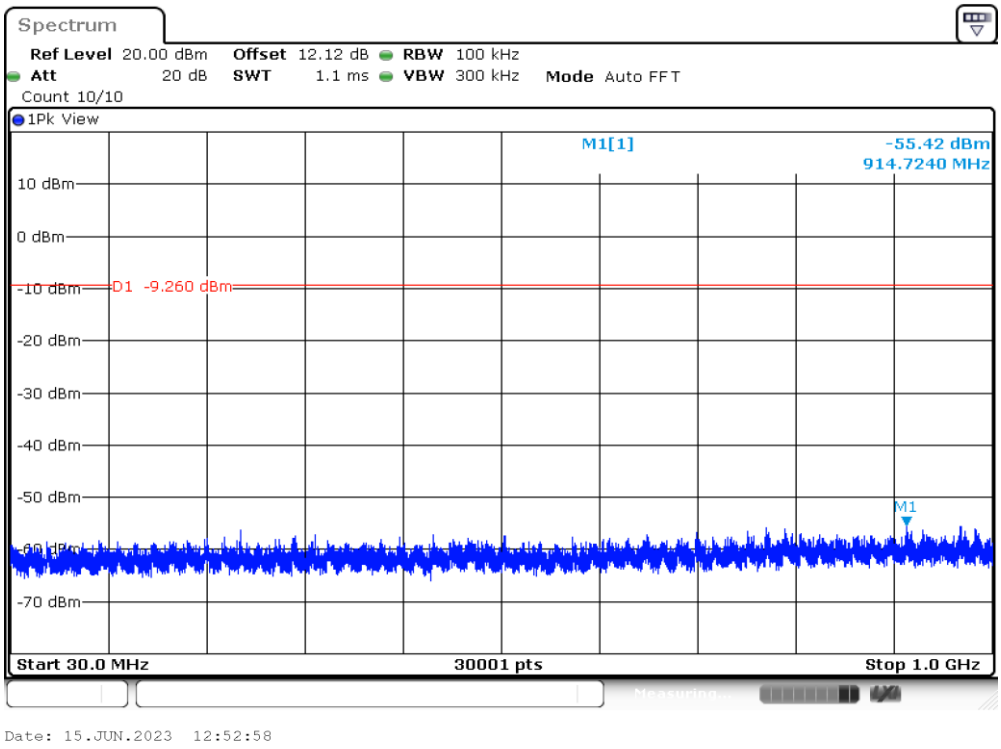
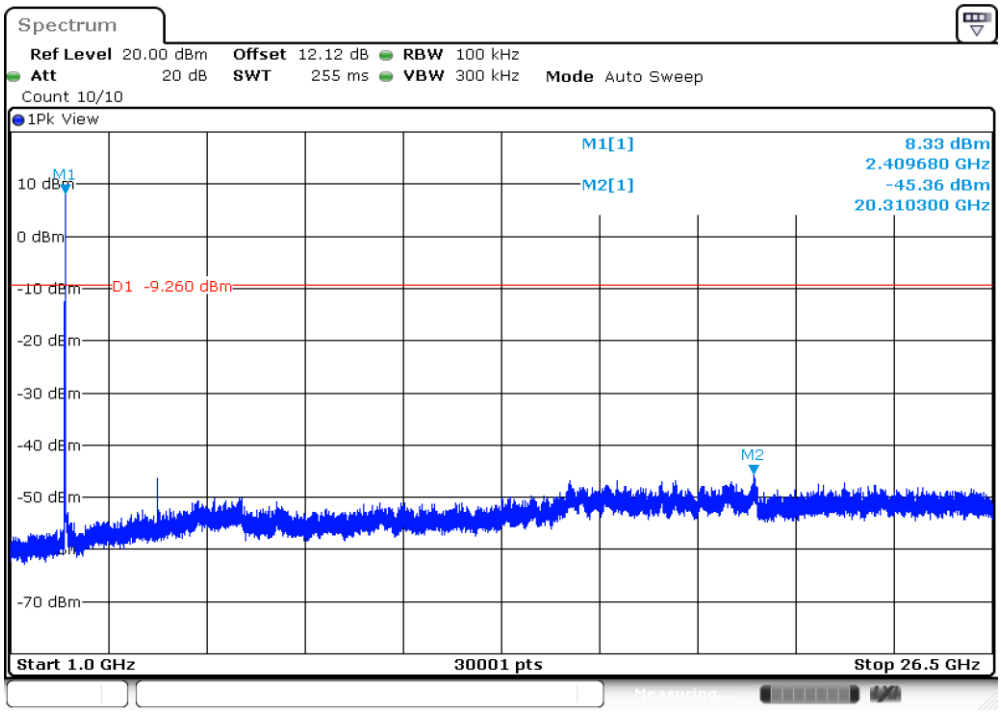
Test Graphs

