

# Appendix A

Report No.:	CISRR240403035
FCC ID:	2BDSG-YW16
Product Name:	Smart earpick
Model No.:	YW16
Test Engineer:	Lucas Huang
Supervised by:	Rory Huang

## Conducted Peak Output Power

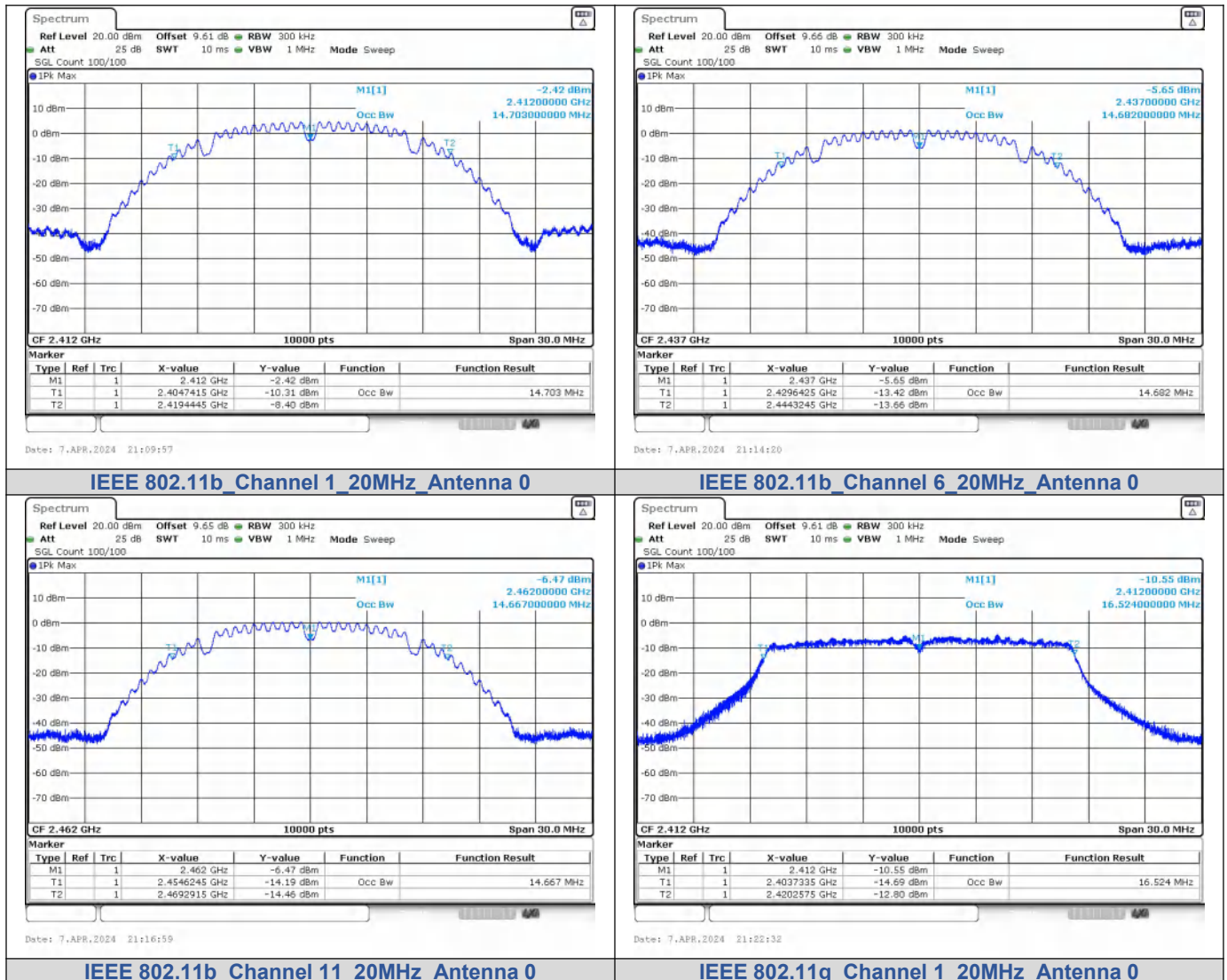
### Test Result

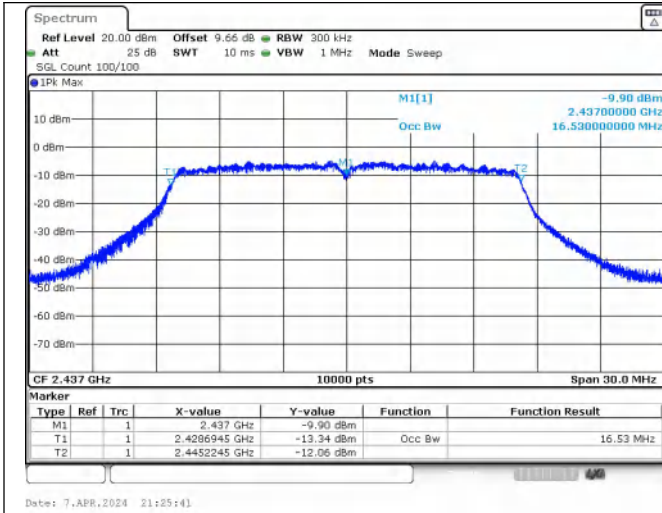
Mode	Channel	Ant. 0 (dBm)	Limit (dBm)	Result
IEEE 802.11b	1	8.85	30	PASS
	6	8.67	30	PASS
	11	8.79	30	PASS
IEEE 802.11g	1	7.69	30	PASS
	6	8.46	30	PASS
	11	8.82	30	PASS
IEEE 802.11n_20	1	8.57	30	PASS
	6	8.42	30	PASS
	11	8.57	30	PASS
IEEE 802.11n_40	3	8.81	30	PASS
	6	8.05	30	PASS
	9	8.78	30	PASS

## 99% Bandwidth Test Result

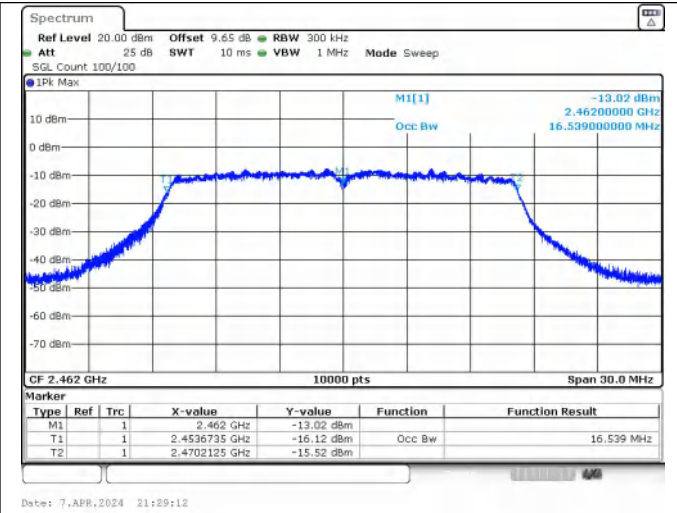
Mode	Channel	Ant.	99% BW (MHz)
IEEE 802.11b	1	0	14.700
	6		14.680
	11		14.670
IEEE 802.11g	1		16.520
	6		16.530
	11		16.540
IEEE 802.11n_20	1		17.710
	6		17.700
	11		17.710
IEEE 802.11n_40	3		36.040
	6		36.090
	9		36.080

