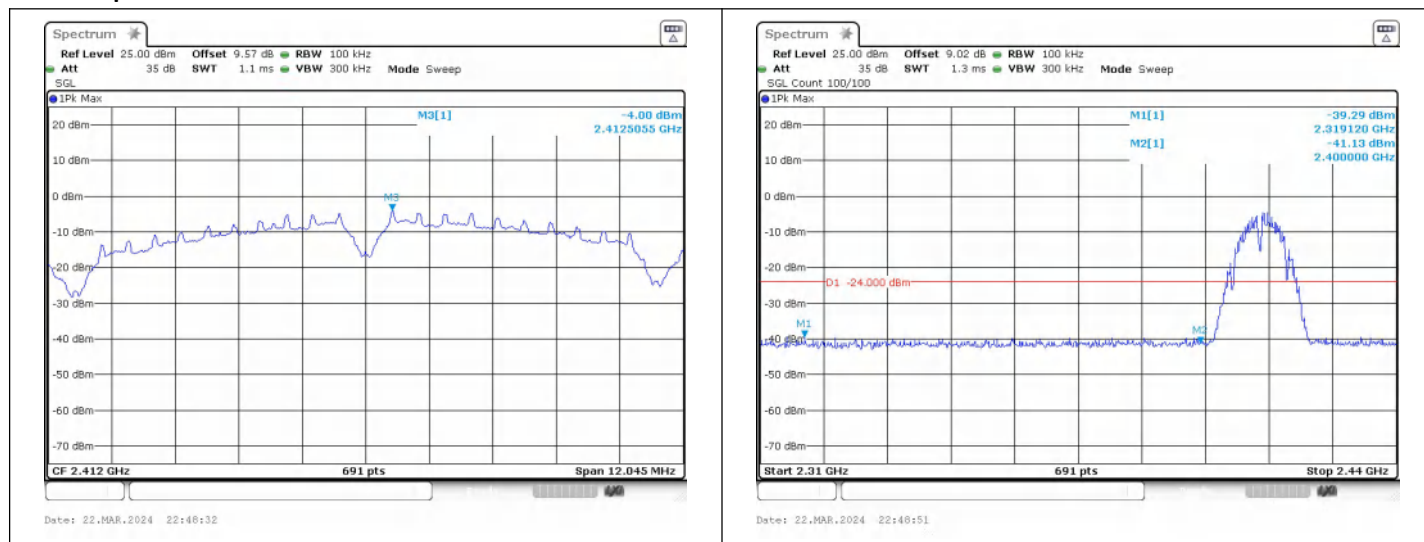
IEEE 802.11n_Channel 9_40MHz_Antenna 0

4) Conducted Out Of Band Emission

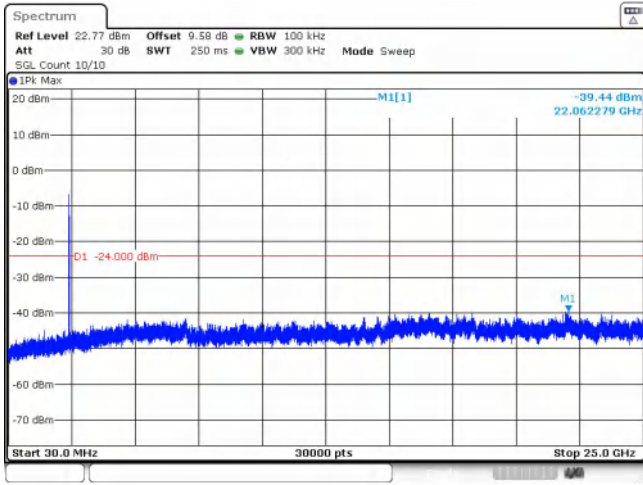
Test Result

Mode	Channel	Ant.	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	
IEEE 802.11b	1	0	2400.00	-41.133	-24.0	-17.133	PASS	
			2319.12	-39.294	-24.0	-15.294	PASS	
			22062.3	-39.439	-24.0	-15.439	PASS	
	6		22098.1	-39.328	-25.69	-13.638	PASS	
			11	2483.50	-40.875	-27.01	-13.865	PASS
				16253.4	-39.141	-27.01	-12.131	PASS
IEEE 802.11g	1			2400.00	-41.389	-29.47	-11.919	PASS
			2383.84	-39.249	-29.47	-9.779	PASS	
			22043.1	-39.498	-29.47	-10.028	PASS	
	6		16303.4	-39.276	-29.55	-9.726	PASS	
			11	2483.50	-39.868	-30.13	-9.738	PASS
				16662.9	-39.234	-30.13	-9.104	PASS
IEEE 802.11n_20	1			2400.00	-39.910	-31.61	-8.300	PASS
			2371.80	-38.648	-31.61	-7.038	PASS	
			21993.2	-39.990	-31.61	-8.380	PASS	
	6		22019.0	-38.977	-31.02	-7.957	PASS	
			11	2483.50	-40.294	-31.59	-8.704	PASS
				15842.3	-39.857	-31.59	-8.267	PASS
IEEE 802.11n_40	3			2400.00	-41.954	-31.91	-10.044	PASS
			2378.57	-39.334	-31.91	-7.424	PASS	
			22059.8	-39.276	-31.91	-7.366	PASS	
	6		16317.5	-39.930	-32.17	-7.760	PASS	
			9	2483.50	-41.105	-34.8	-6.305	PASS
				18274.3	-38.605	-34.8	-3.805	PASS