11B_Ant6_2412_30~1000



11B_Ant6_2412_1000~26500



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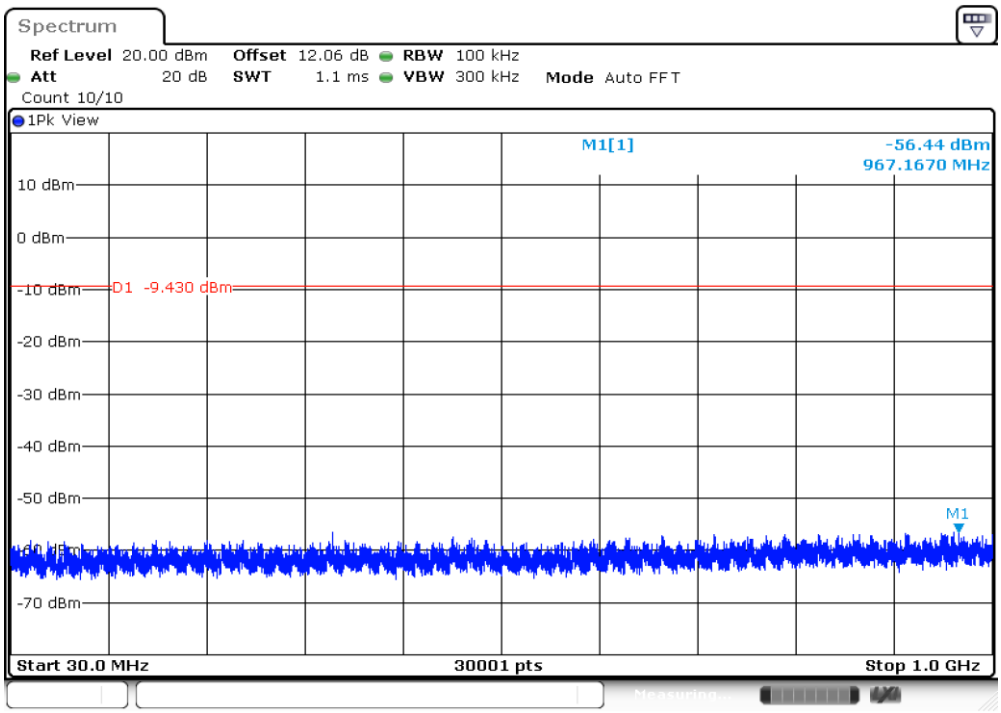
11B_Ant6_2437_30~1000



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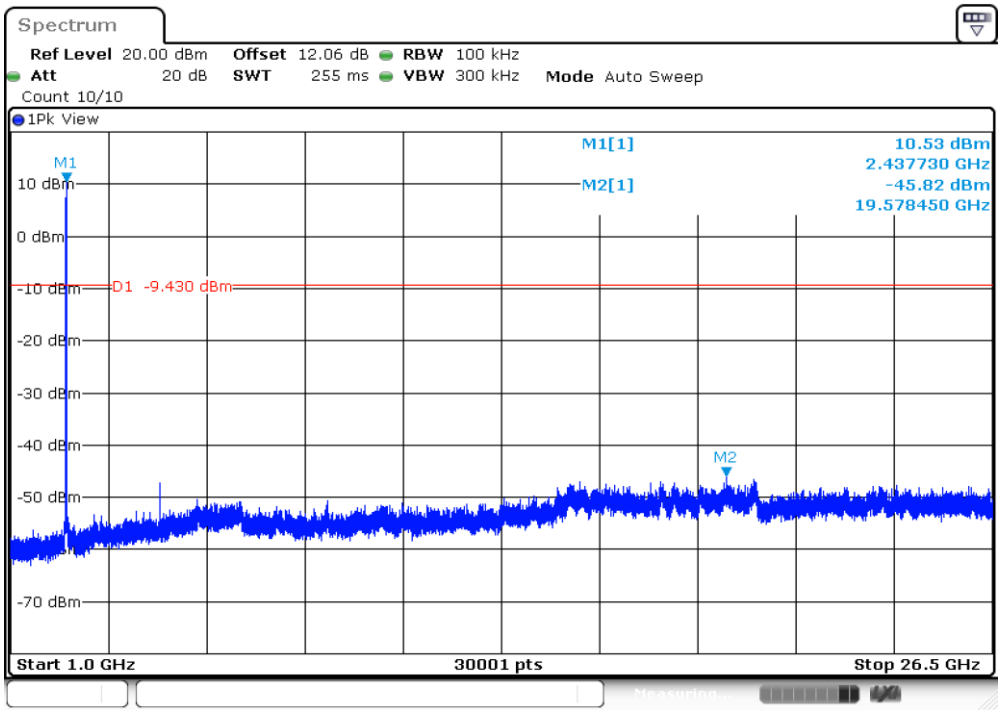
11B_Ant6_2437_1000~26500