## Test Graphs

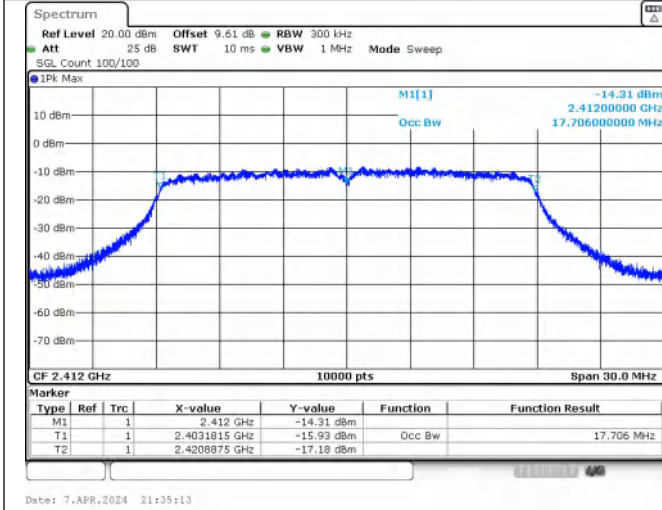




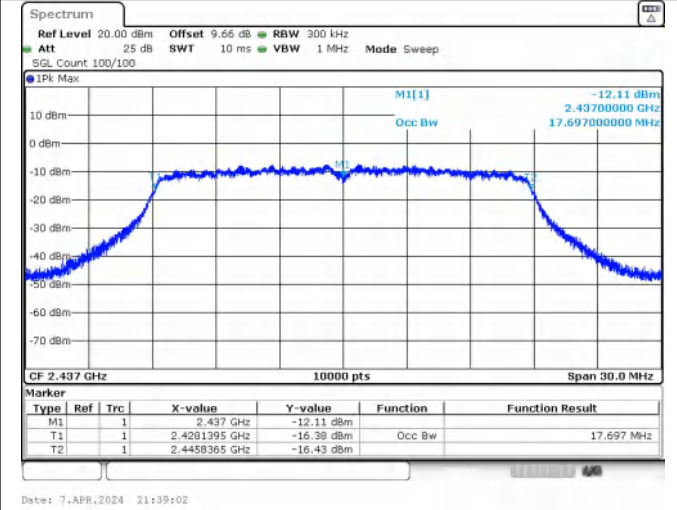
IEEE 802.11g Channel 6 20MHz Antenna 0



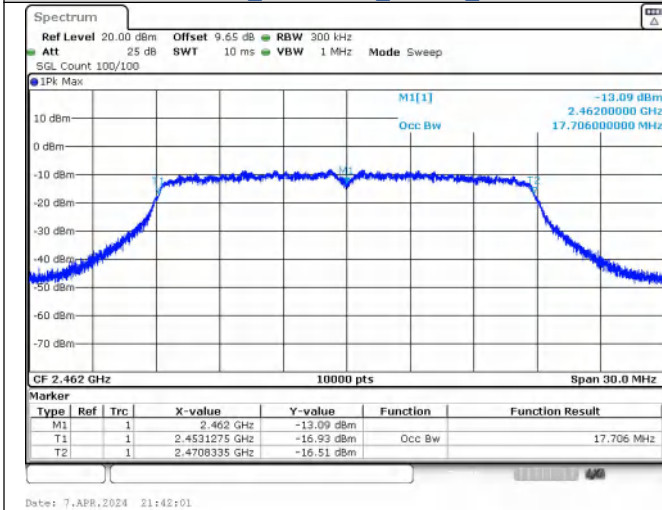
IEEE 802.11g Channel 11 20MHz Antenna 0



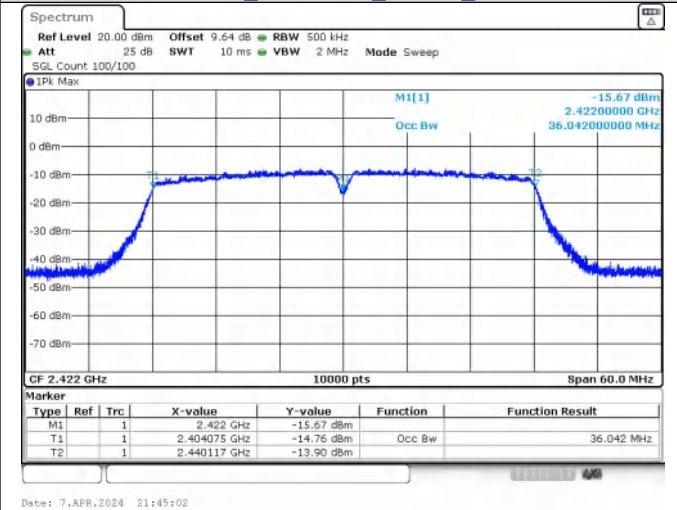
IEEE 802.11n Channel 1 20MHz Antenna 0



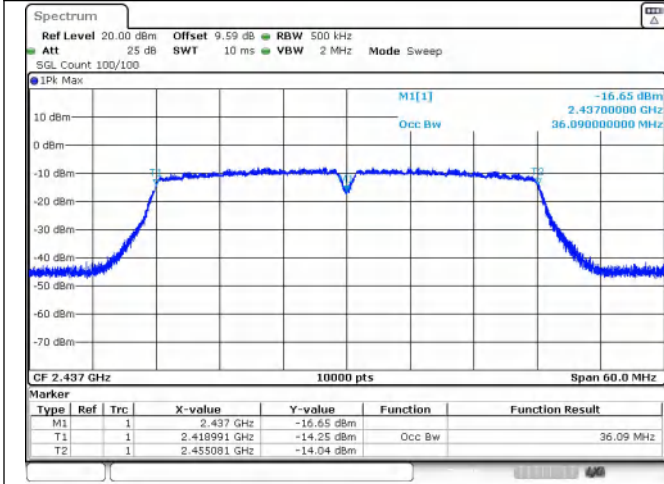
IEEE 802.11n Channel 6 20MHz Antenna 0



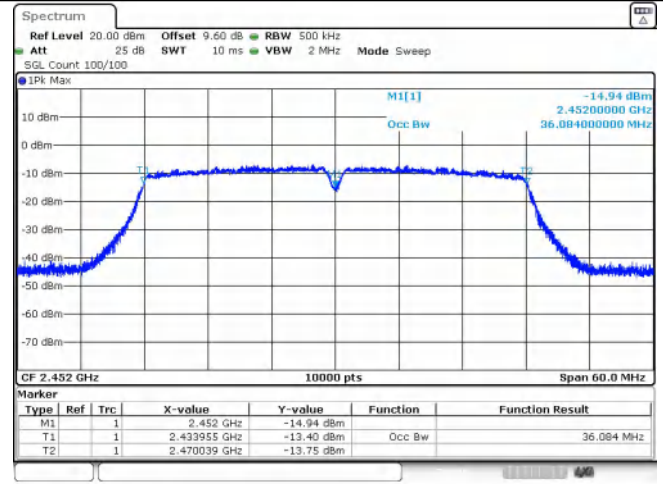
IEEE 802.11n Channel 11 20MHz Antenna 0



IEEE 802.11n Channel 3 40MHz Antenna 0



IEEE 802.11n\_Channel 6\_40MHz\_Antenna 0



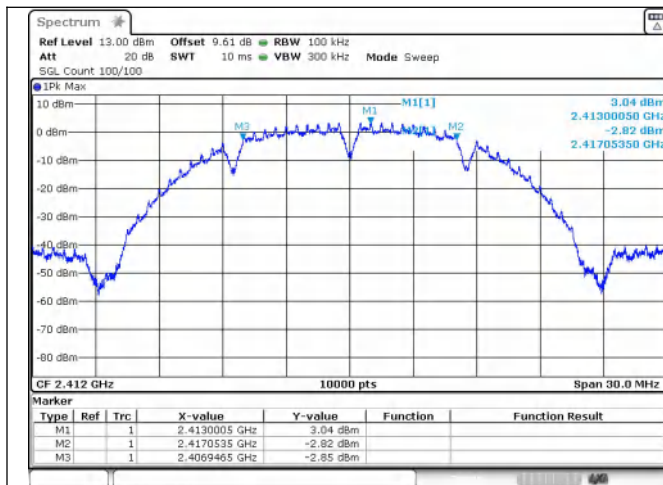
IEEE 802.11n\_Channel 9\_40MHz\_Antenna 0

## 6dB Bandwidth

### Test Result

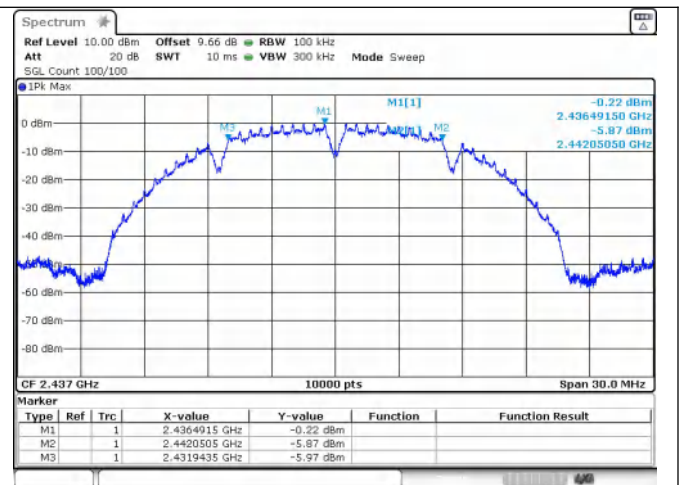
Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11b	1	0	2412	10.10	0.5	PASS
	6		2437	10.11		PASS
	11		2462	10.09		PASS
IEEE 802.11g	1		2412	16.36		PASS
	6		2437	16.37		PASS
	11		2462	16.36		PASS
IEEE 802.11n_20	1		2412	17.58		PASS
	6		2437	17.59		PASS
	11		2462	17.57		PASS
IEEE 802.11n_40	3		2422	36.30		PASS
	6		2437	36.33		PASS
	9		2452	36.33		PASS

### Test Graphs



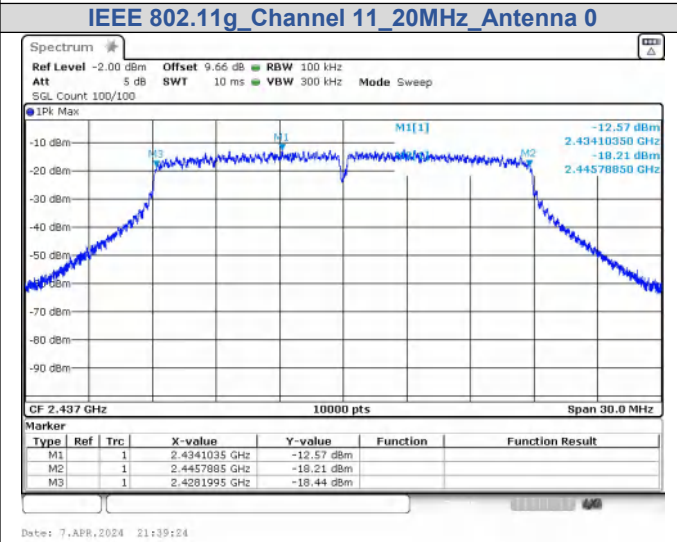
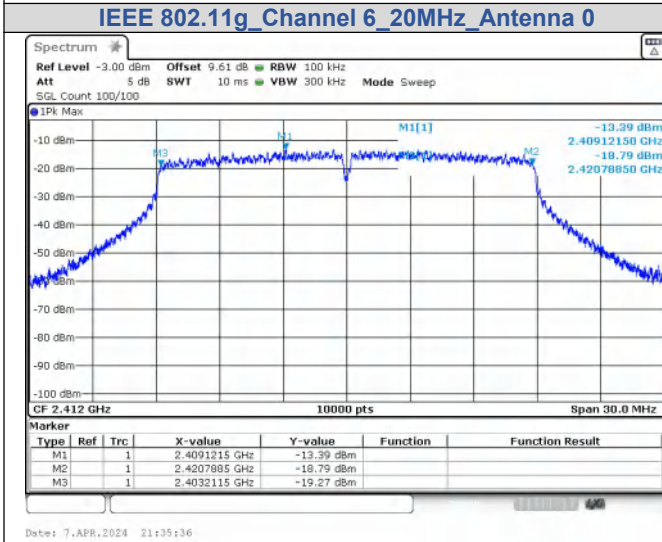
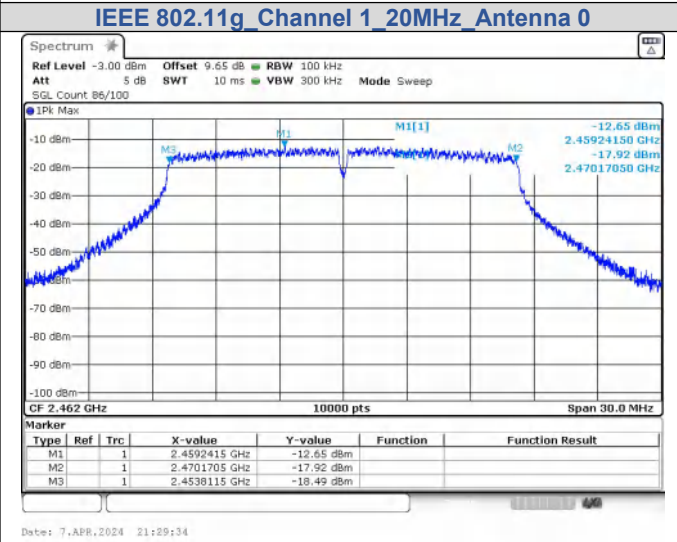
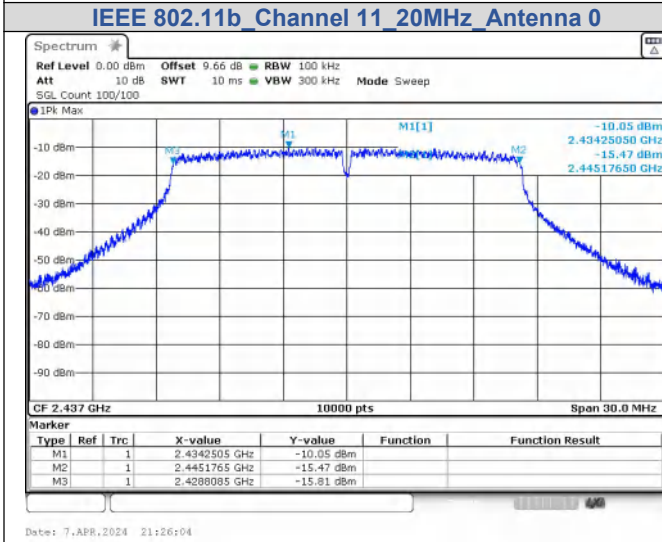
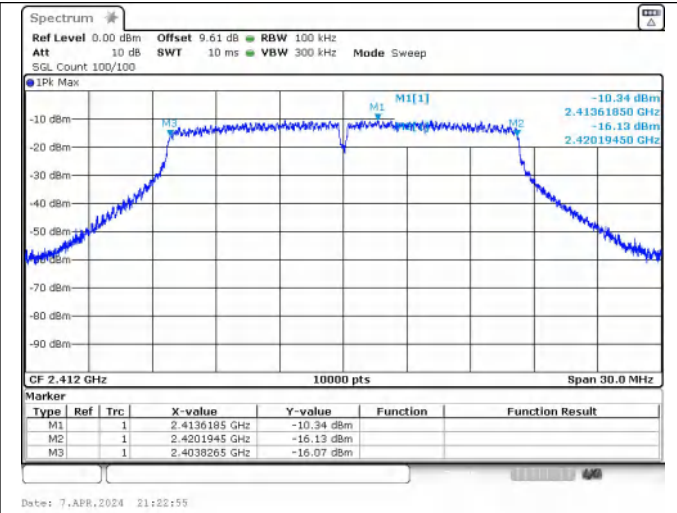
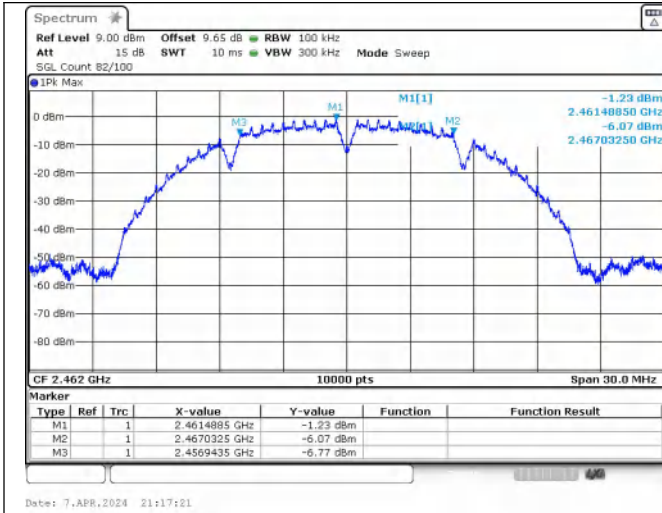
Date: 7.APR.2024 21:10:20

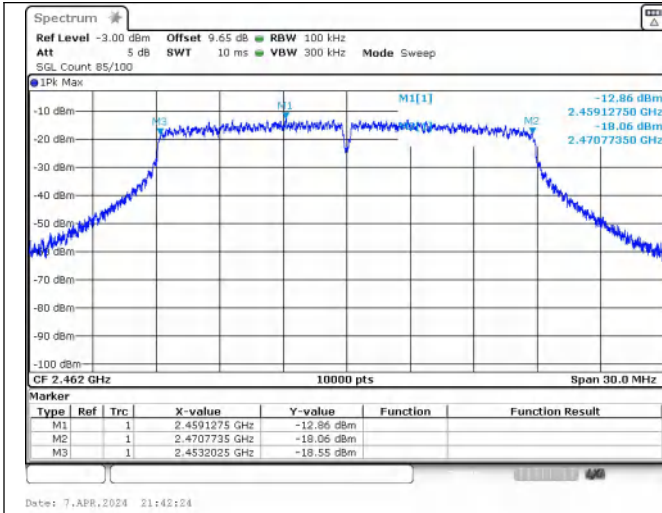
IEEE 802.11b\_Channel 1\_20MHz\_Antenna 0