Test Graphs

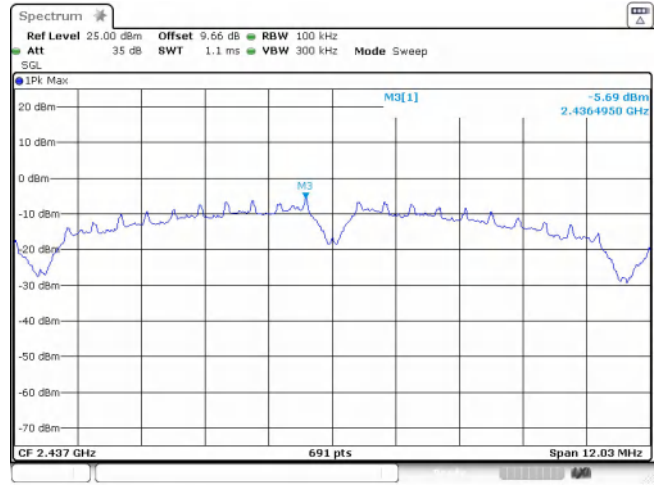


In-Band Reference Level
IEEE 802.11b_Channel 1_20MHz_Antenna 0



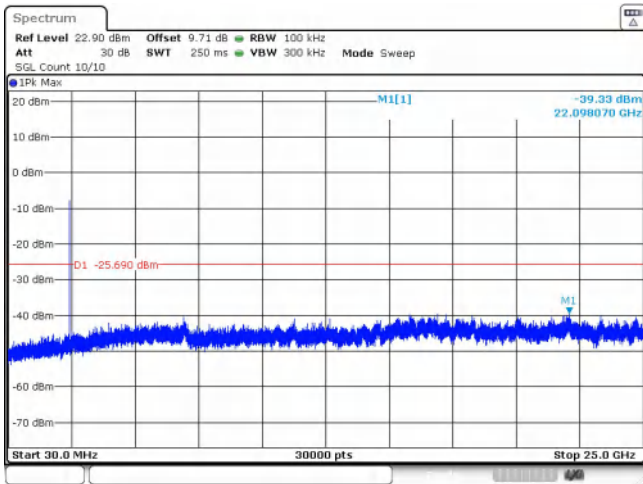
Date: 22.MAR.2024 22:49:14

Out Of Band Emission
IEEE 802.11b_Channel 1_20MHz_Antenna 0



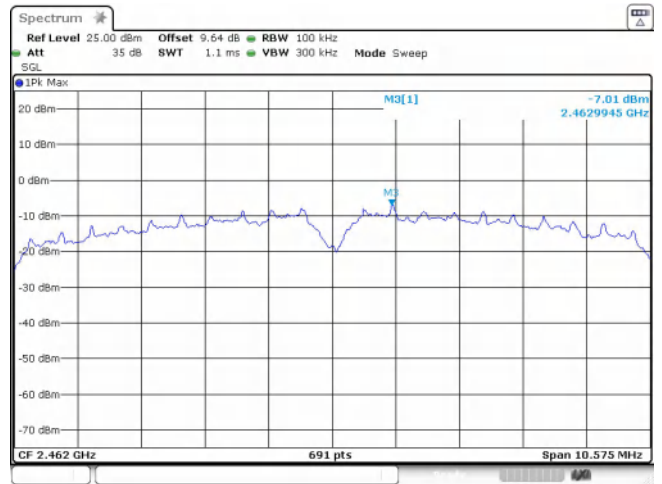
Date: 22.MAR.2024 22:51:57

Spurious Emission
IEEE 802.11b_Channel 1_20MHz_Antenna 0



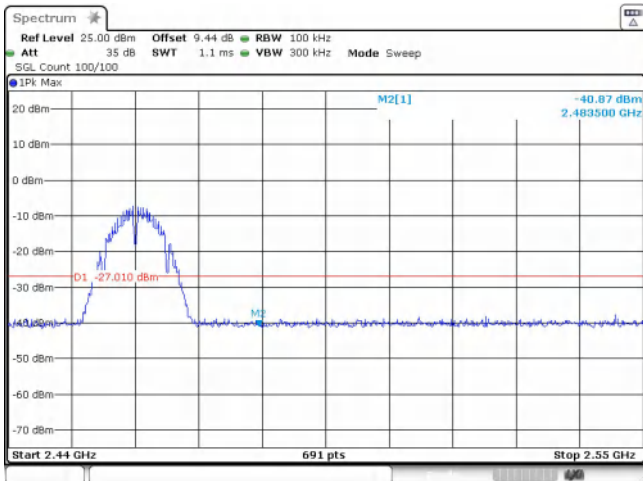
Date: 22.MAR.2024 22:52:21

In-Band Reference Level
IEEE 802.11b_Channel 6_20MHz_Antenna 0



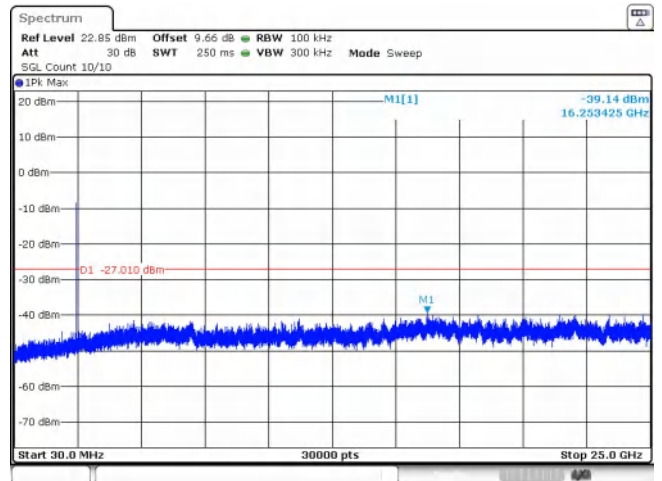
Date: 22.MAR.2024 22:54:48

Spurious Emissions
IEEE 802.11b_Channel 6_20MHz_Antenna 0



Date: 22.MAR.2024 22:55:07

In-Band Reference Level
IEEE 802.11b_Channel 11_20MHz_Antenna 0

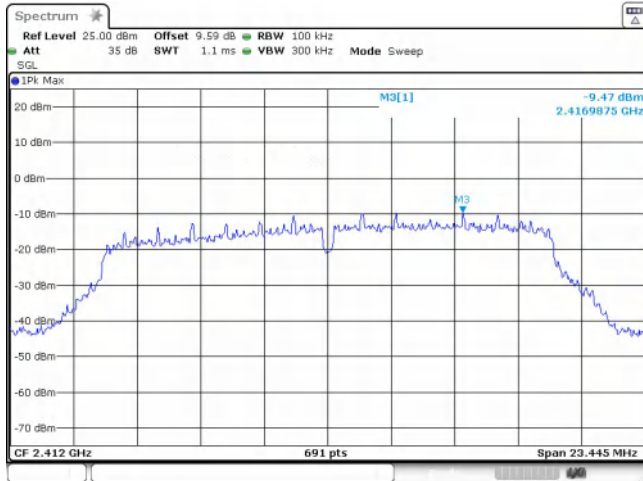


Date: 22.MAR.2024 22:55:30

Out Of Band Emission

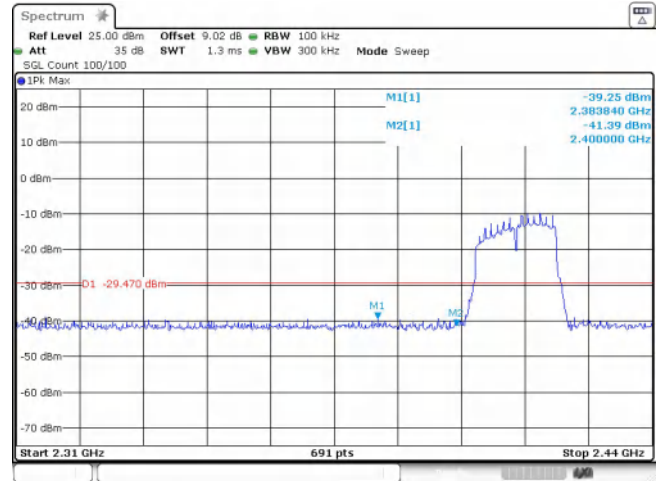
Spurious Emission

IEEE 802.11b_Channel 11_20MHz_Antenna 0



Date: 22.MAR.2024 22:57:47

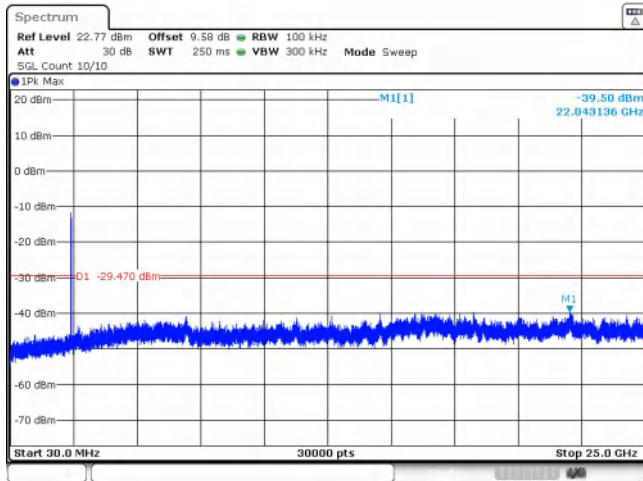
IEEE 802.11b_Channel 11_20MHz_Antenna 0



Date: 22.MAR.2024 22:58:07

In-Band Reference Level

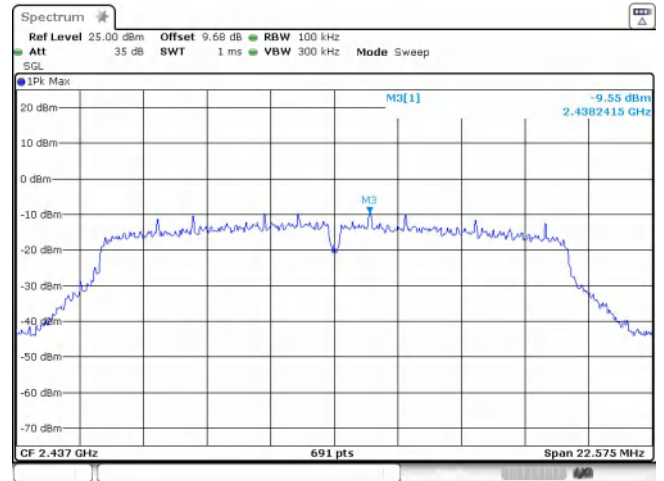
IEEE 802.11g_Channel 1_20MHz_Antenna 0



Date: 22.MAR.2024 22:58:29

Out Of Band Emission

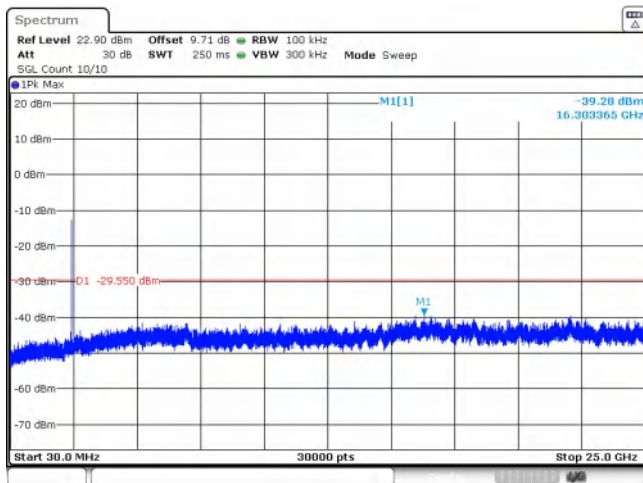
IEEE 802.11g_Channel 1_20MHz_Antenna 0



Date: 22.MAR.2024 23:00:34

Spurious Emission

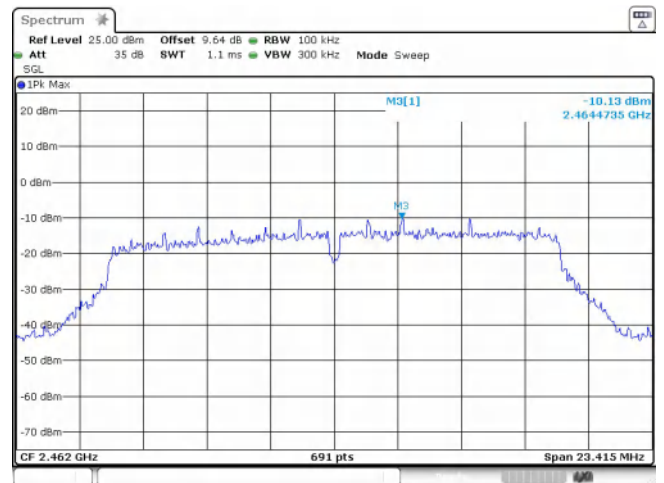