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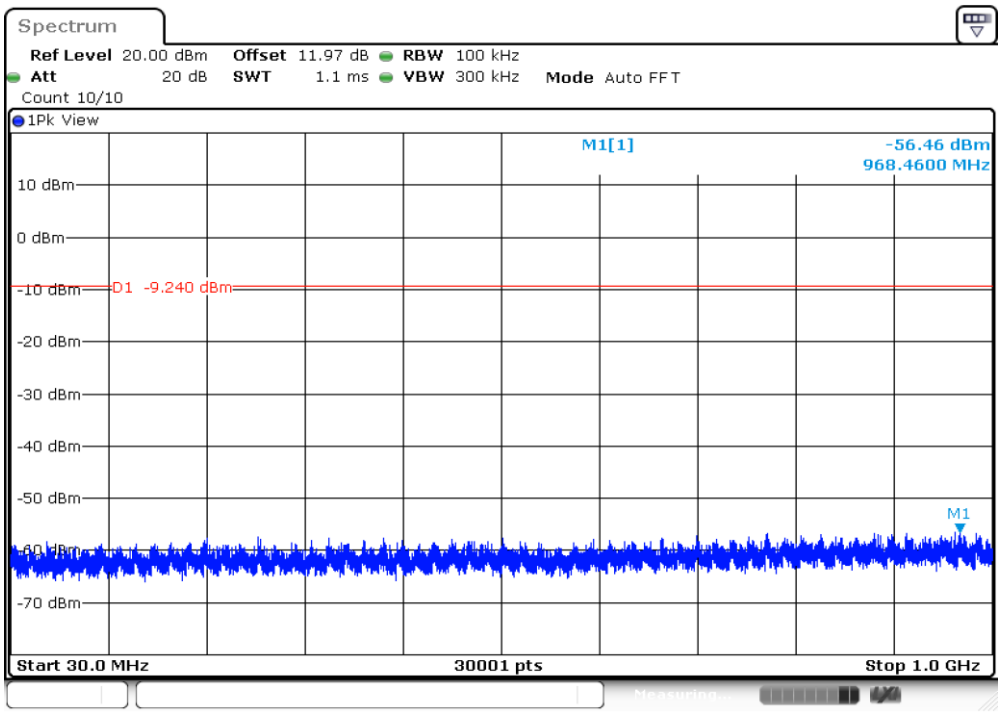
11B_Ant6_2462_30~1000



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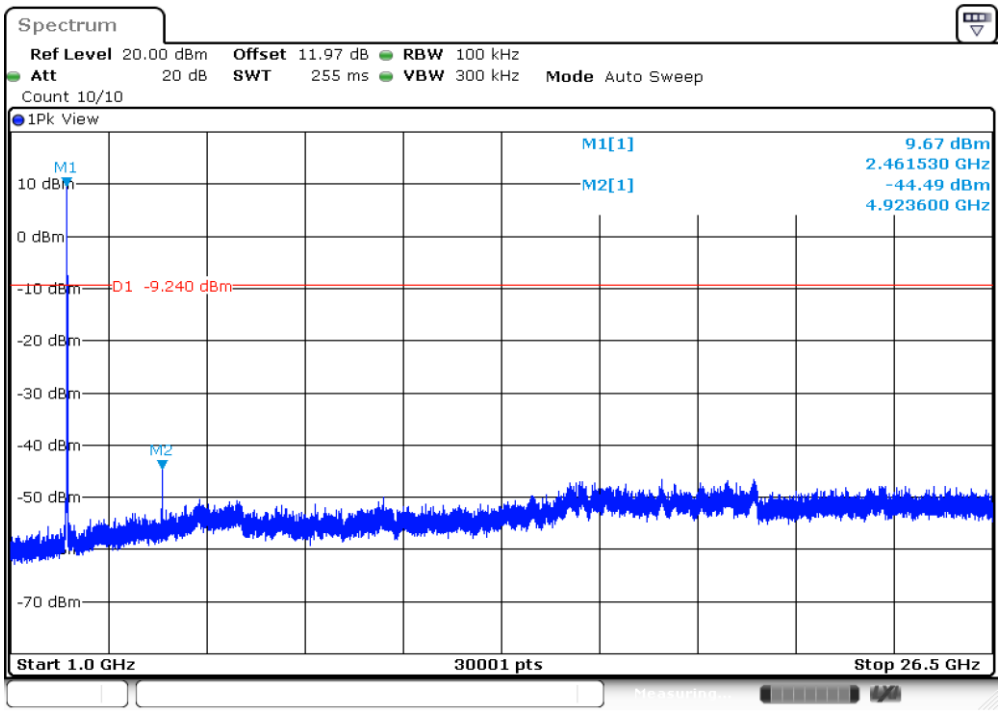
11B_Ant6_2462_1000~26500