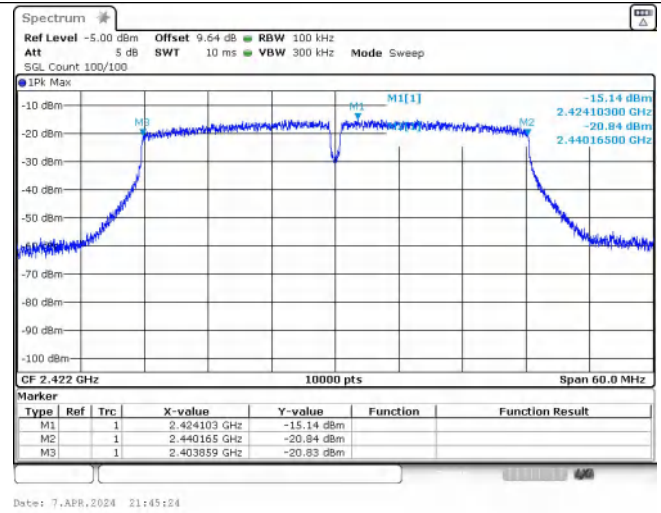
Date: 7.APR.2024 21:14:42

IEEE 802.11b\_Channel 6\_20MHz\_Antenna 0

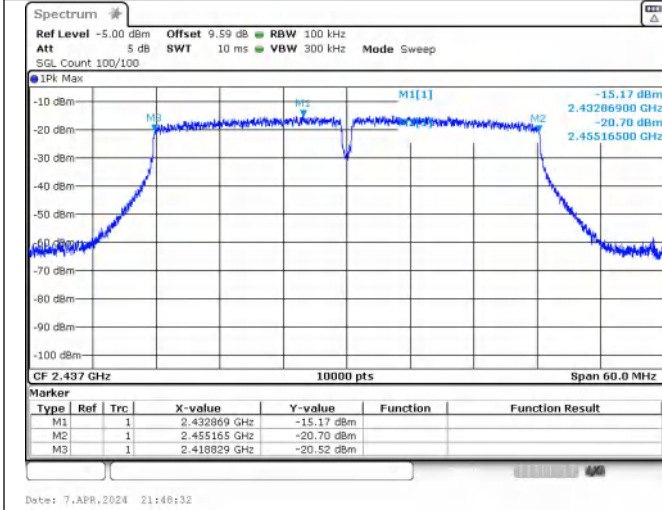




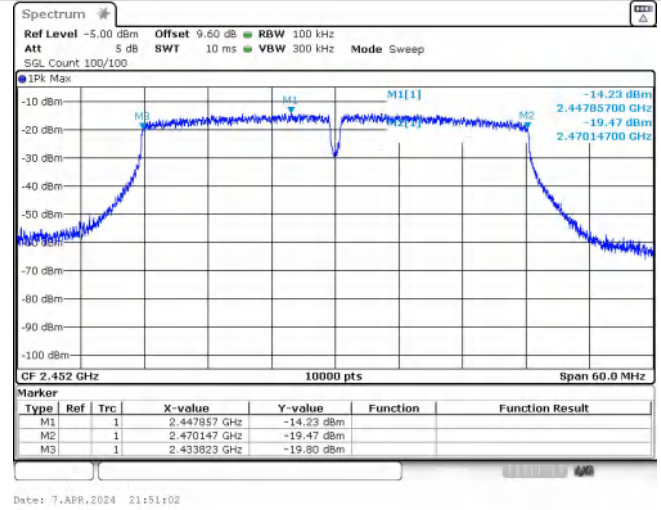
IEEE 802.11n\_Channel 11\_20MHz\_Antenna 0



IEEE 802.11n\_Channel 3\_40MHz\_Antenna 0



IEEE 802.11n\_Channel 6\_40MHz\_Antenna 0



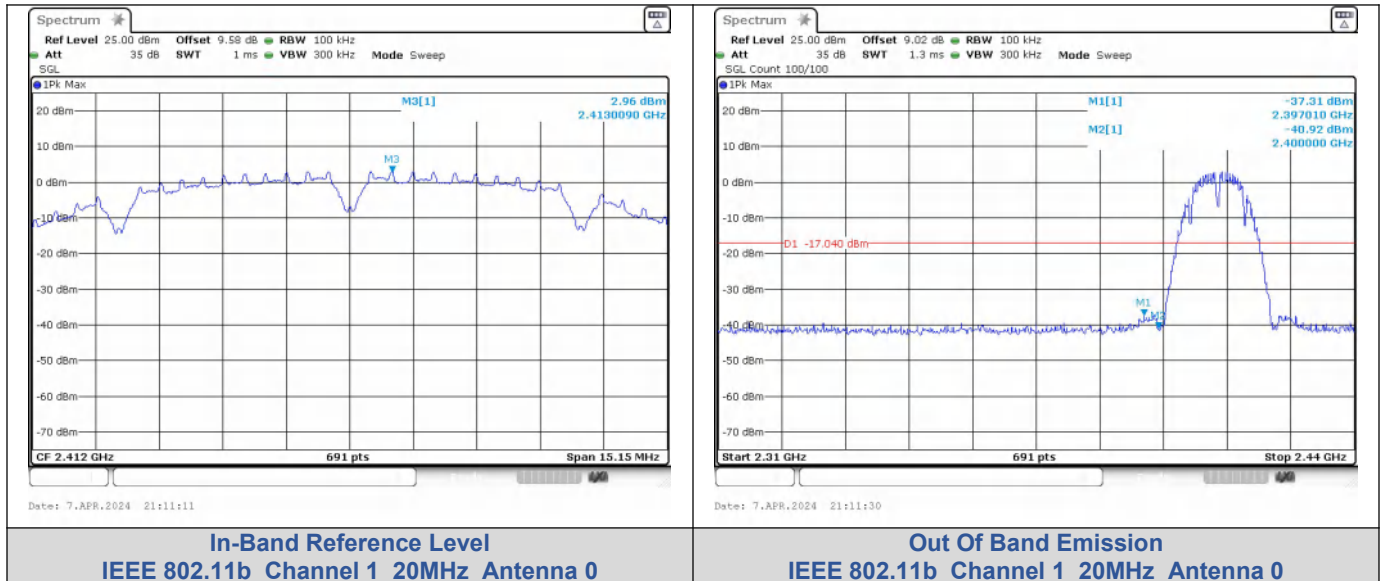
IEEE 802.11n\_Channel 9\_40MHz\_Antenna 0

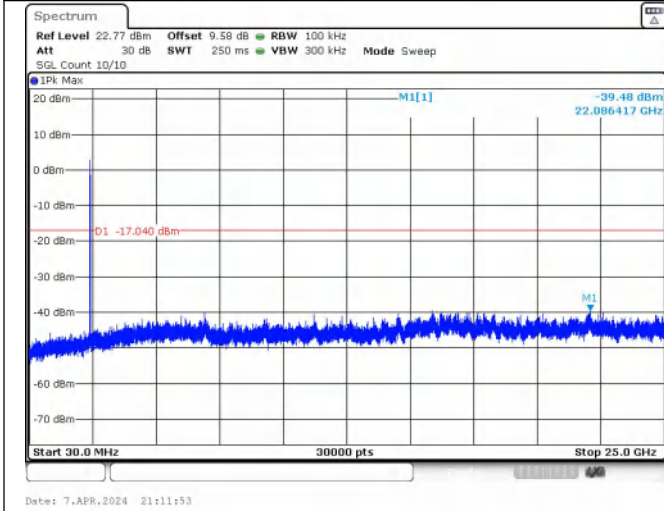


## Conducted Out Of Band Emission Test Result

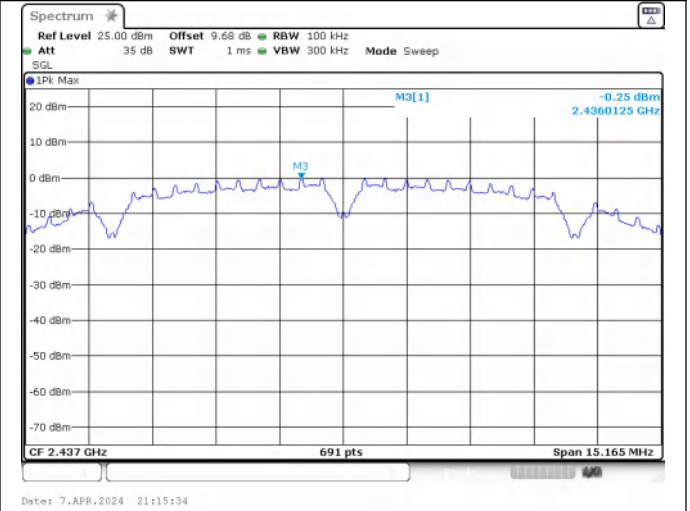
Mode	Channel	Ant.	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
IEEE 802.11b	1	0	2400.00	-40.918	-17.04	-23.878	PASS
			2397.01	-37.308	-17.04	-20.268	PASS
	22086.4		-39.476	-17.04	-22.436	PASS	
	6		16301.7	-39.536	-20.25	-19.286	PASS
	11		2483.50	-39.773	-21.22	-18.553	PASS
16308.4			-38.897	-21.22	-17.677	PASS	
IEEE 802.11g	1		2400.00	-39.735	-30.4	-9.335	PASS
			2324.39	-39.471	-30.4	-9.071	PASS
	6		18057.1	-40.244	-30.4	-9.844	PASS
	11		17318.8	-39.568	-30.27	-9.298	PASS
		2483.50	-41.045	-32.94	-8.105	PASS	
IEEE 802.11n_20	1	22078.1	-39.319	-32.94	-6.379	PASS	
		2400.00	-40.609	-33.33	-7.279	PASS	
	6	2396.45	-38.474	-33.33	-5.144	PASS	
	11	16601.3	-39.020	-33.33	-5.690	PASS	
		15833.1	-39.701	-32.43	-7.271	PASS	
IEEE 802.11n_40	3	2483.50	-39.868	-33.66	-6.208	PASS	
		22024.8	-39.322	-33.66	-5.662	PASS	
	6	2400.00	-41.146	-35.13	-6.016	PASS	
		2372.37	-38.795	-35.13	-3.665	PASS	
	9	22025.7	-39.577	-35.13	-4.447	PASS	
			16553.1	-38.698	-35.25	-3.448	PASS
			2483.50	-40.747	-34.26	-6.487	PASS
			16918.5	-39.209	-34.26	-4.949	PASS

### Test Graphs

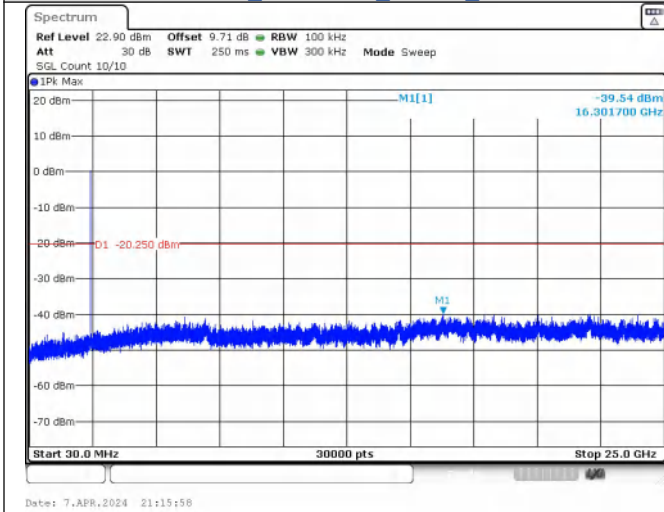




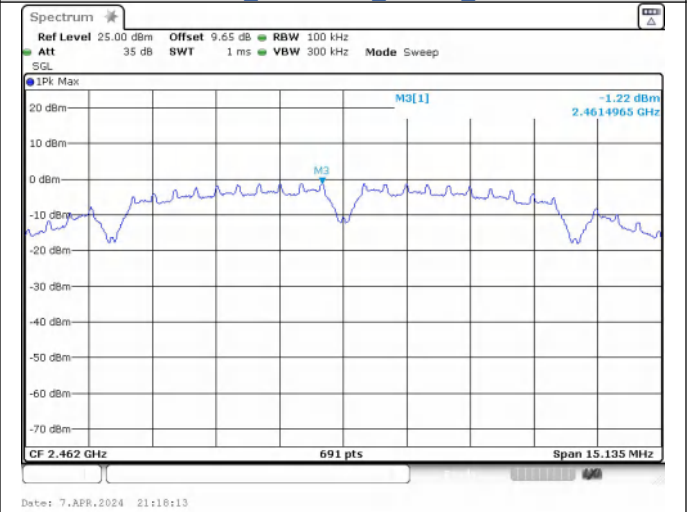
**Spurious Emission**  
**IEEE 802.11b\_Channel 1\_20MHz\_Antenna 0**