IEEE 802.11g_Channel 1_20MHz_Antenna 0



Date: 22.MAR.2024 23:00:58

In-Band Reference Level

IEEE 802.11g_Channel 6_20MHz_Antenna 0



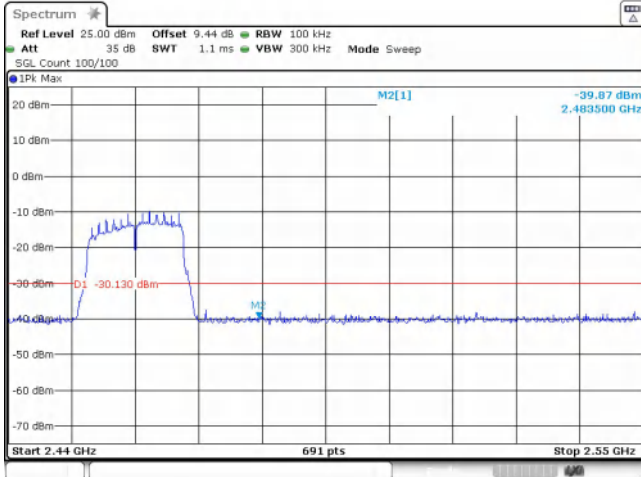
Date: 22.MAR.2024 23:03:11

Spurious Emissions

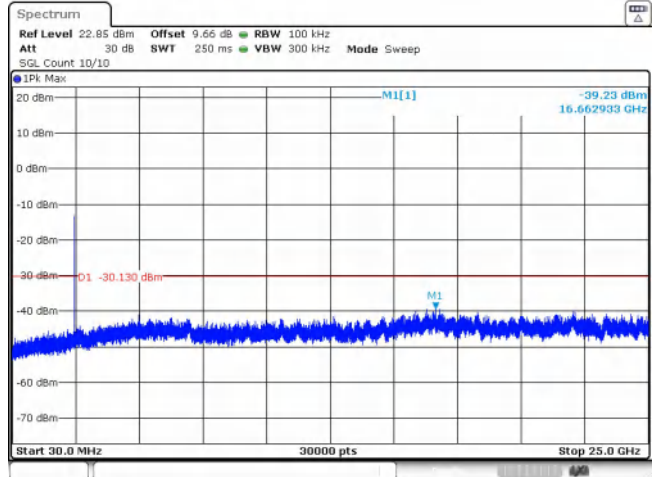
IEEE 802.11g_Channel 6_20MHz_Antenna 0

In-Band Reference Level

IEEE 802.11g_Channel 11_20MHz_Antenna 0



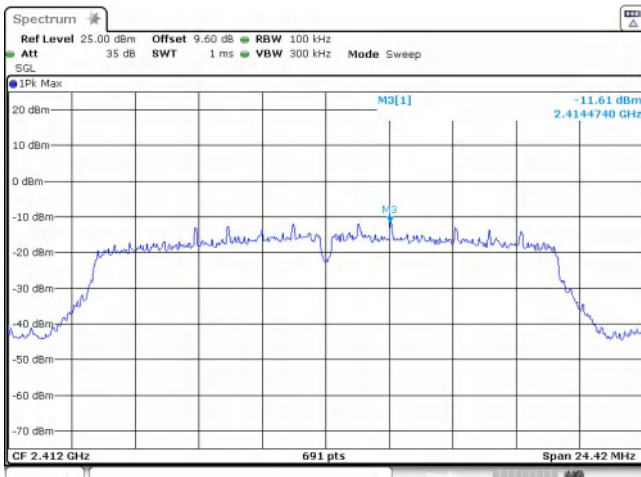
Date: 22.MAR.2024 23:03:31



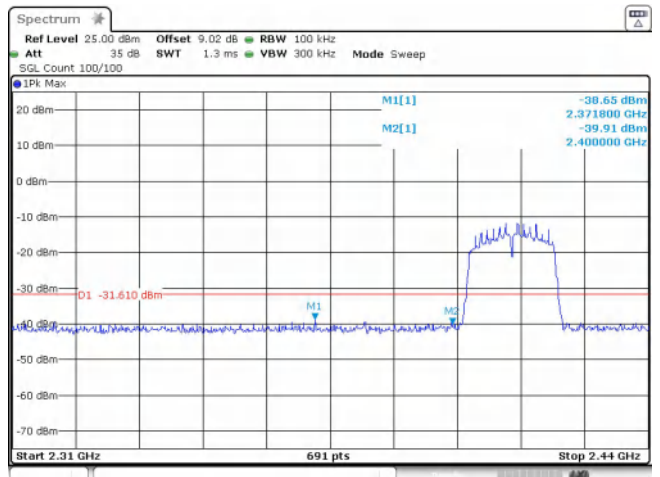
Date: 22.MAR.2024 23:03:53

Out Of Band Emission
IEEE 802.11g_Channel 11_20MHz_Antenna 0

Spurious Emission
IEEE 802.11g_Channel 11_20MHz_Antenna 0



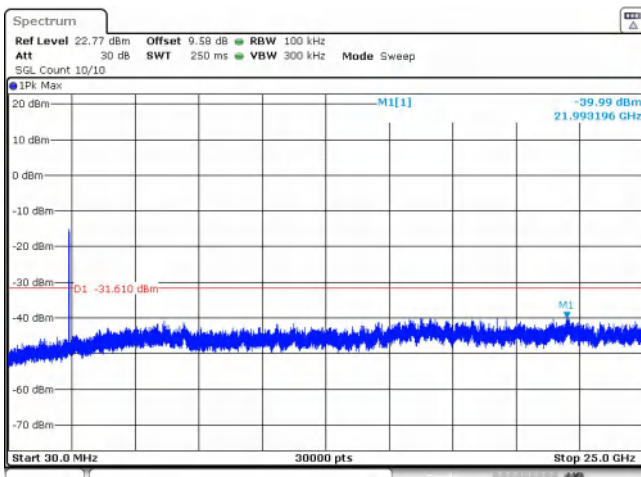
Date: 22.MAR.2024 23:06:53



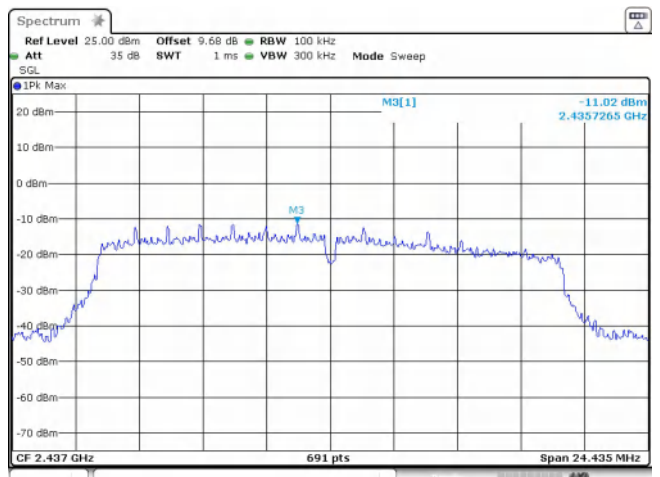
Date: 22.MAR.2024 23:09:12

In-Band Reference Level
IEEE 802.11n_Channel 1_20MHz_Antenna 0

Out Of Band Emission
IEEE 802.11n_Channel 1_20MHz_Antenna 0



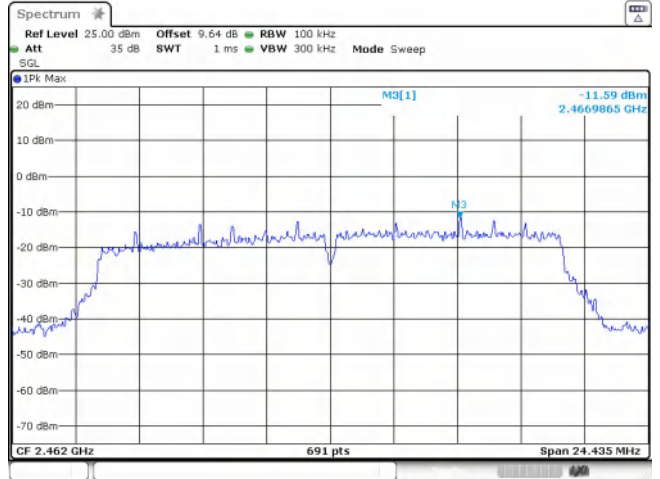
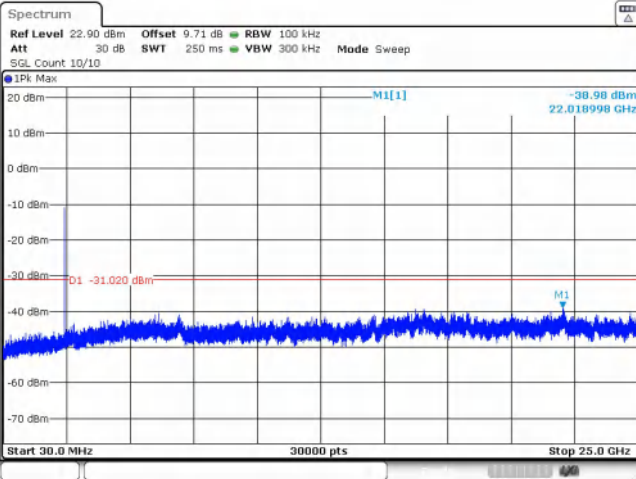
Date: 22.MAR.2024 23:09:34



Date: 22.MAR.2024 23:14:04

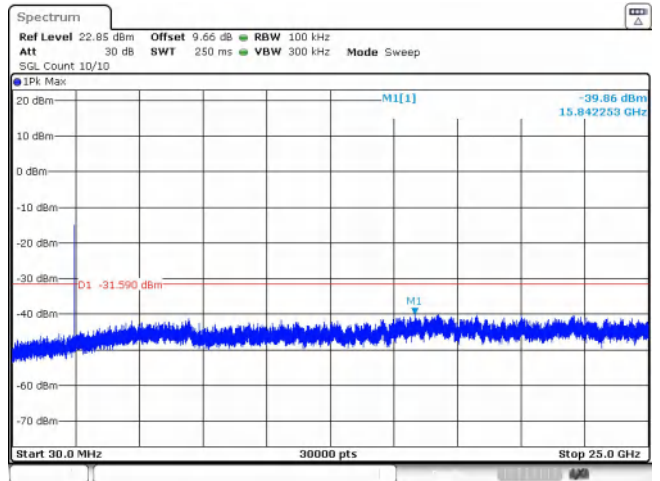
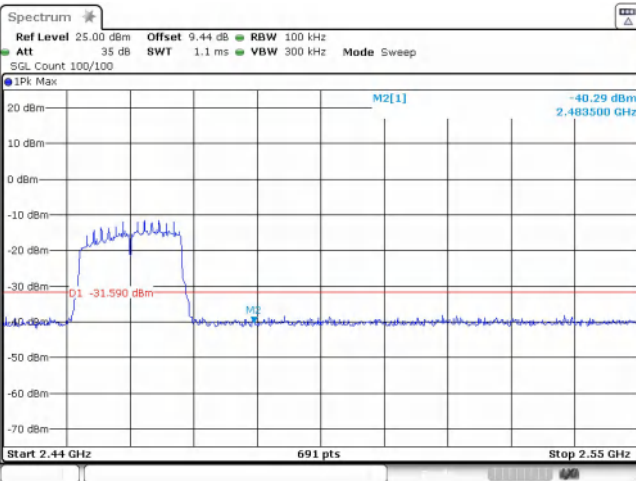
Spurious Emission
IEEE 802.11n_Channel 1_20MHz_Antenna 0

In-Band Reference Level
IEEE 802.11n_Channel 6_20MHz_Antenna 0



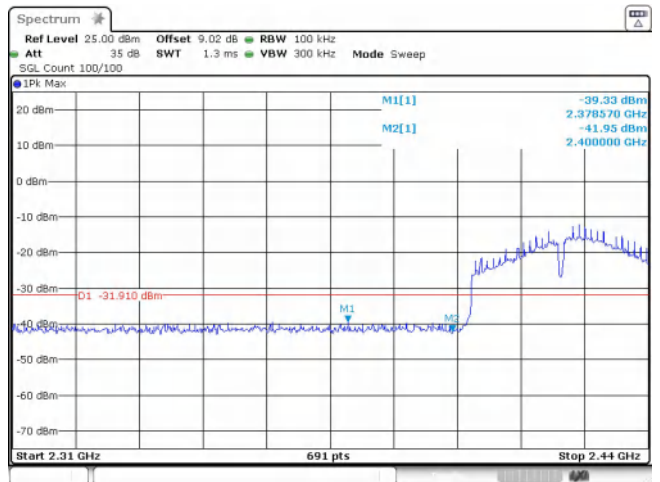
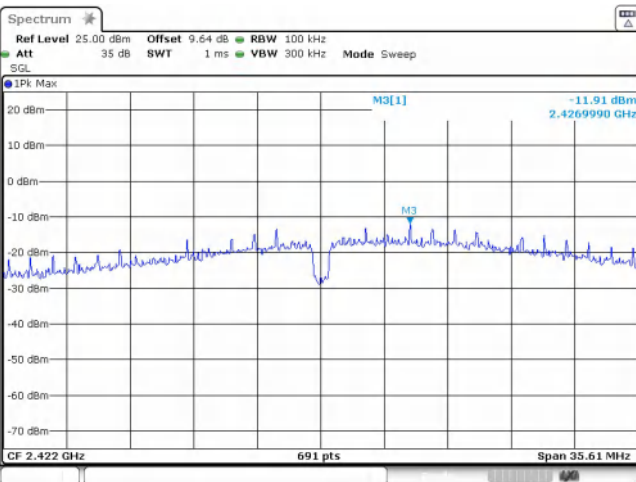
Spurious Emissions
IEEE 802.11n_Channel 6_20MHz_Antenna 0