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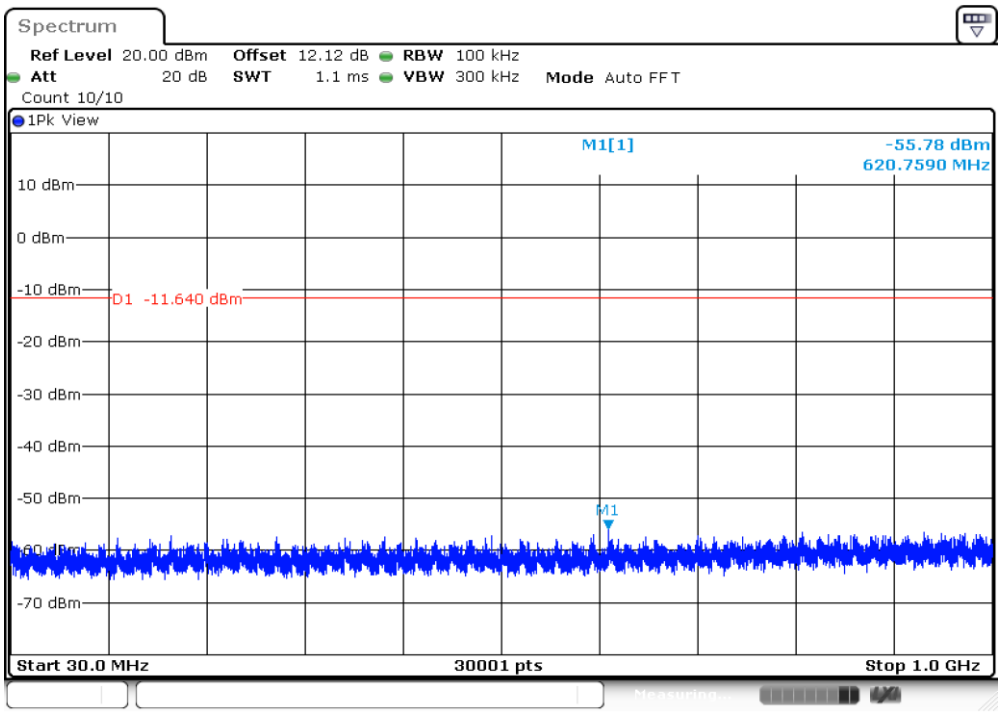
11G_Ant6_2412_30~1000



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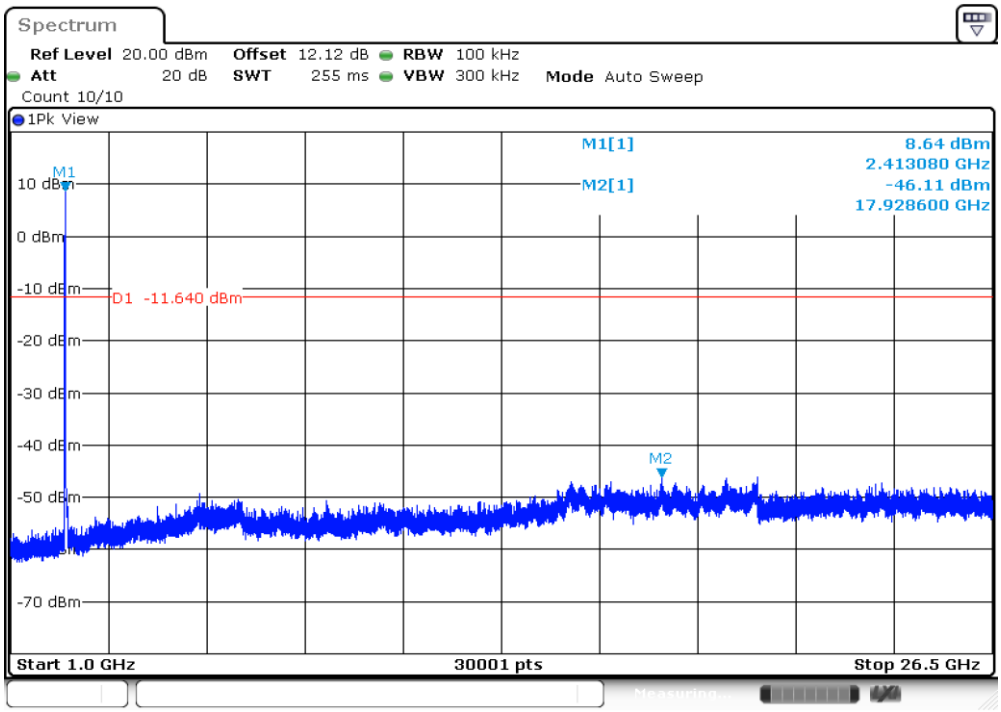