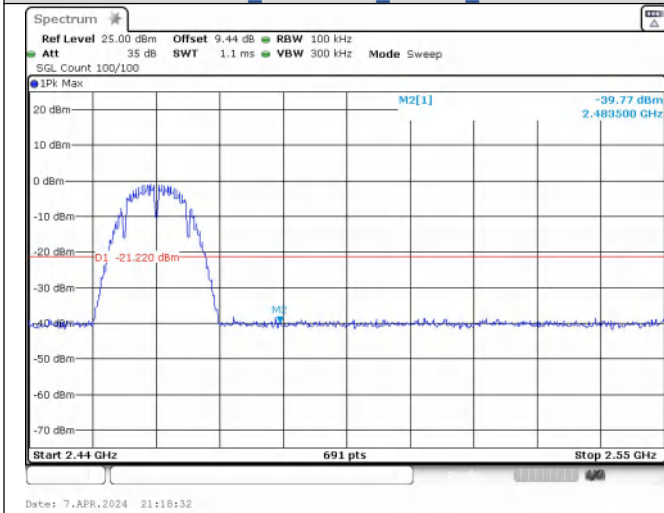
**In-Band Reference Level**  
**IEEE 802.11b\_Channel 6\_20MHz\_Antenna 0**



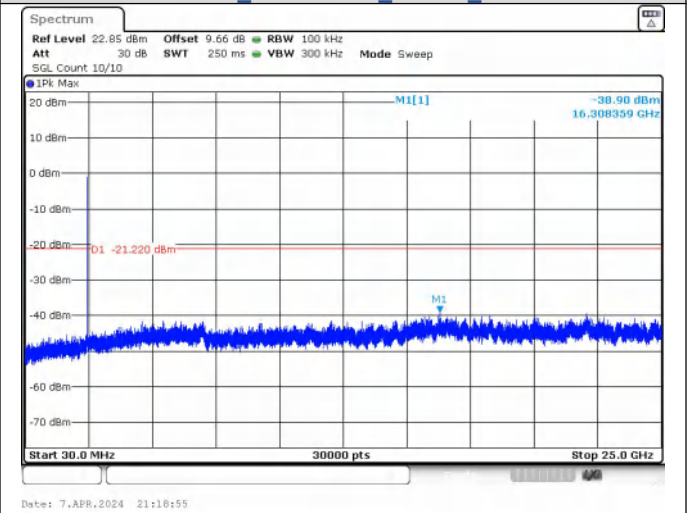
**Spurious Emissions**  
**IEEE 802.11b\_Channel 6\_20MHz\_Antenna 0**



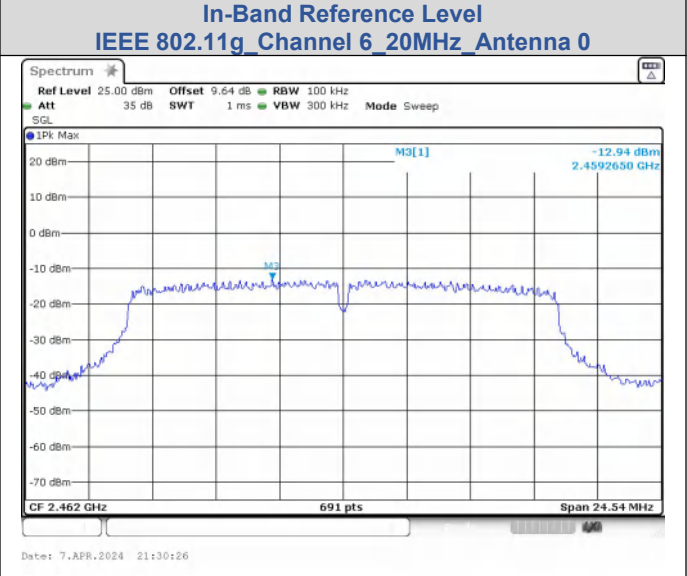
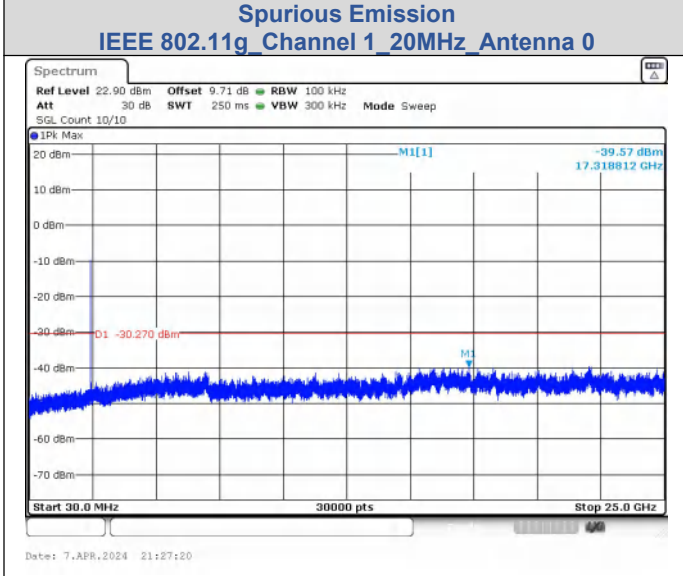
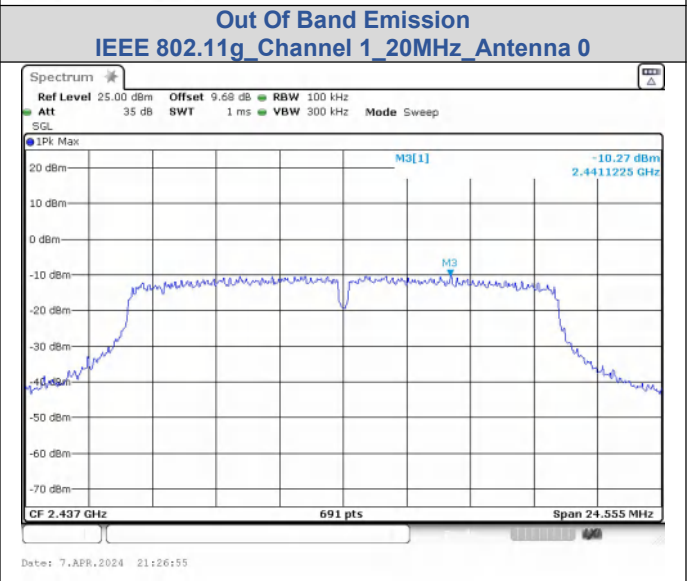
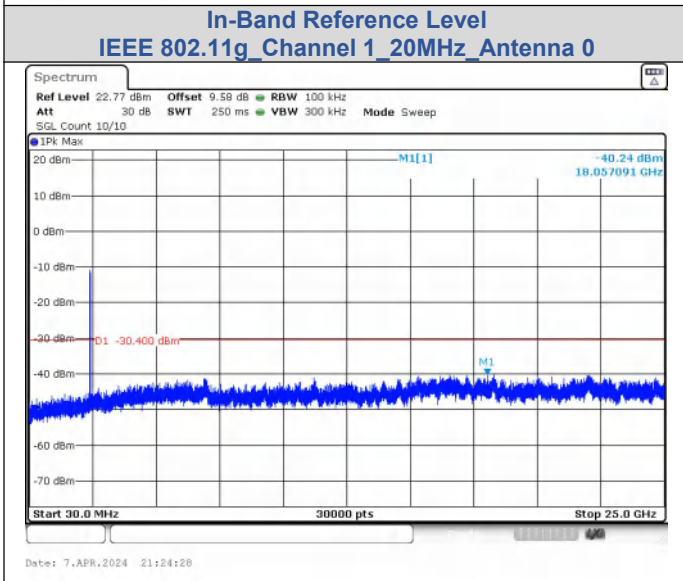
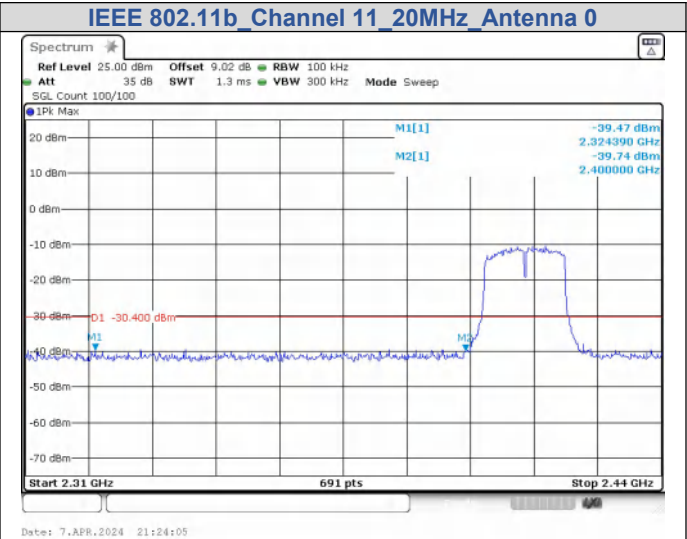
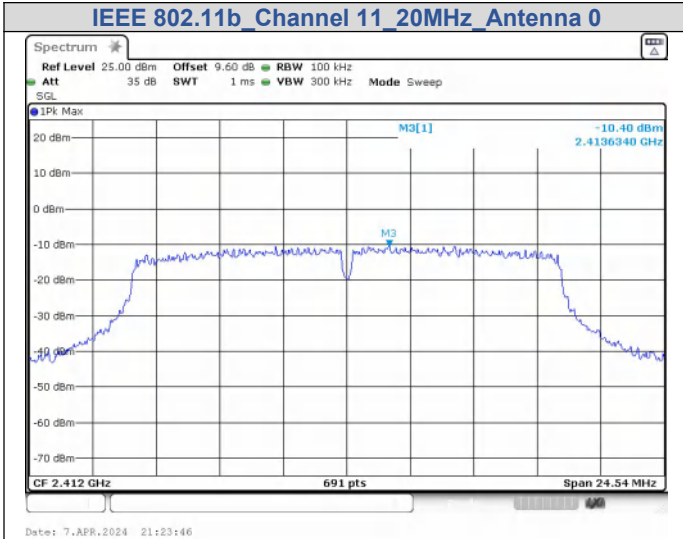
**In-Band Reference Level**  
**IEEE 802.11b\_Channel 11\_20MHz\_Antenna 0**

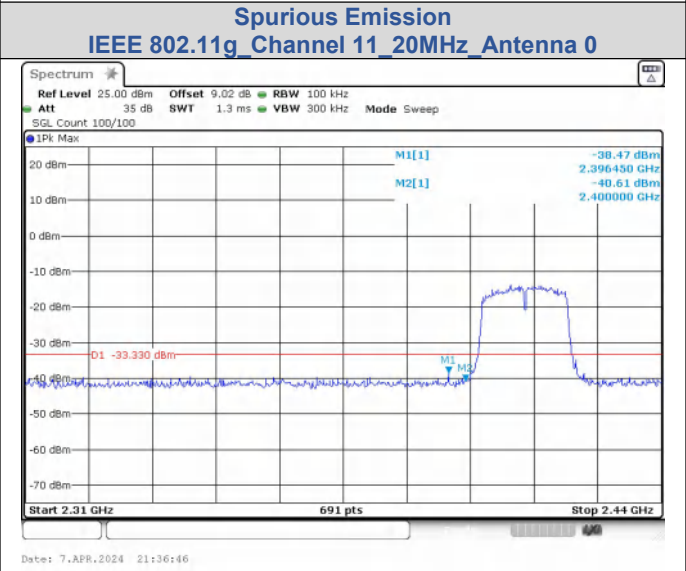
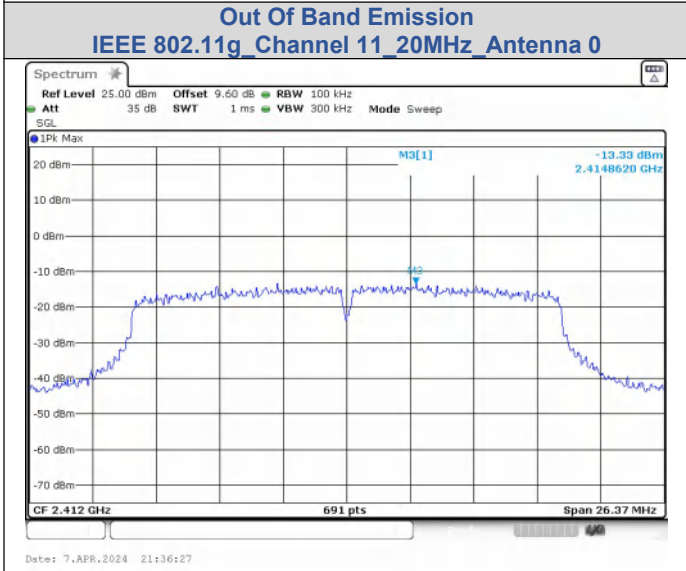
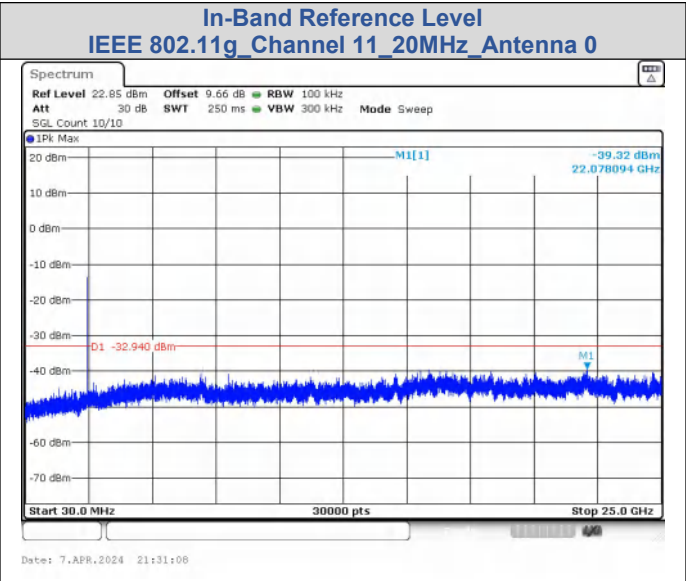
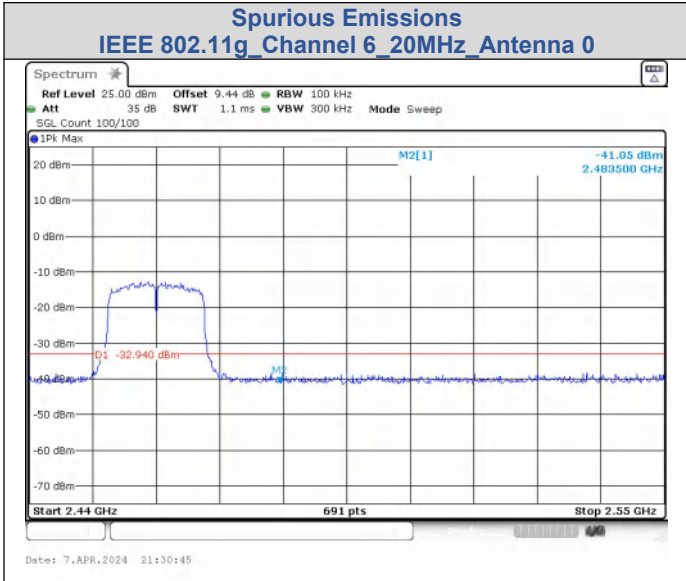