In-Band Reference Level
IEEE 802.11n_Channel 11_20MHz_Antenna 0



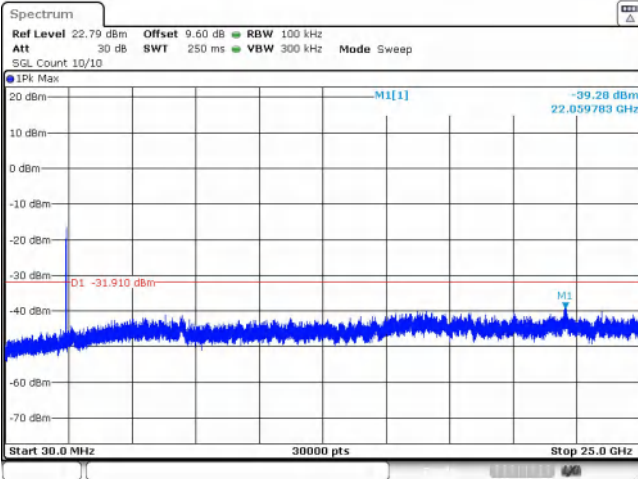
Out Of Band Emission
IEEE 802.11n_Channel 11_20MHz_Antenna 0

Spurious Emission
IEEE 802.11n_Channel 11_20MHz_Antenna 0

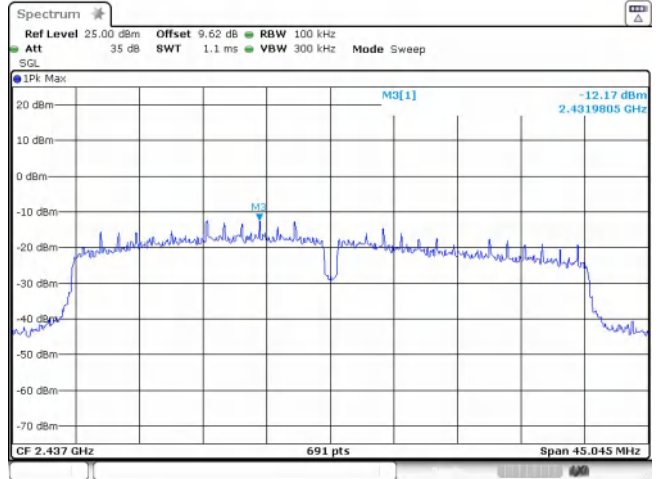


In-Band Reference Level
IEEE 802.11n_Channel 3_40MHz_Antenna 0

Out Of Band Emission
IEEE 802.11n_Channel 3_40MHz_Antenna 0



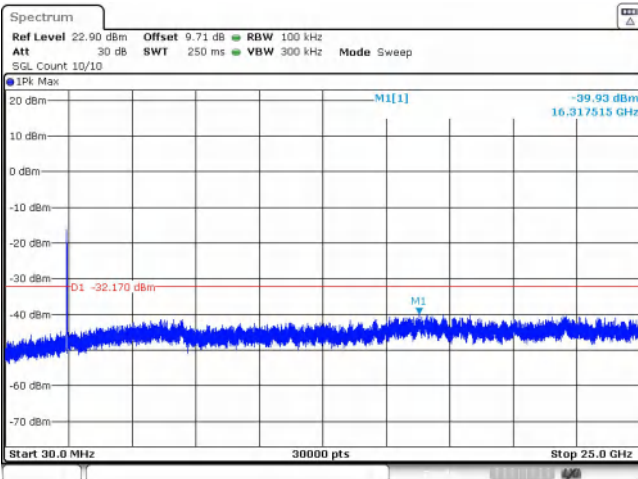
Date: 22.MAR.2024 23:20:42



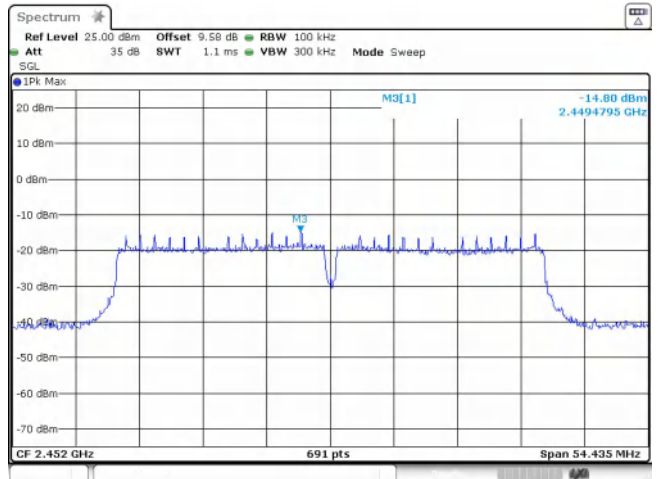
Date: 22.MAR.2024 23:22:59

Spurious Emission
IEEE 802.11n_Channel 3_40MHz_Antenna 0

In-Band Reference Level
IEEE 802.11n_Channel 6_40MHz_Antenna 0



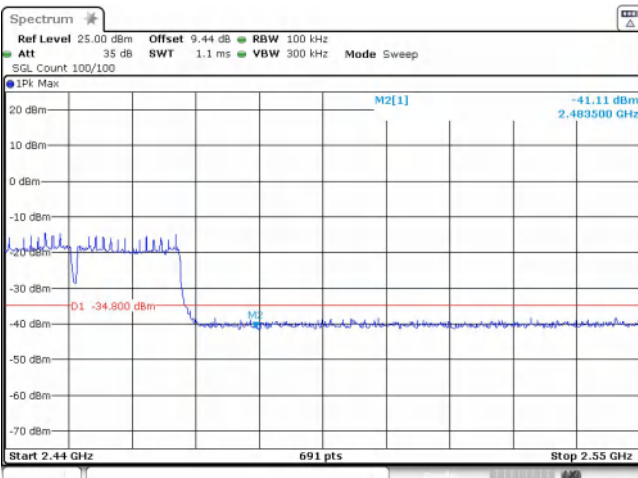
Date: 22.MAR.2024 23:23:23



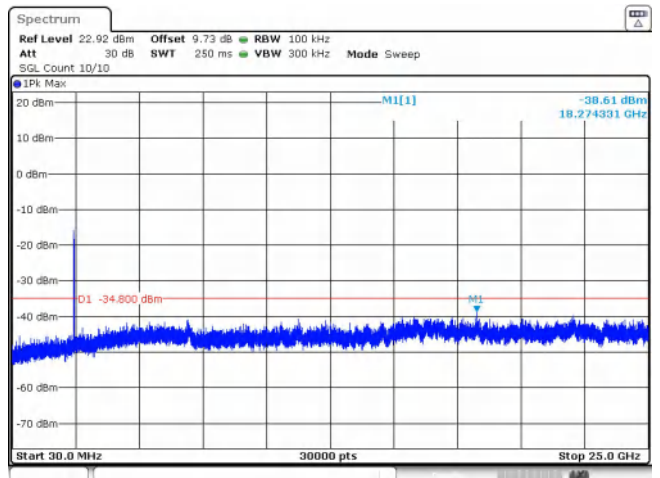
Date: 22.MAR.2024 23:26:30

Spurious Emissions
IEEE 802.11n_Channel 6_40MHz_Antenna 0

In-Band Reference Level
IEEE 802.11n_Channel 9_40MHz_Antenna 0



Date: 22.MAR.2024 23:26:50



Date: 22.MAR.2024 23:27:12

Out Of Band Emission
IEEE 802.11n_Channel 9_40MHz_Antenna 0

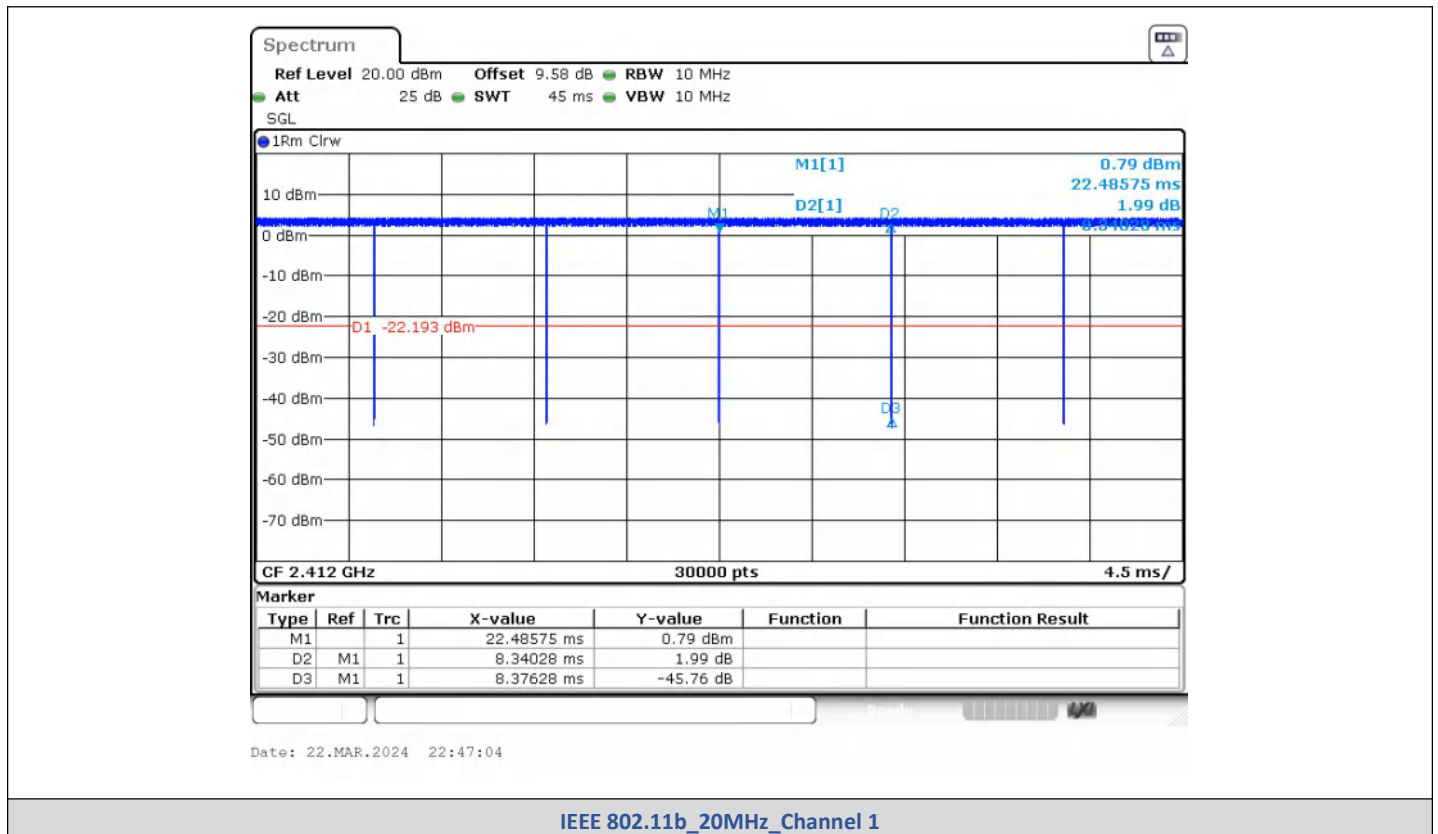
Spurious Emission
IEEE 802.11n_Channel 9_40MHz_Antenna 0