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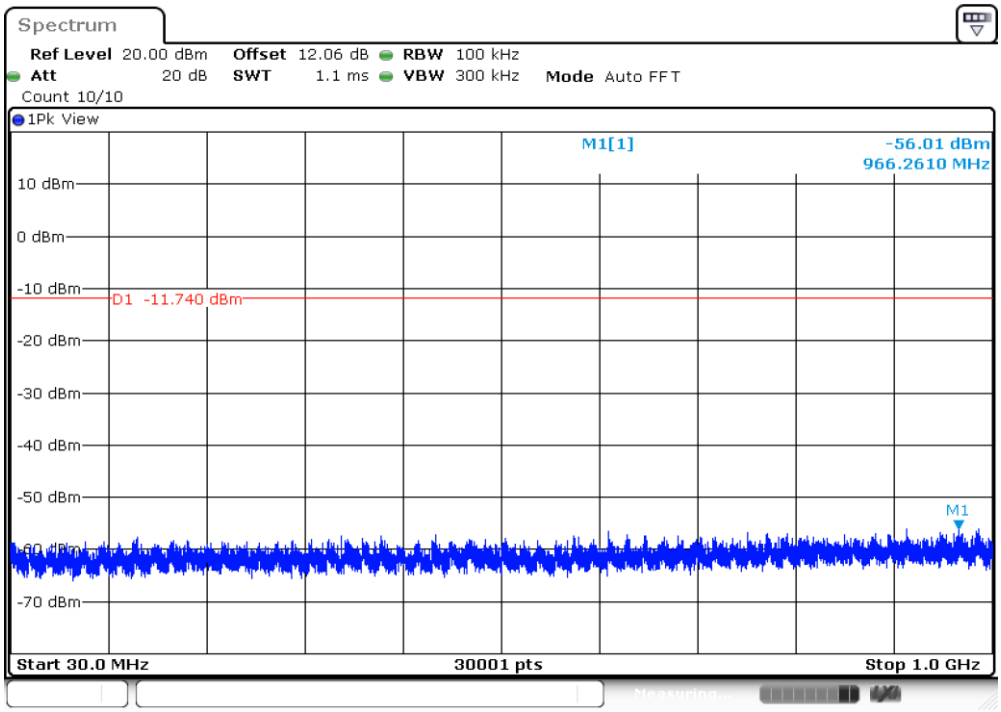
11G_Ant6_2437_30~1000



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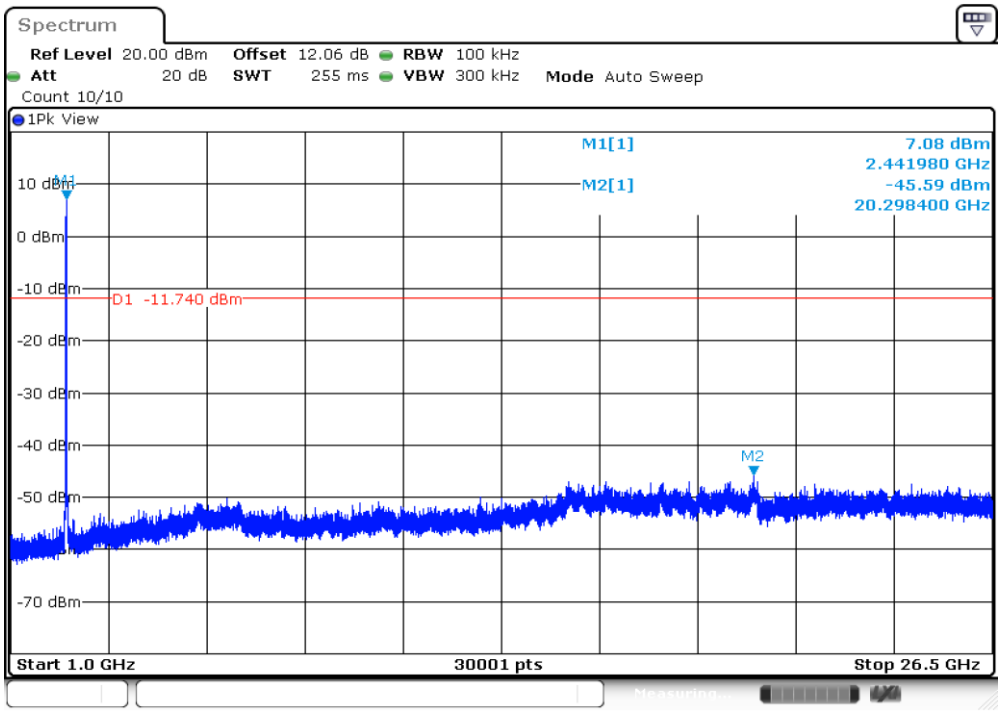
11G_Ant6_2437_1000~26500