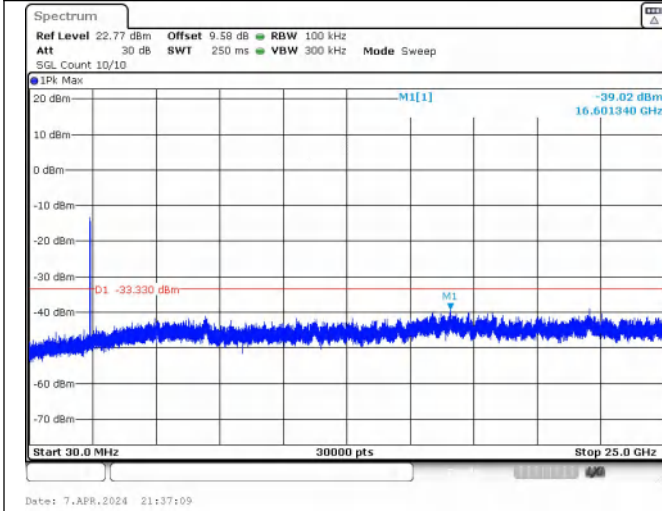
**Out Of Band Emission**



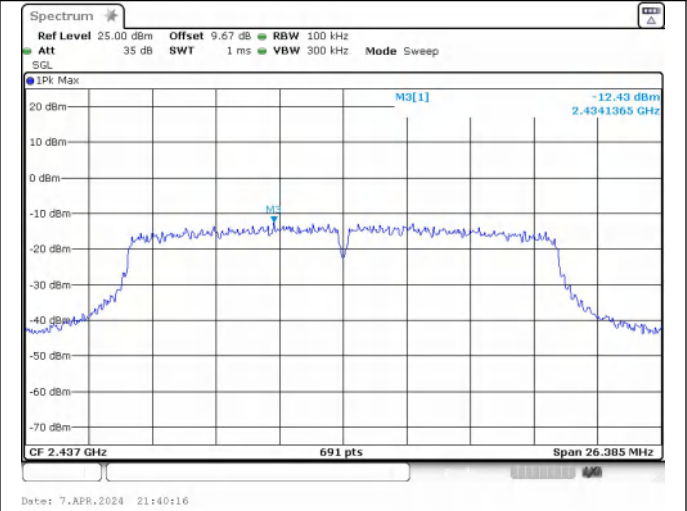
**Spurious Emission**



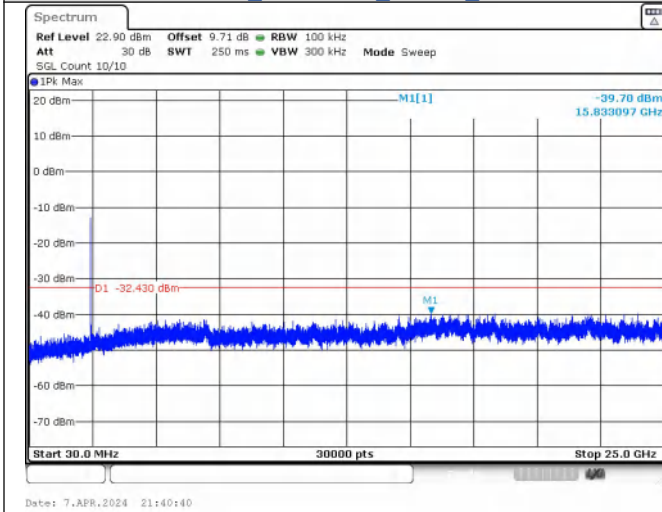




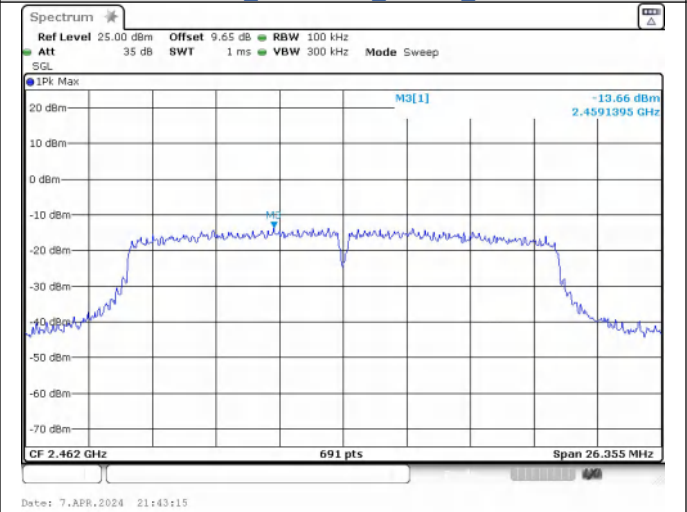
**Spurious Emission**  
IEEE 802.11n\_Channel 1\_20MHz\_Antenna 0



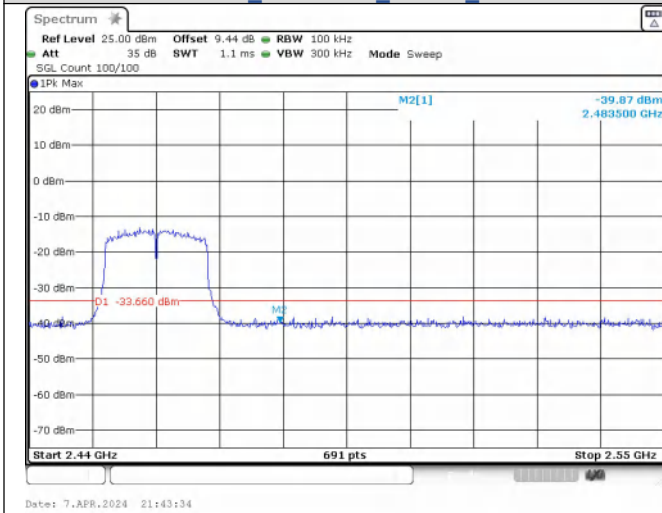
**In-Band Reference Level**  
IEEE 802.11n\_Channel 6\_20MHz\_Antenna 0



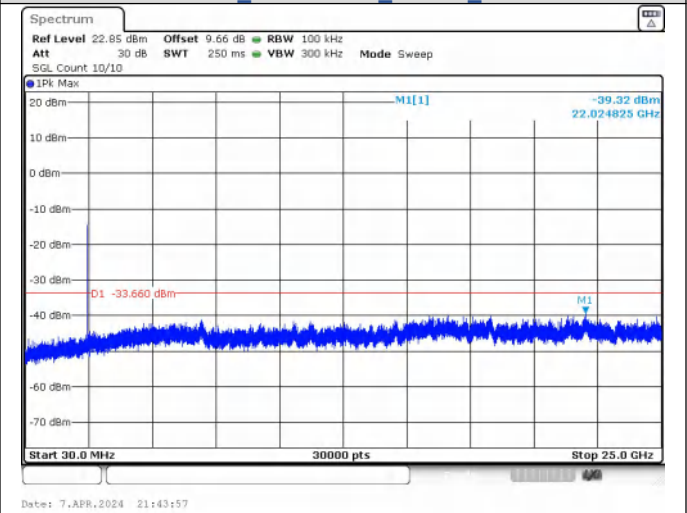
**Spurious Emissions**  
IEEE 802.11n\_Channel 6\_20MHz\_Antenna 0