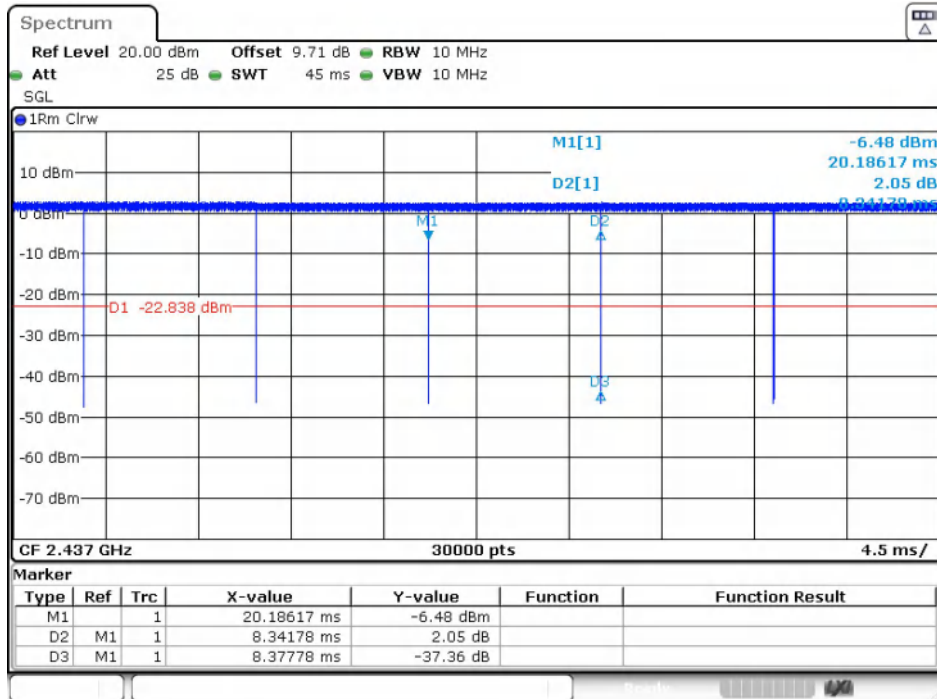
5) Duty Cycle

Test Result

Mode	Data rates	Channel	Antenna	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
IEEE 802.11b	1	1	1	8.340	8.376	99.57	0.9957	0.0187	0.12
		6		8.342	8.378	99.57	0.9957	0.0187	0.12
		11		8.319	8.355	99.57	0.9957	0.0187	0.12
IEEE 802.11g		1		1.396	1.438	97.08	0.9708	0.1287	0.72
		6		1.396	1.438	97.08	0.9708	0.1287	0.72
		11		1.396	1.438	97.08	0.9708	0.1287	0.72
IEEE 802.11n_20		1		1.293	1.335	96.80	0.9680	0.1412	0.77
		6		1.293	1.335	96.85	0.9685	0.139	0.77
		11		1.293	1.335	96.80	0.9680	0.1412	0.77
IEEE 802.11n_40	MCS 0	3	0.650	0.692	93.84	0.9384	0.2761	1.54	
		6	0.650	0.692	93.84	0.9384	0.2761	1.54	
		9	0.650	0.692	93.84	0.9384	0.2761	1.54	