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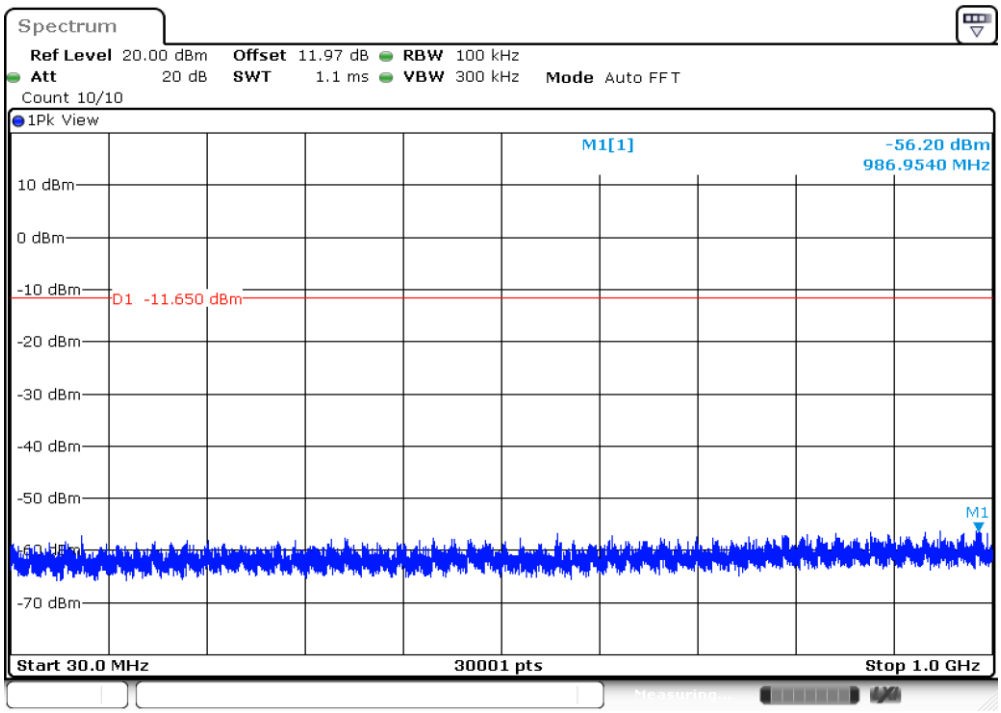
11G_Ant6_2462_30~1000



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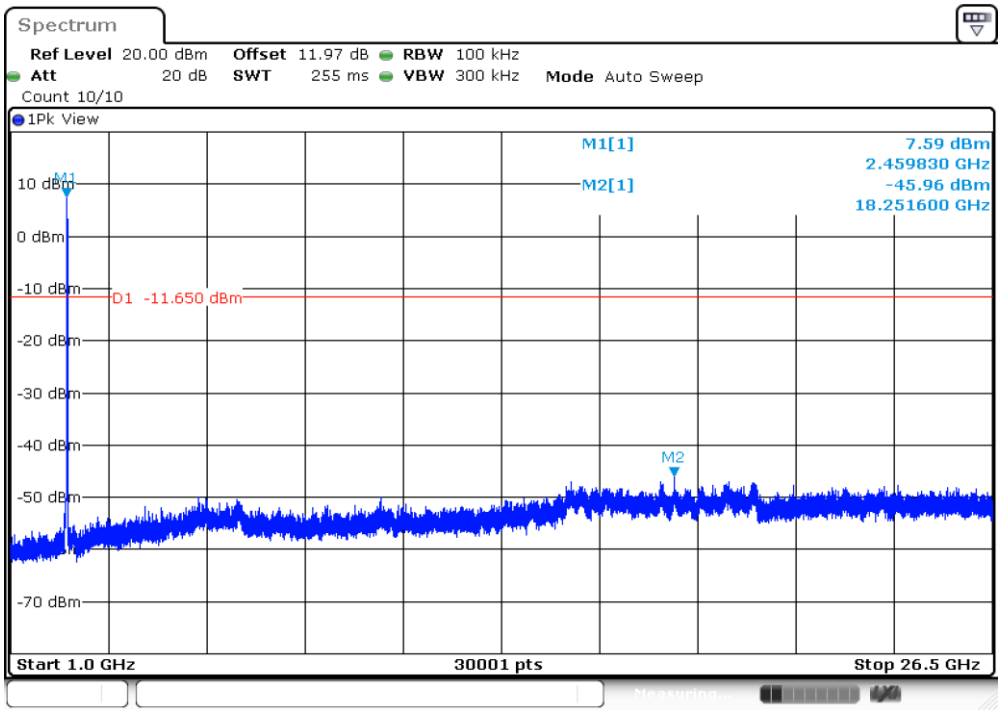
11G_Ant6_2462_1000~26500