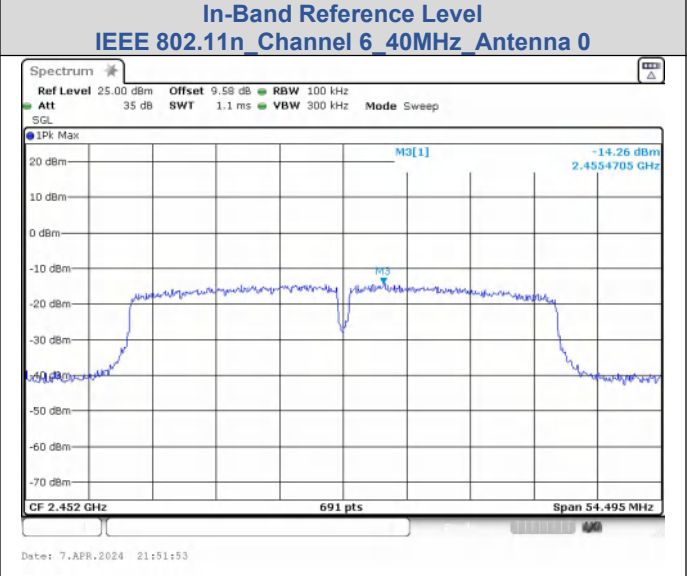
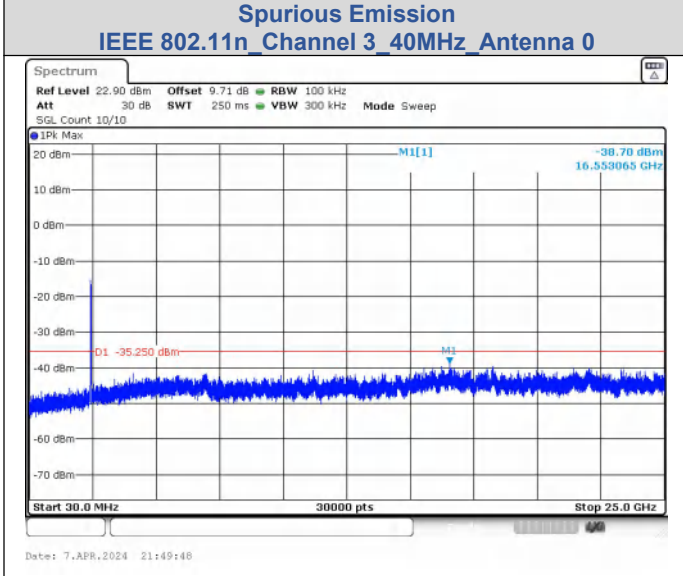
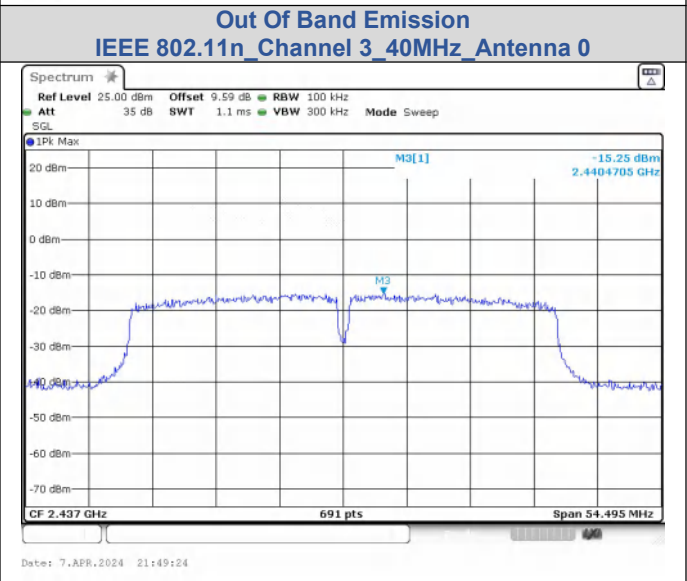
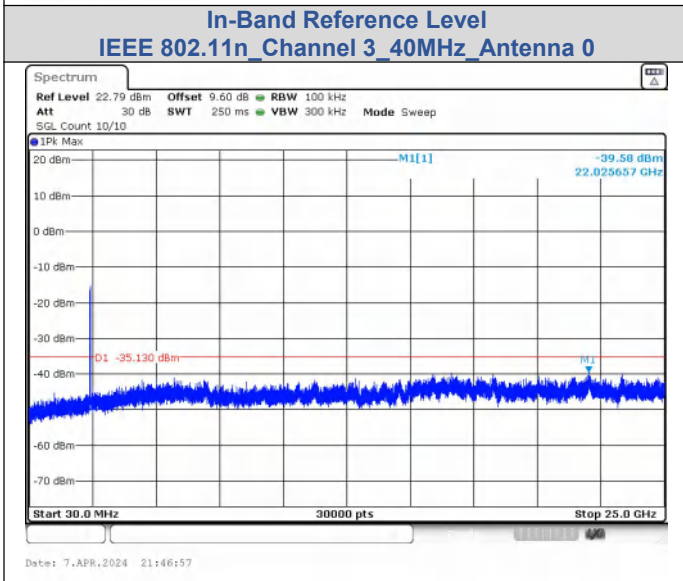
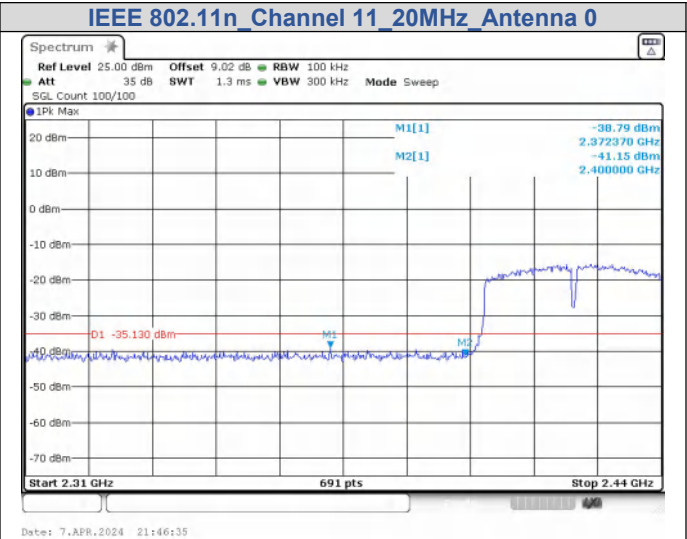
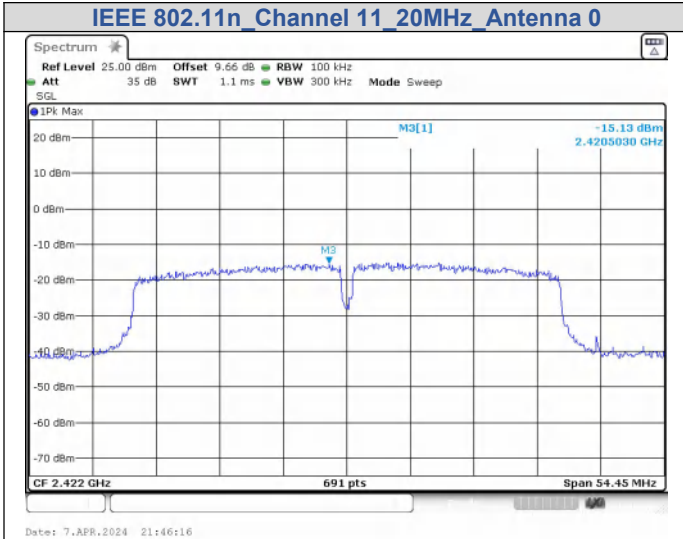
**In-Band Reference Level**  
IEEE 802.11n\_Channel 11\_20MHz\_Antenna 0

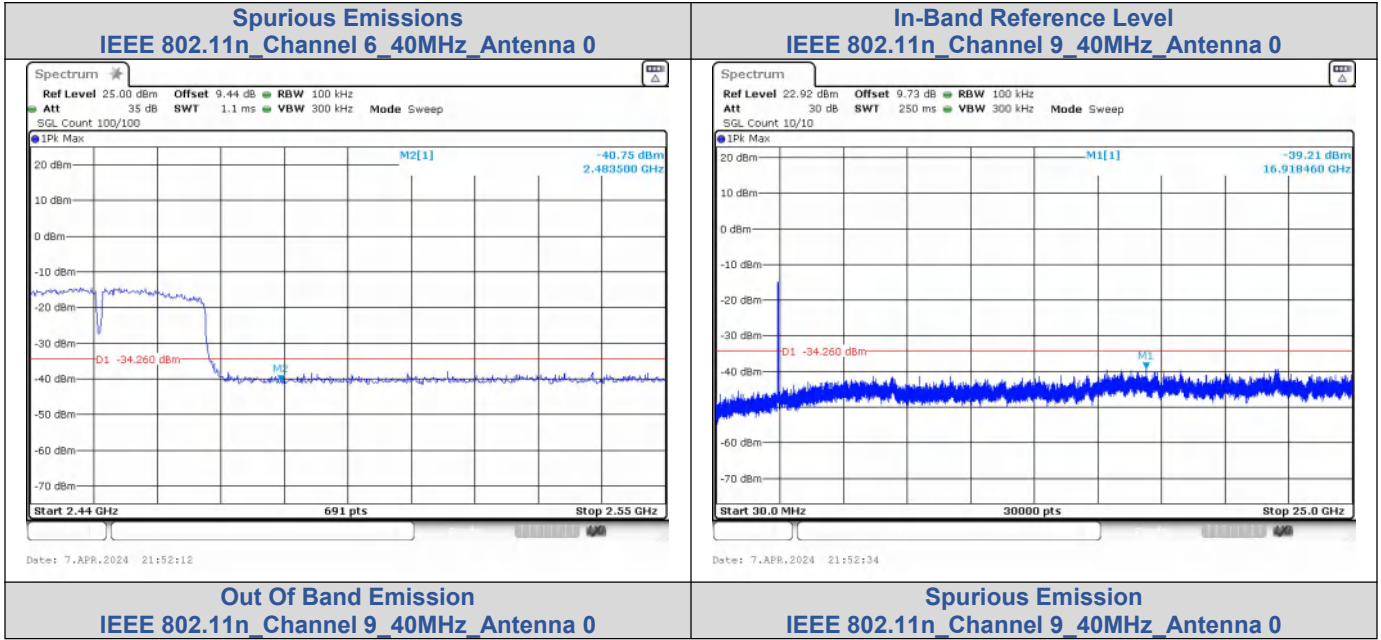


**Out Of Band Emission**



**Spurious Emission**



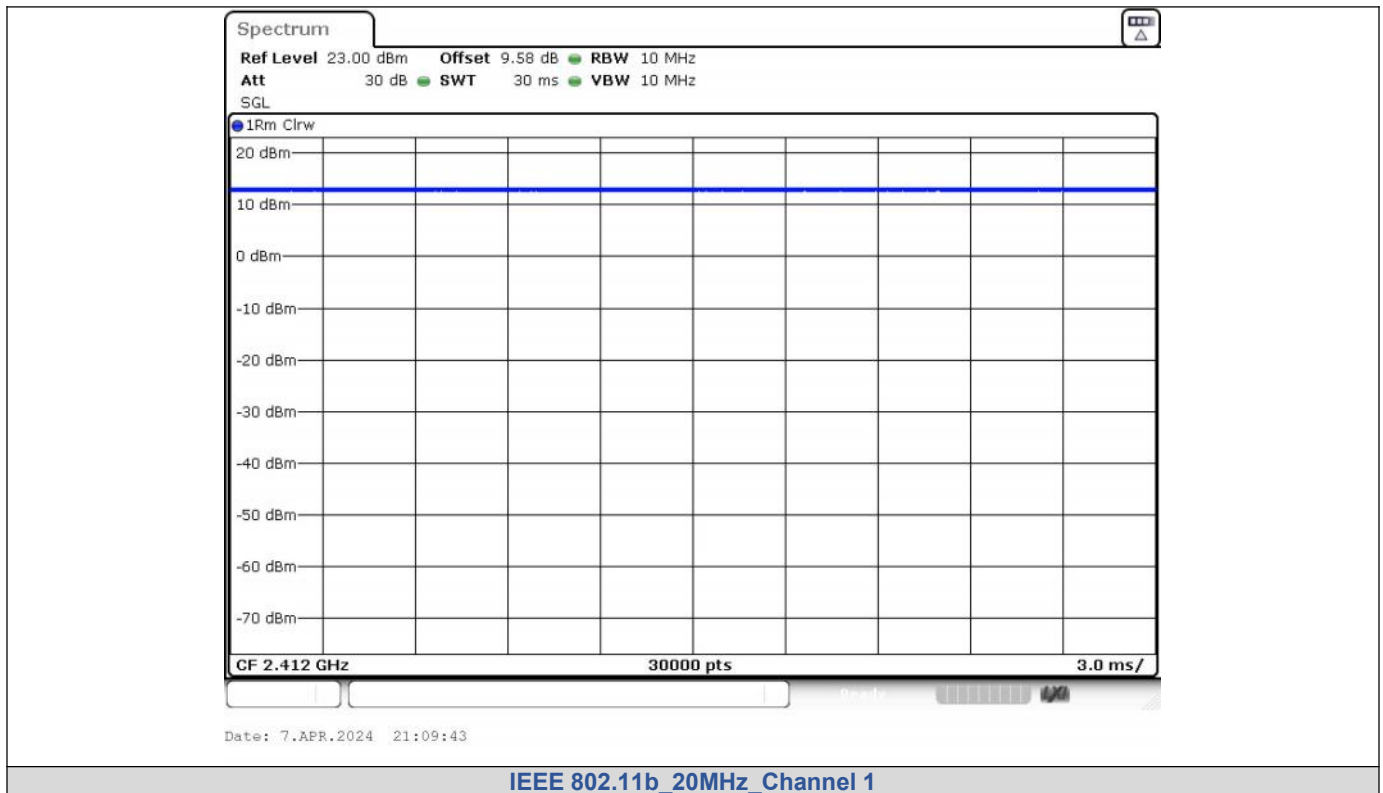


### Duty Cycle

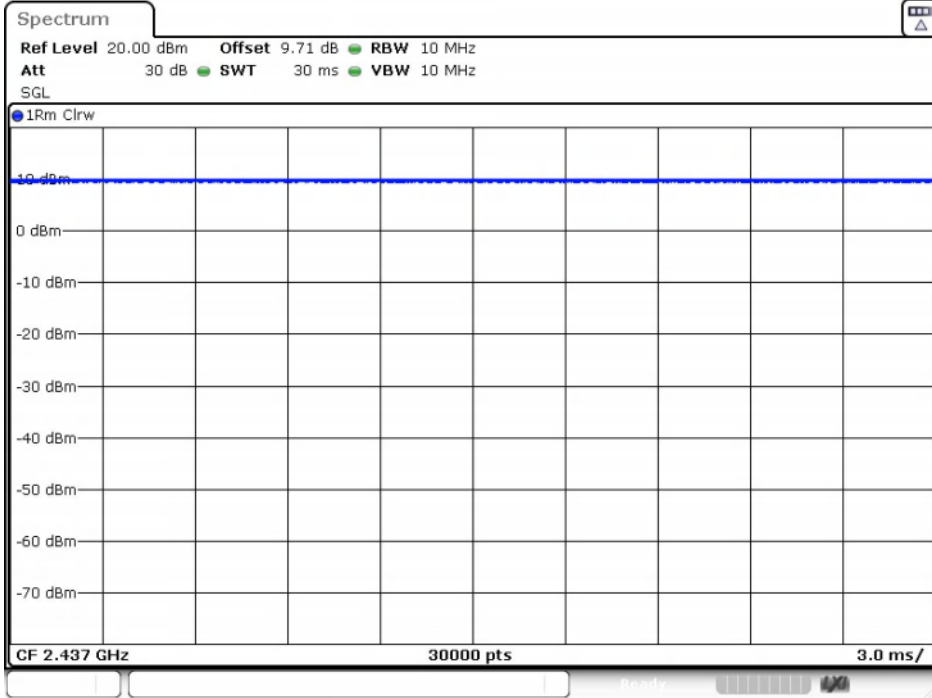
#### Test Result

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	30.000	30.000	100	1	0.0	0.01		
		6		30.000	30.000	100	1	0.0	0.01		
		11		30.000	30.000	100	1	0.0	0.01		
IEEE 802.11g		1		10.000	10.000	100	1	0.0	0.01		
		6		10.000	10.000	100	1	0.0	0.01		
		11		10.000	10.000	100	1	0.0	0.01		
IEEE 802.11n_20		MCS 0		1	1	10.000	10.000	100	1	0.0	0.01
				6		10.000	10.000	100	1	0.0	0.01
				11		10.000	10.000	100	1	0.0	0.01
IEEE 802.11n_40	3		10.000	10.000		100	1	0.0	0.01		
	6		10.000	10.000		100	1	0.0	0.01		
	9		10.000	10.000		100	1	0.0	0.01		