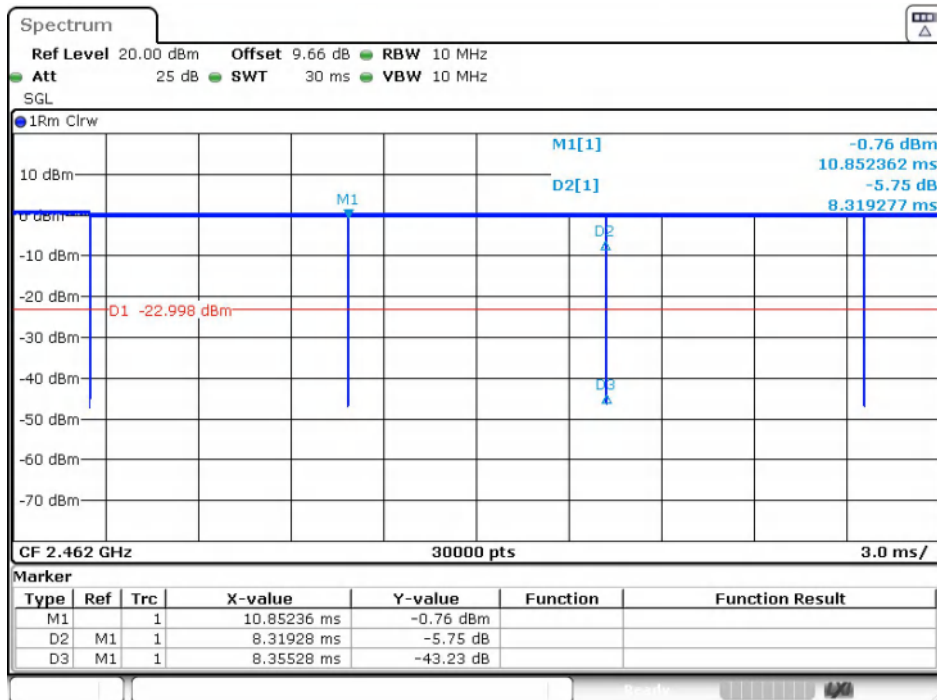
Test Graphs





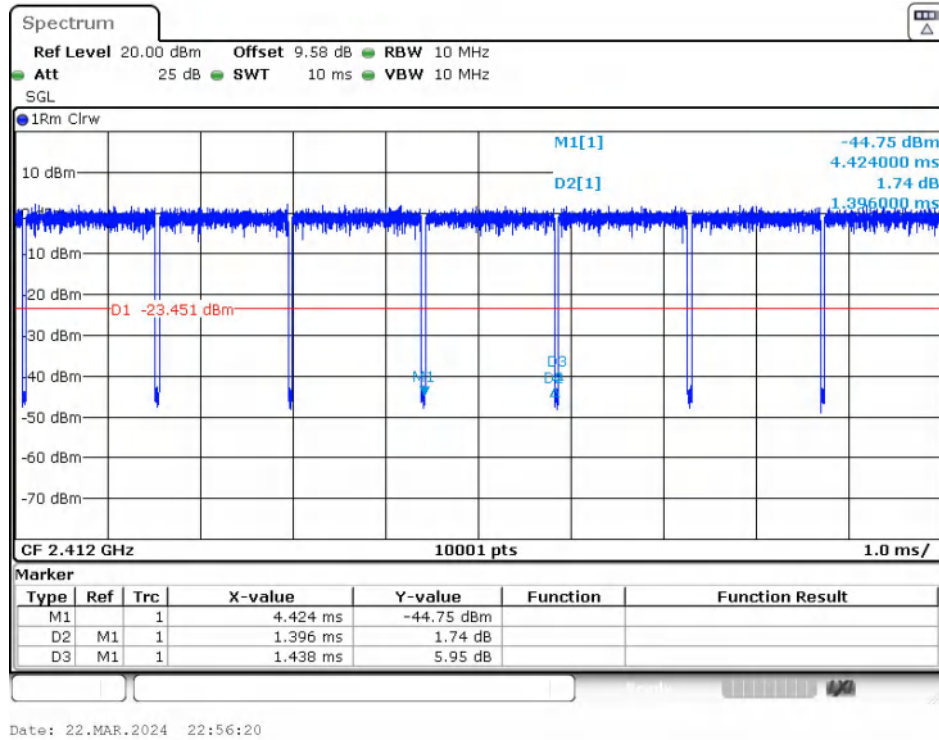
Date: 22.MAR.2024 22:50:29

IEEE 802.11b_20MHz_Channel 6

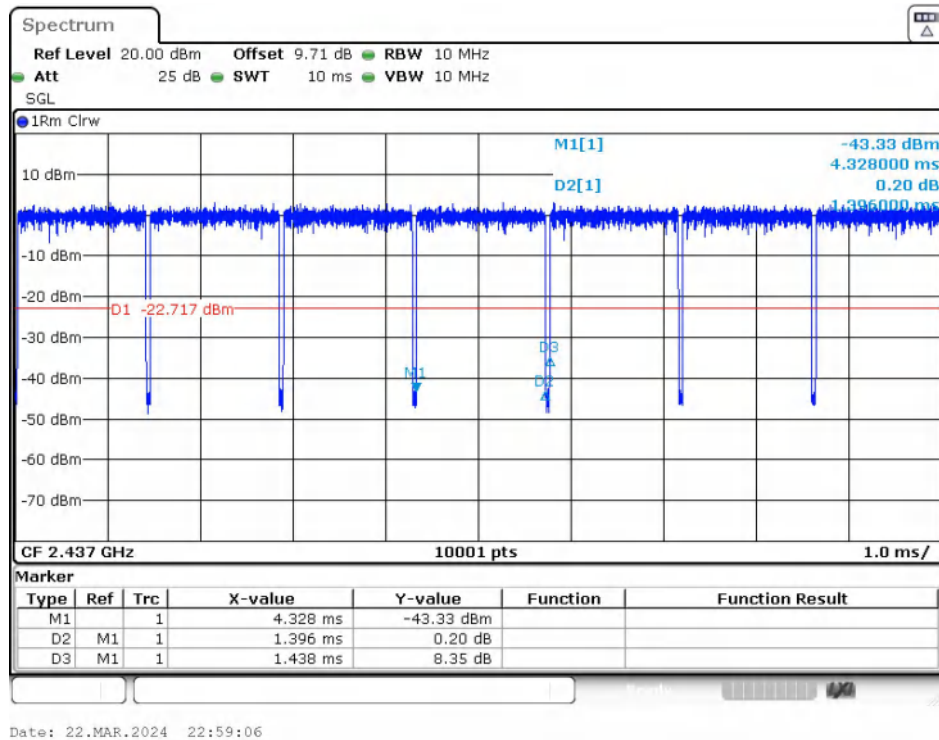


Date: 22.MAR.2024 22:53:20

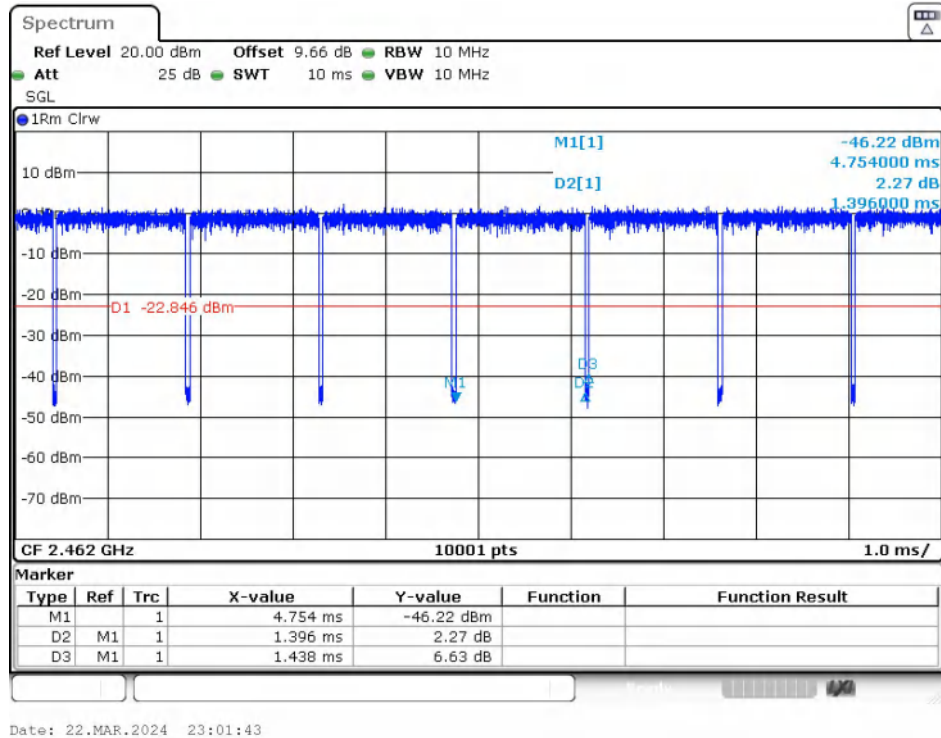
IEEE 802.11b_20MHz_Channel 11



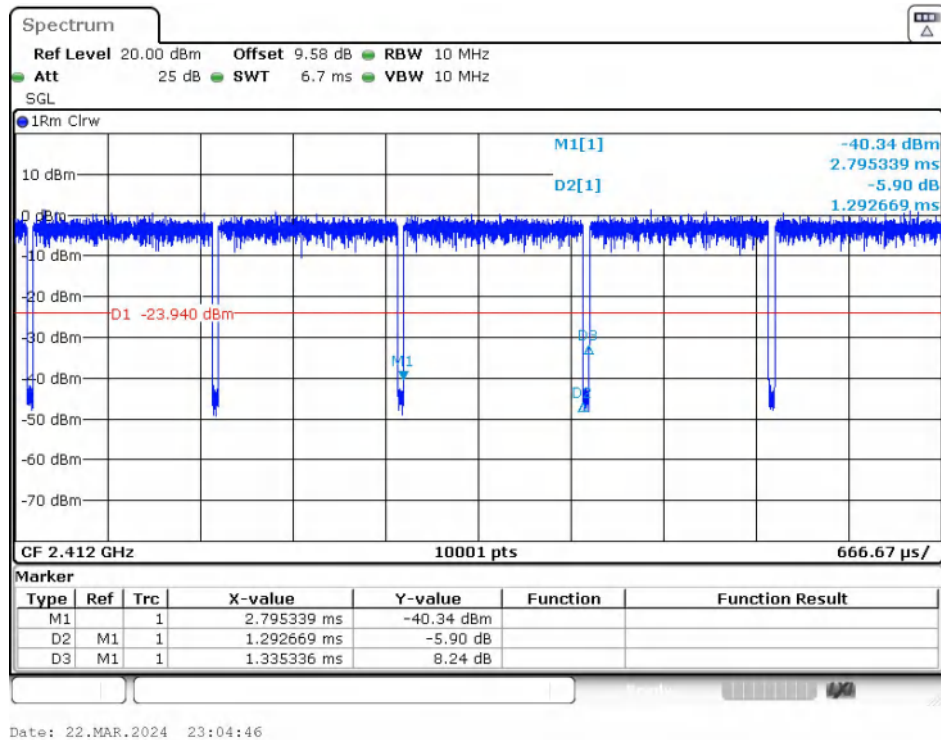
IEEE 802.11g_20MHz_Channel 1



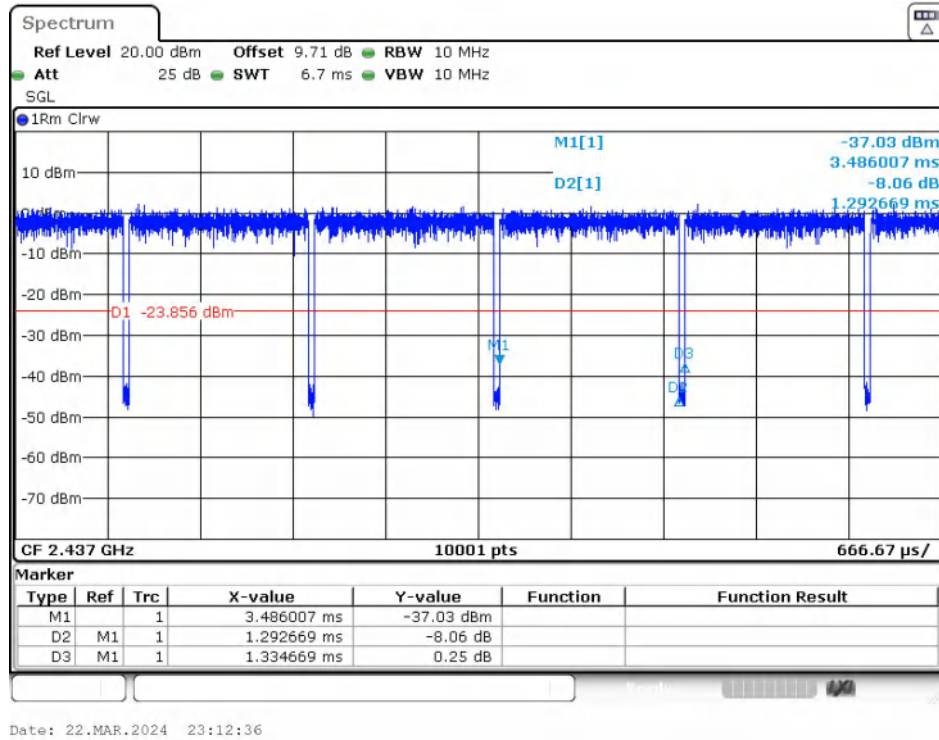
IEEE 802.11g_20MHz_Channel 6



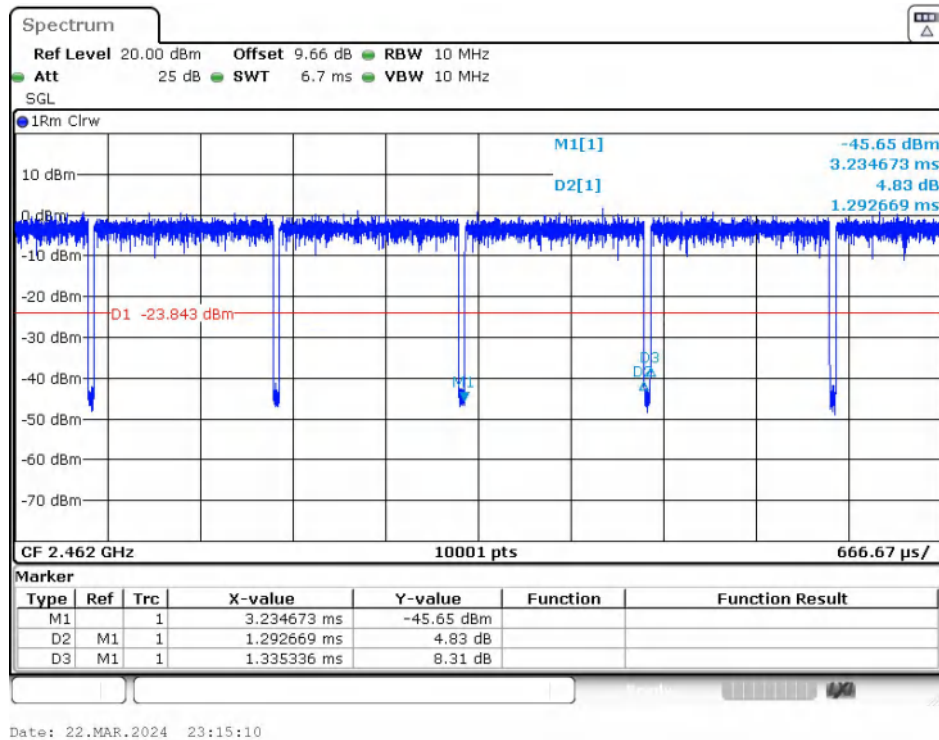
IEEE 802.11g_20MHz_Channel 11



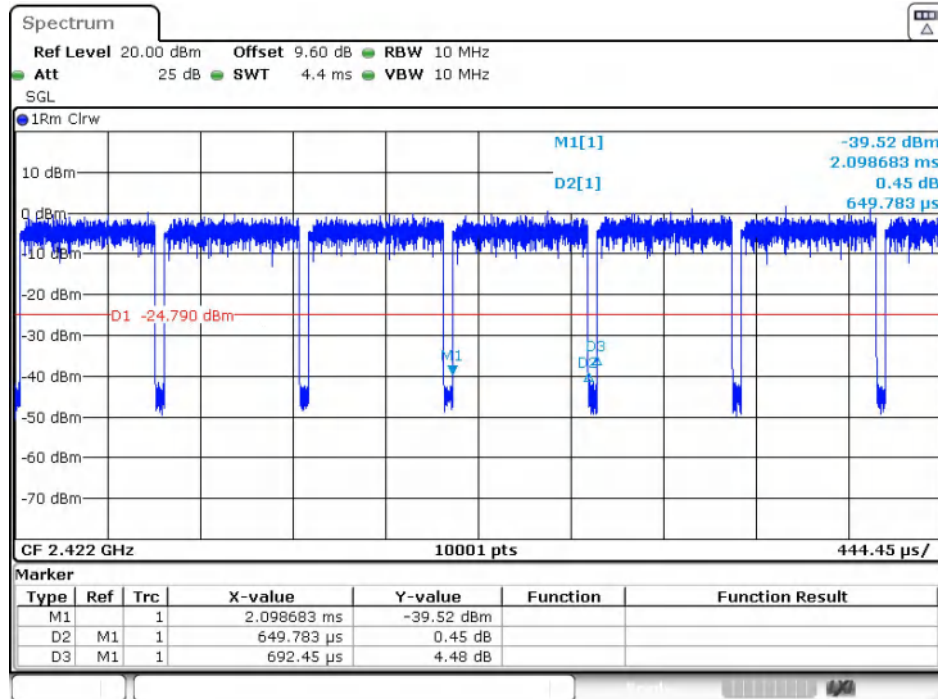
IEEE 802.11n_20MHz_Channel 1



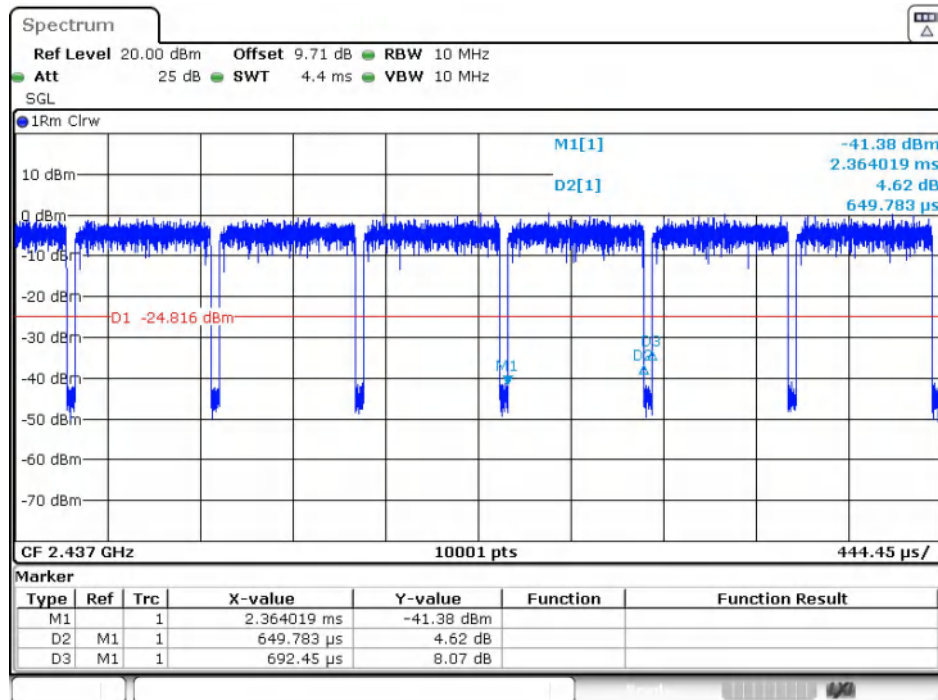
IEEE 802.11n_20MHz_Channel 6