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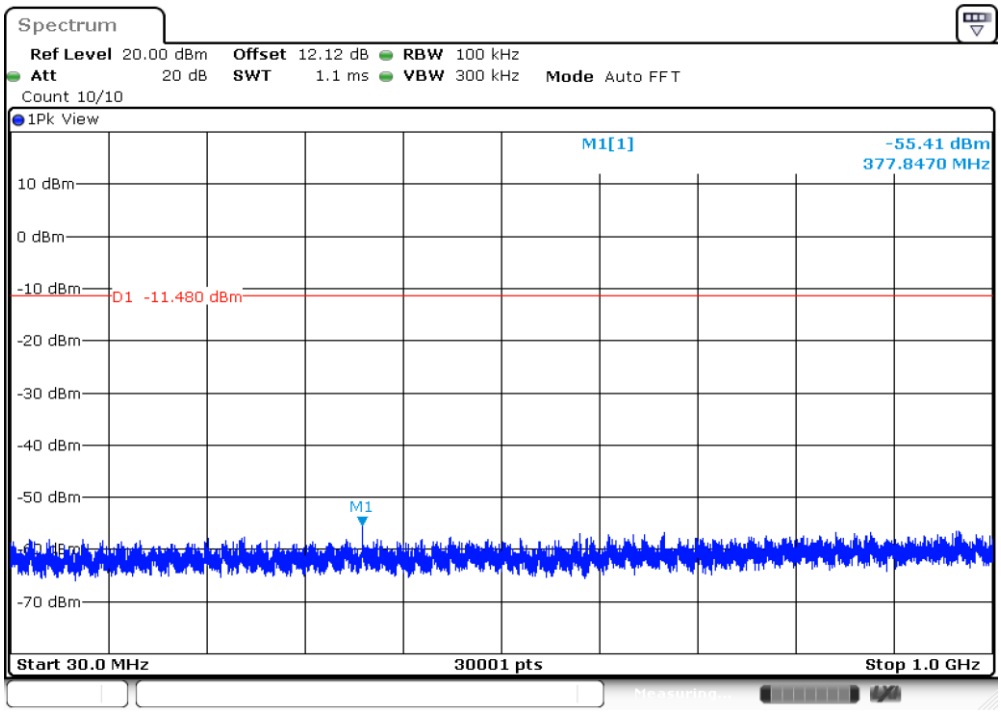
11AC20SISO_Ant6_2412_30~1000



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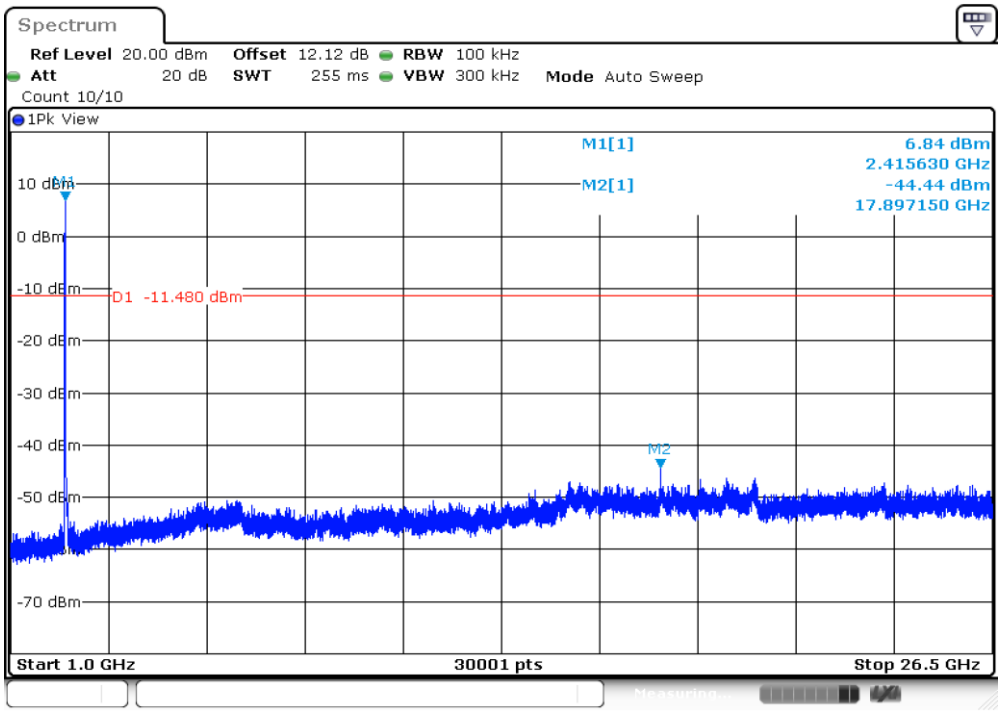