#### Test Graphs

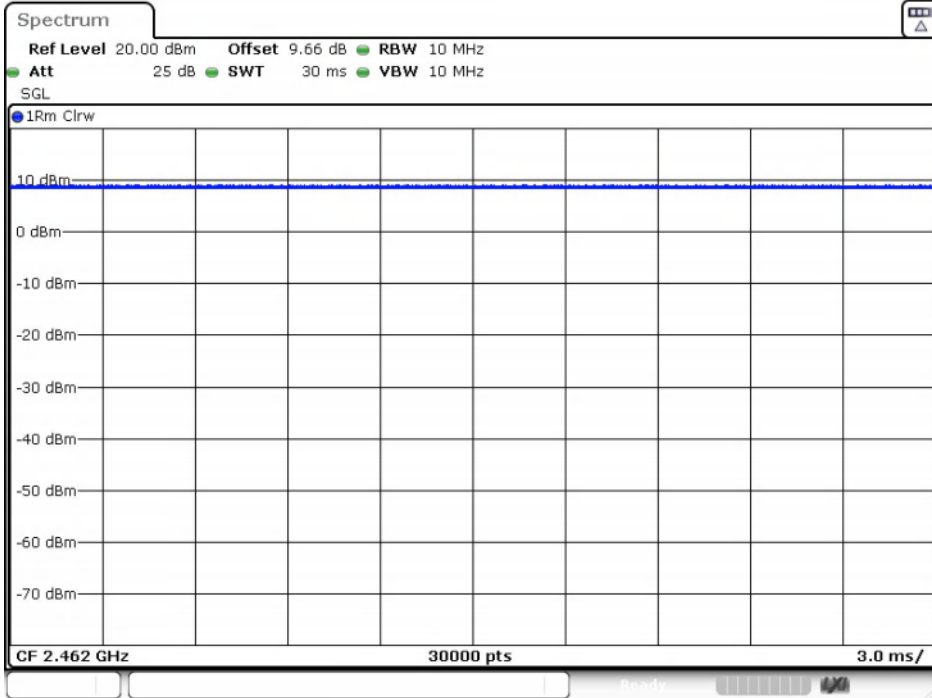






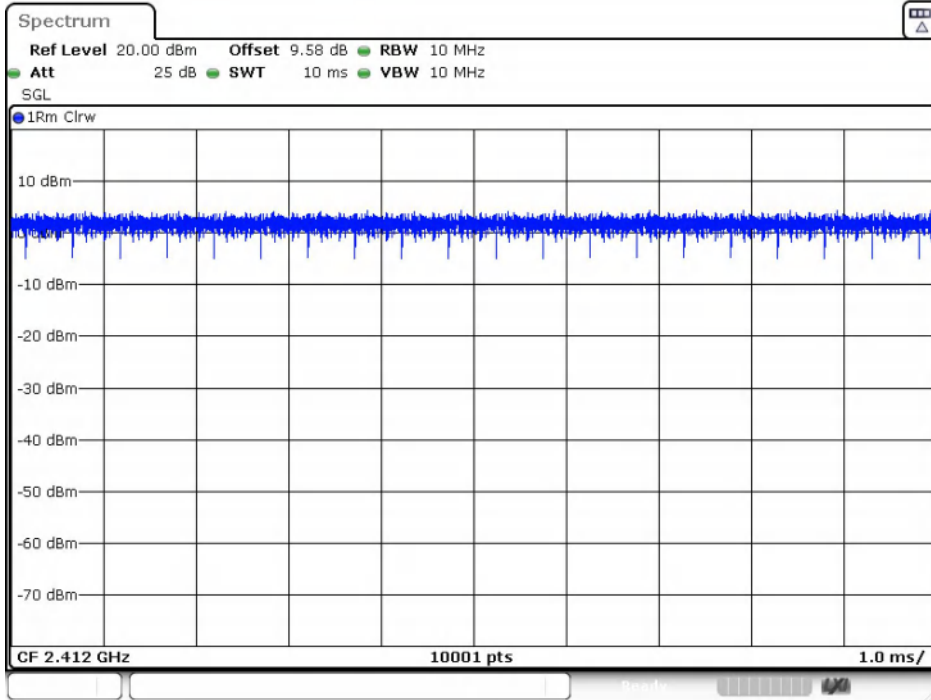
Date: 7.APR.2024 21:14:06

**IEEE 802.11b\_20MHz\_Channel 6**



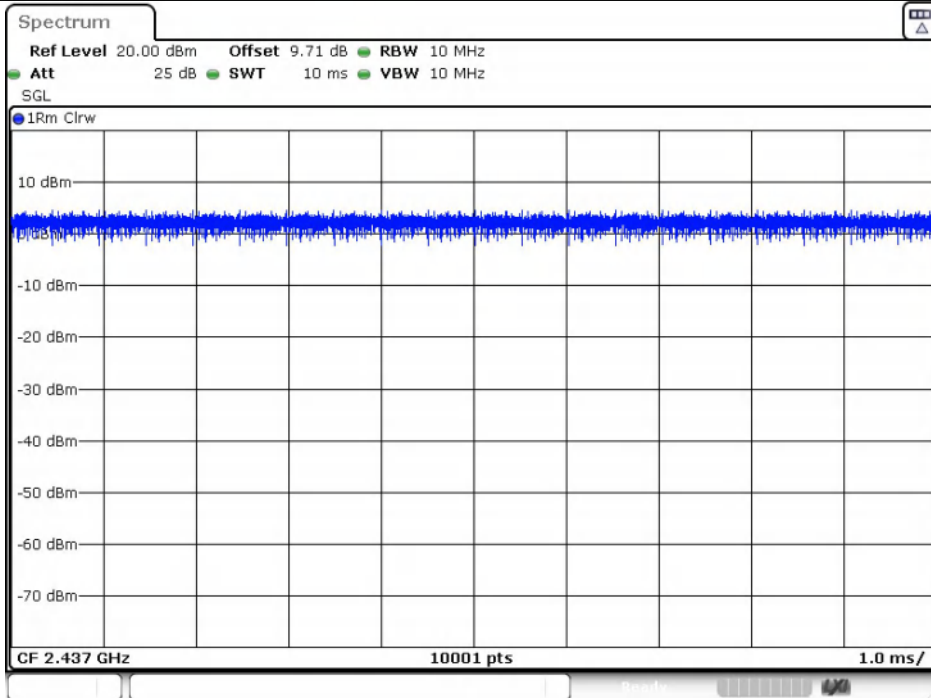
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**IEEE 802.11b\_20MHz\_Channel 11**