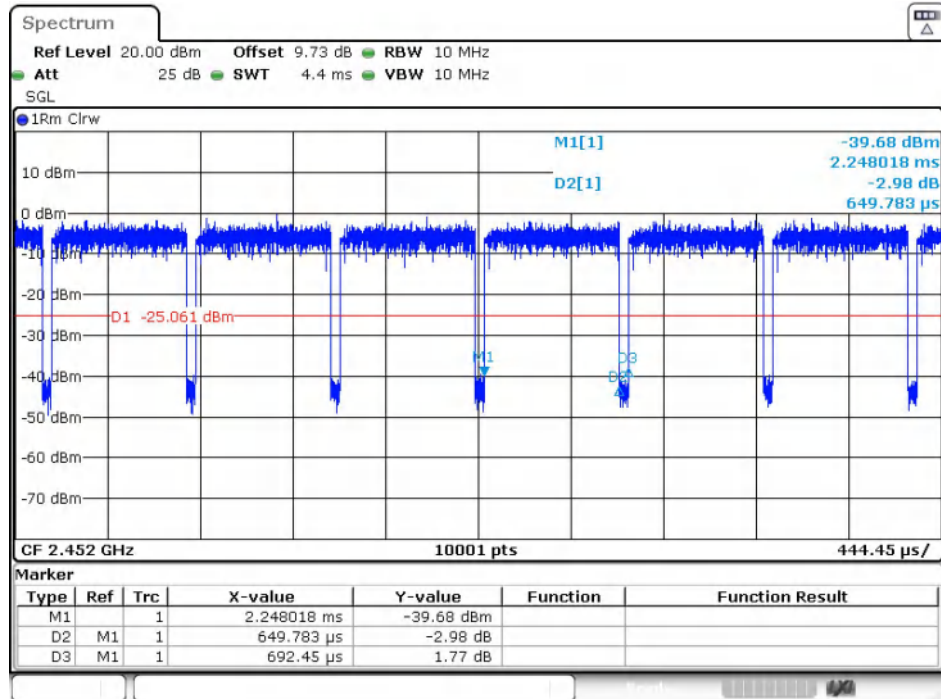
IEEE 802.11n_20MHz_Channel 11



IEEE 802.11n_40MHz_Channel 3



IEEE 802.11n_40MHz_Channel 6



Date: 22.MAR.2024 23:25:02

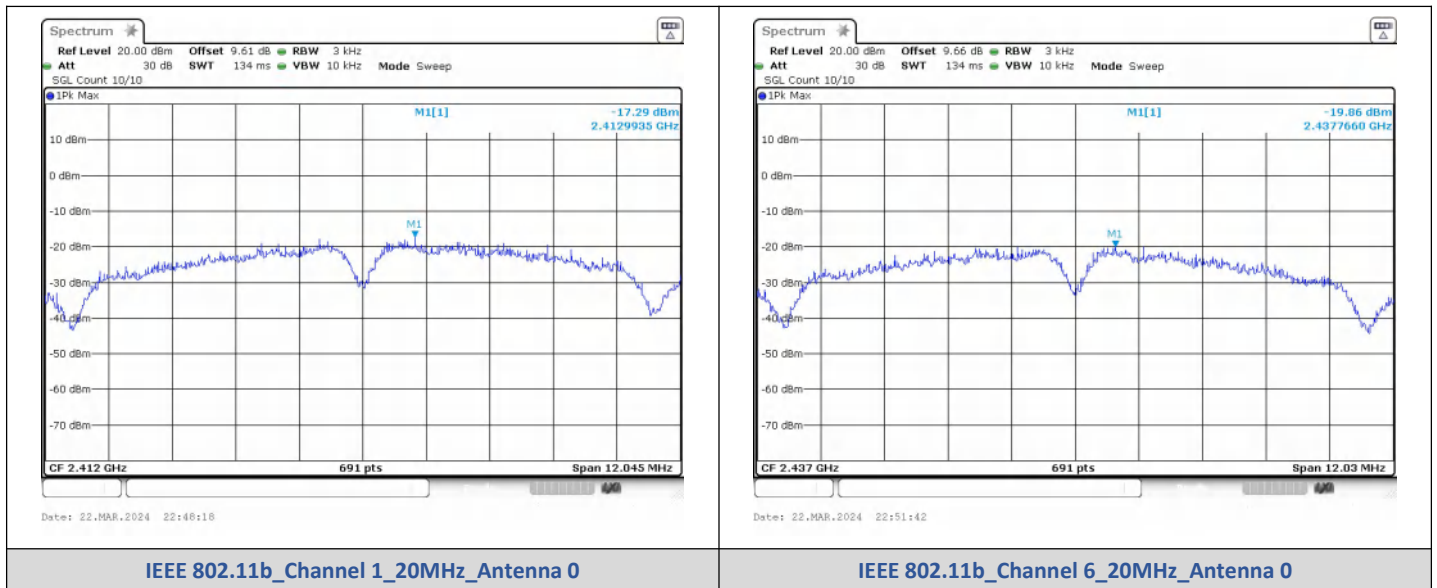
IEEE 802.11n_40MHz_Channel 9

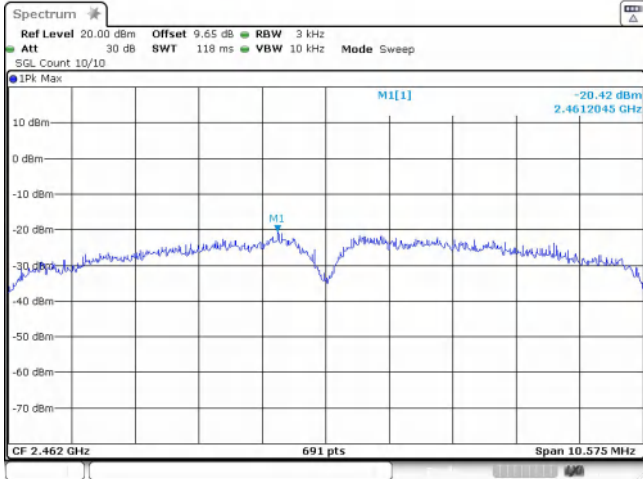
6) Power Spectral Density

Test Result

Mode	Channel	PSD (dBm/3kHz) Ant. 0	Limit (dBm/3kHz)	Result
IEEE 802.11b	1	-17.291	8	PASS
	6	-19.860		PASS
	11	-20.424		PASS
IEEE 802.11g	1	-22.777		PASS
	6	-22.800		PASS
	11	-23.063		PASS
IEEE 802.11n_20	1	-25.552		PASS
	6	-23.527		PASS
	11	-25.675		PASS
IEEE 802.11n_40	3	-26.439		PASS
	6	-26.923		PASS
	9	-28.721		PASS