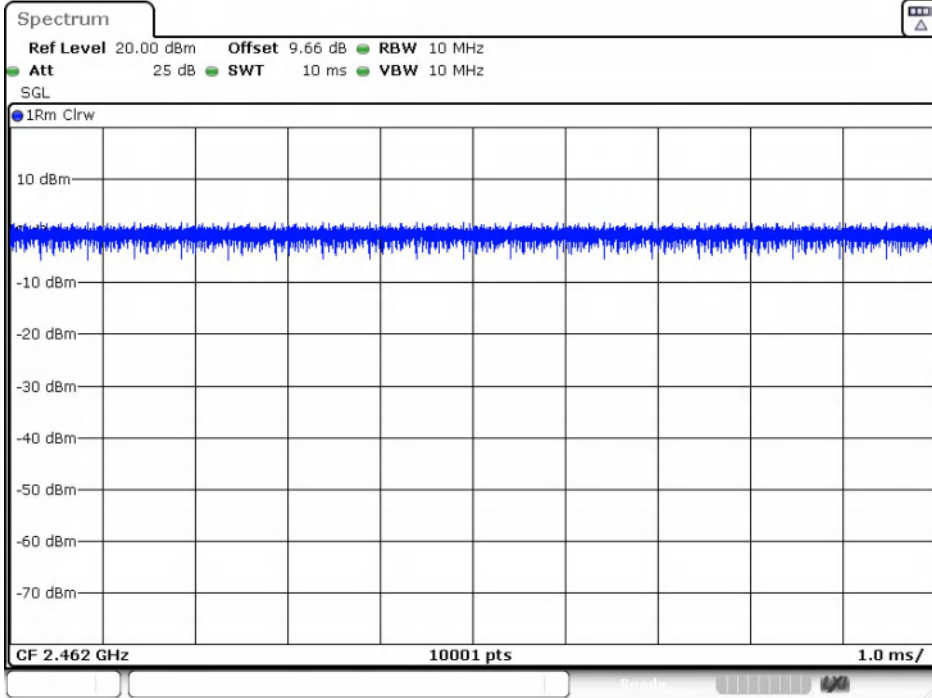
Date: 7.APR.2024 21:22:18

**IEEE 802.11g\_20MHz\_Channel 1**



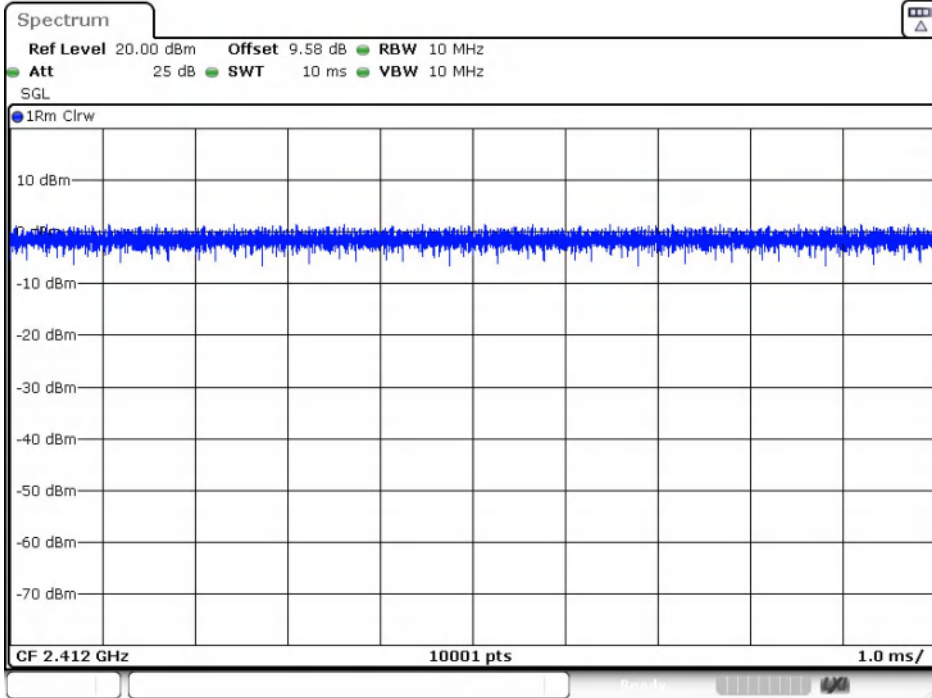
Date: 7.APR.2024 21:25:27

**IEEE 802.11g\_20MHz\_Channel 6**



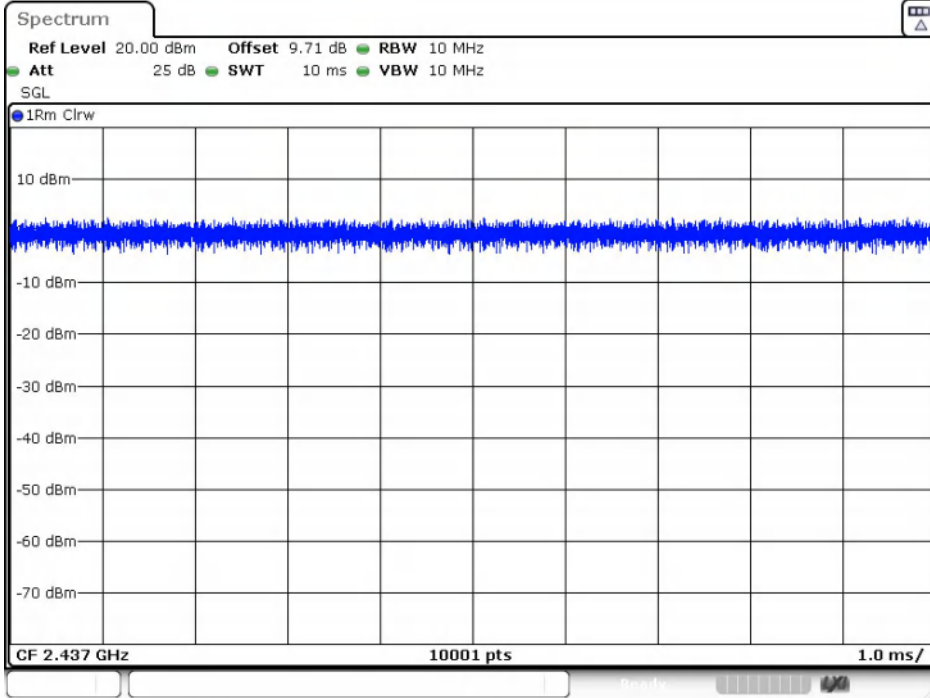
Date: 7.APR.2024 21:28:58

**IEEE 802.11g\_20MHz\_Channel 11**



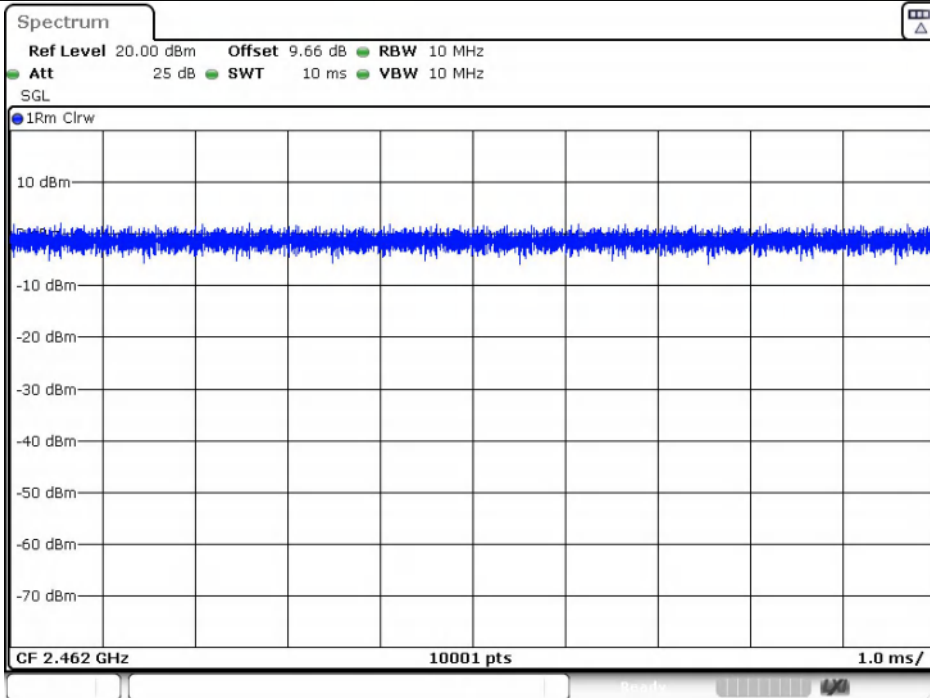
Date: 7.APR.2024 21:34:59

**IEEE 802.11n\_20MHz\_Channel 1**



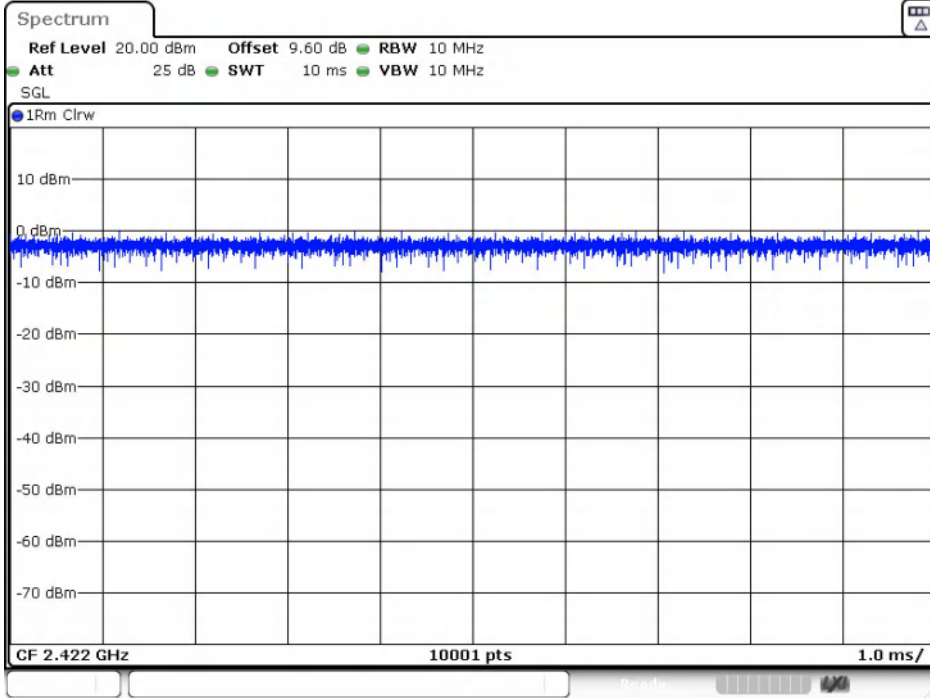
Date: 7.APR.2024 21:38:48

**IEEE 802.11n\_20MHz\_Channel 6**



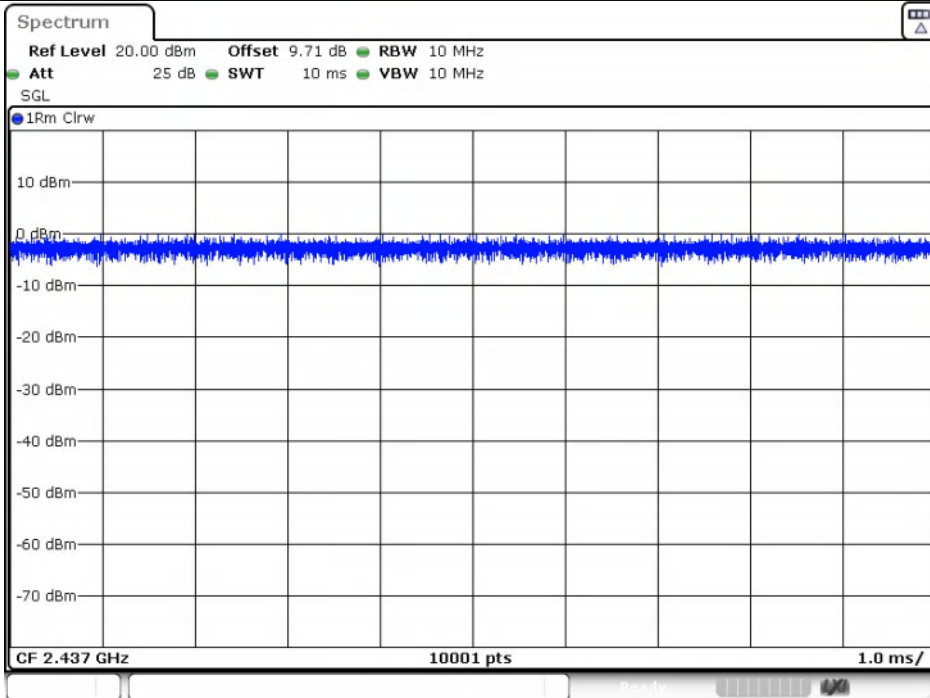
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**IEEE 802.11n\_20MHz\_Channel 11**



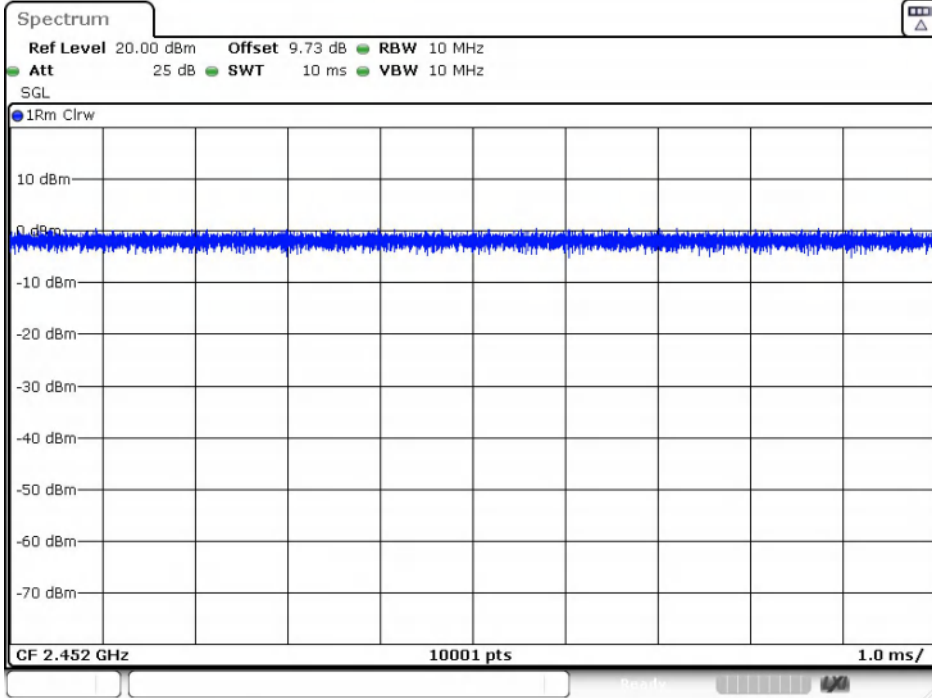
Date: 7.APR.2024 21:44:48

**IEEE 802.11n\_40MHz\_Channel 3**



Date: 7.APR.2024 21:47:56

**IEEE 802.11n\_40MHz\_Channel 6**



Date: 7.APR.2024 21:50:25

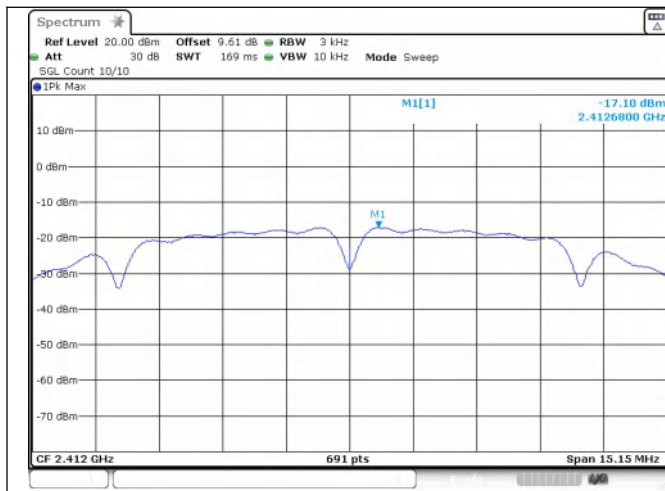
IEEE 802.11n\_40MHz\_Channel 9

## Power Spectral Density

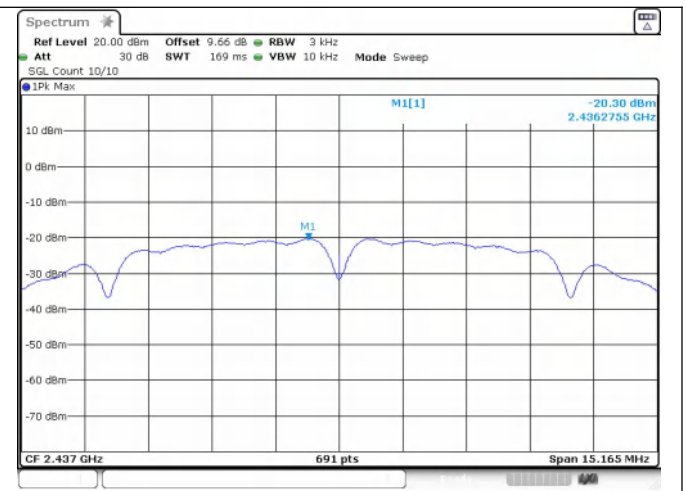
### Test Result

Mode	Channel	PSD (dBm/3kHz) Ant. 0	Limit (dBm/3kHz)	Result
IEEE 802.11b	1	-17.097	8	PASS
	6	-20.305		PASS
	11	-21.312		PASS
IEEE 802.11g	1	-24.785		PASS
	6	-24.243		PASS
	11	-27.209		PASS
IEEE 802.11n_20	1	-27.047		PASS
	6	-26.407		PASS
	11	-27.242		PASS
IEEE 802.11n_40	3	-26.997		PASS
	6	-26.582		PASS
	9	-26.813	PASS	

### Test Graphs



IEEE 802.11b\_Channel 1\_20MHz\_Antenna 0



IEEE 802.11b\_Channel 6\_20MHz\_Antenna 0

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Date: 7.APR.2024 21:15:19