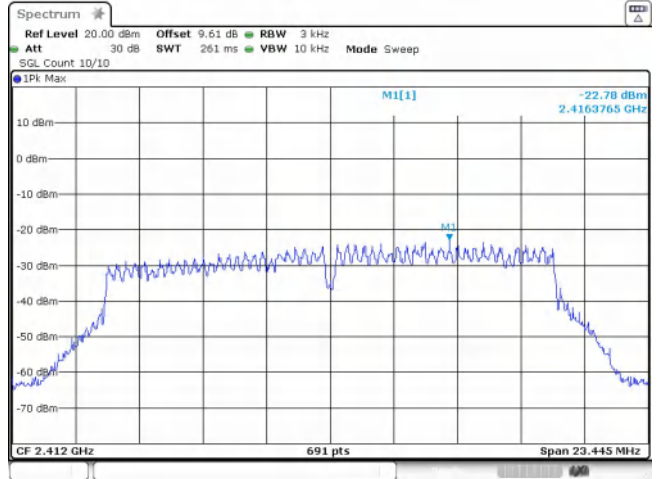
Test Graphs





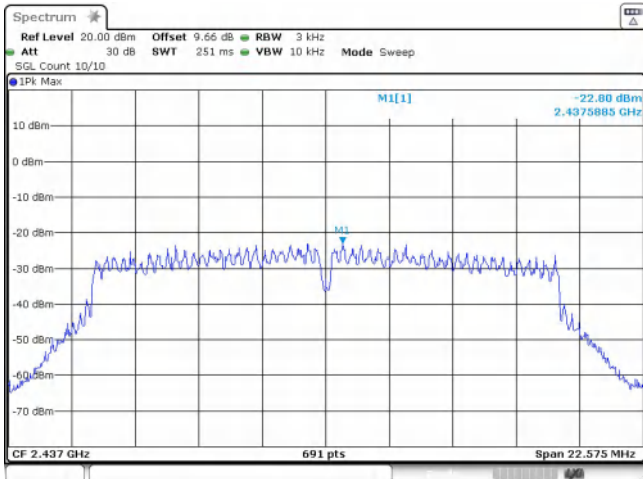
Date: 22.MAR.2024 22:54:34

IEEE 802.11b_Channel 11_20MHz_Antenna 0



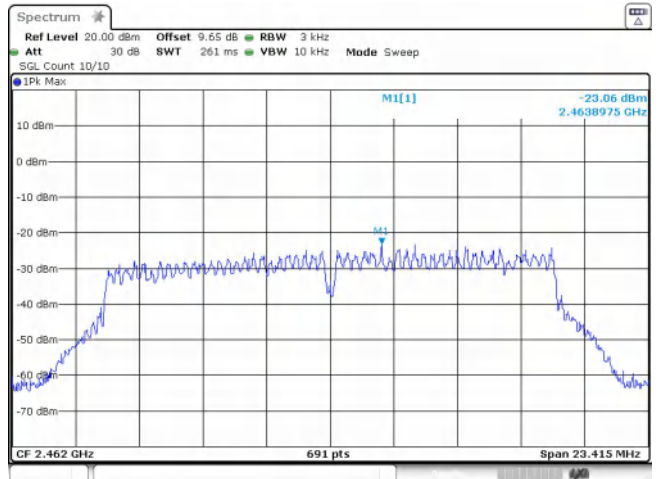
Date: 22.MAR.2024 22:57:33

IEEE 802.11g_Channel 1_20MHz_Antenna 0



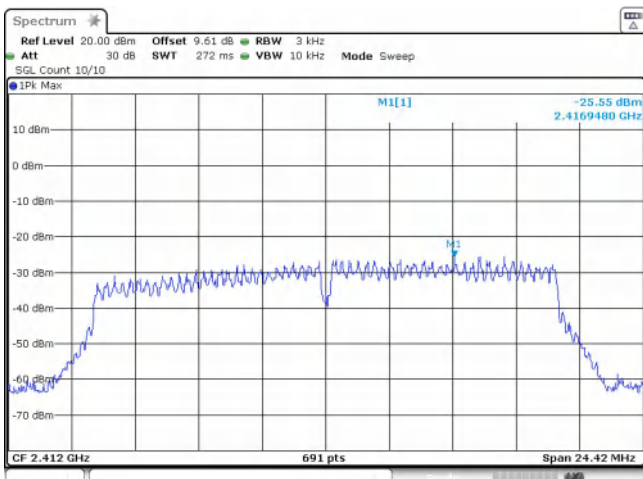
Date: 22.MAR.2024 23:00:19

IEEE 802.11g_Channel 6_20MHz_Antenna 0



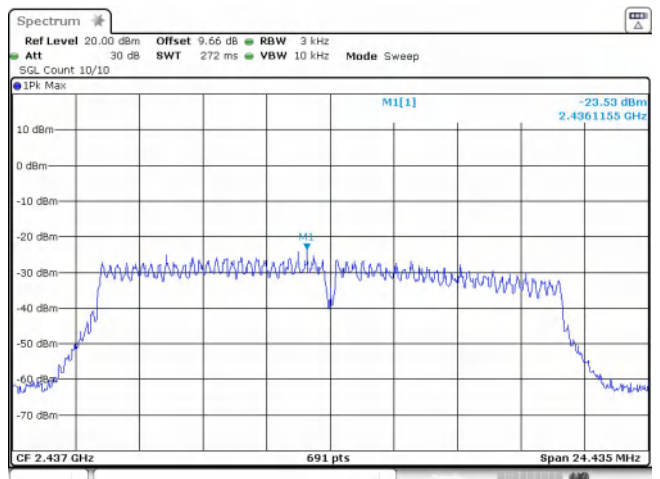
Date: 22.MAR.2024 23:02:57

IEEE 802.11g_Channel 11_20MHz_Antenna 0



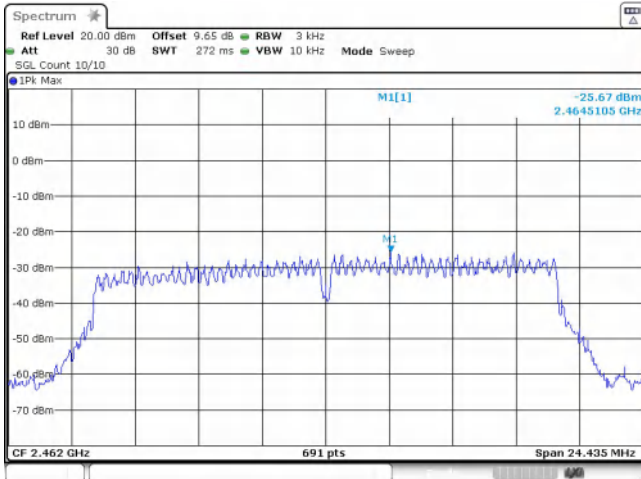
Date: 22.MAR.2024 23:05:59

IEEE 802.11n_Channel 1_20MHz_Antenna 0



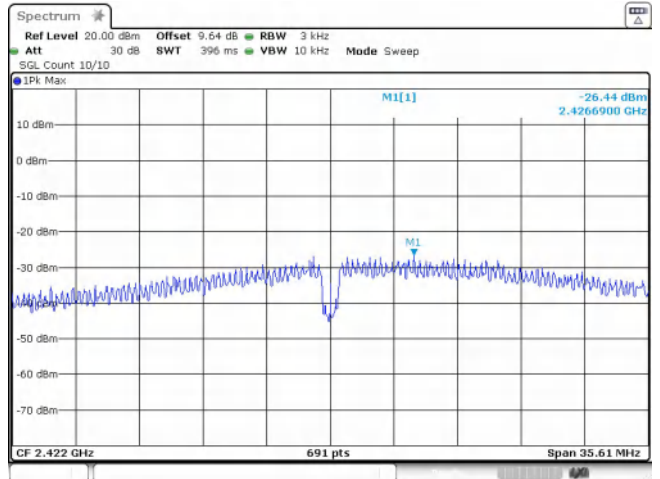
Date: 22.MAR.2024 23:13:50

IEEE 802.11n_Channel 6_20MHz_Antenna 0



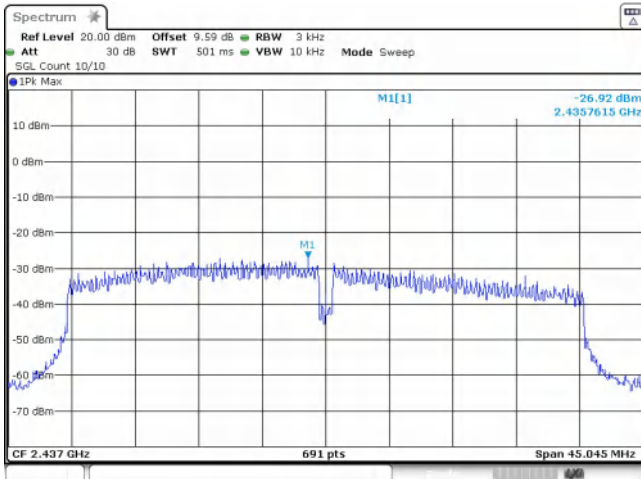
Date: 22.MAR.2024 23:16:23

IEEE 802.11n_Channel 11_20MHz_Antenna 0



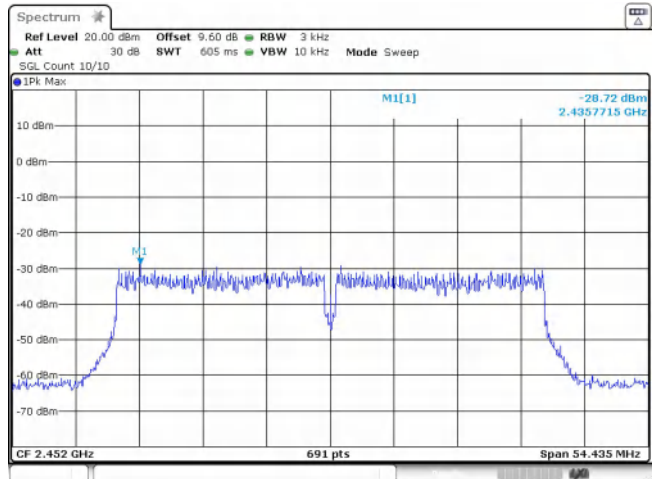
Date: 22.MAR.2024 23:19:46

IEEE 802.11n_Channel 3_40MHz_Antenna 0



Date: 22.MAR.2024 23:22:44

IEEE 802.11n_Channel 6_40MHz_Antenna 0



Date: 22.MAR.2024 23:26:16

IEEE 802.11n_Channel 9_40MHz_Antenna 0