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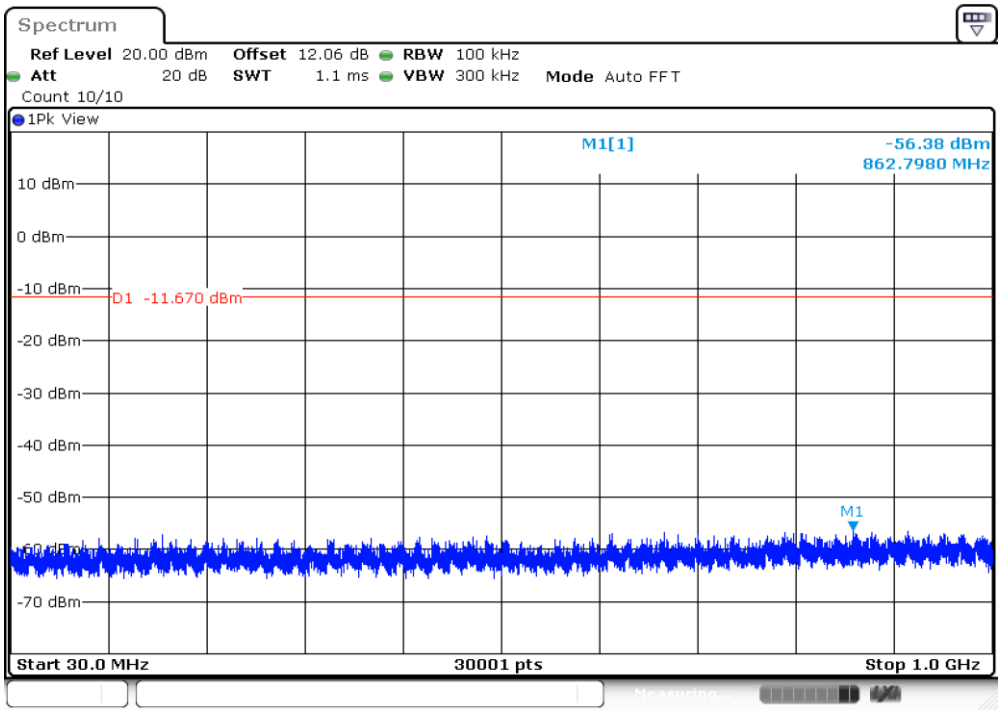
11AC20SISO_Ant6_2437_30~1000



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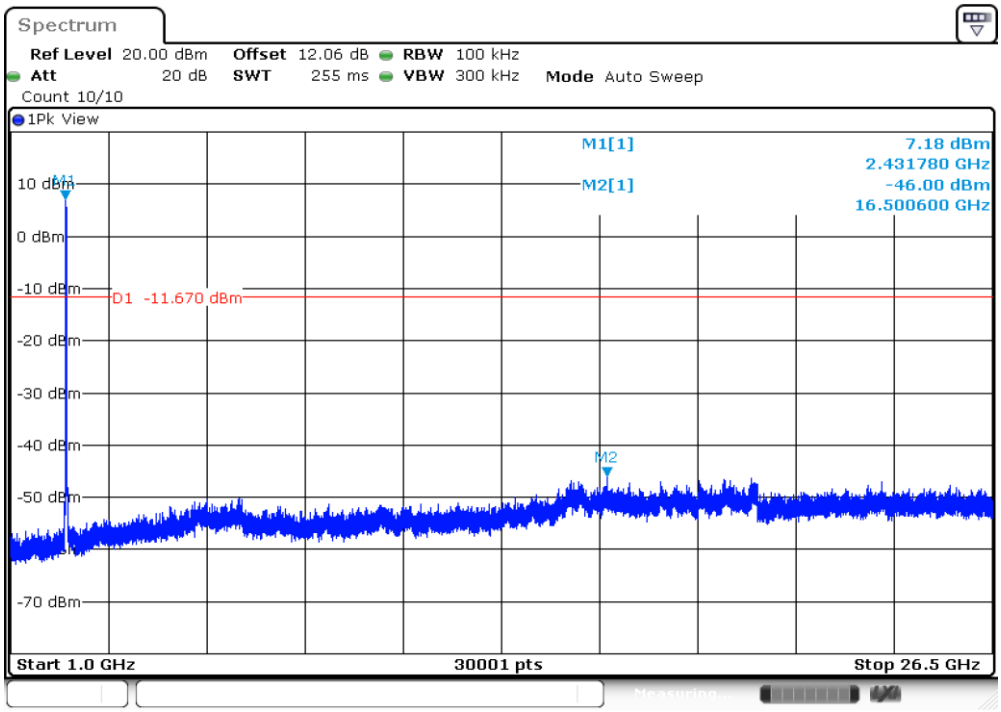

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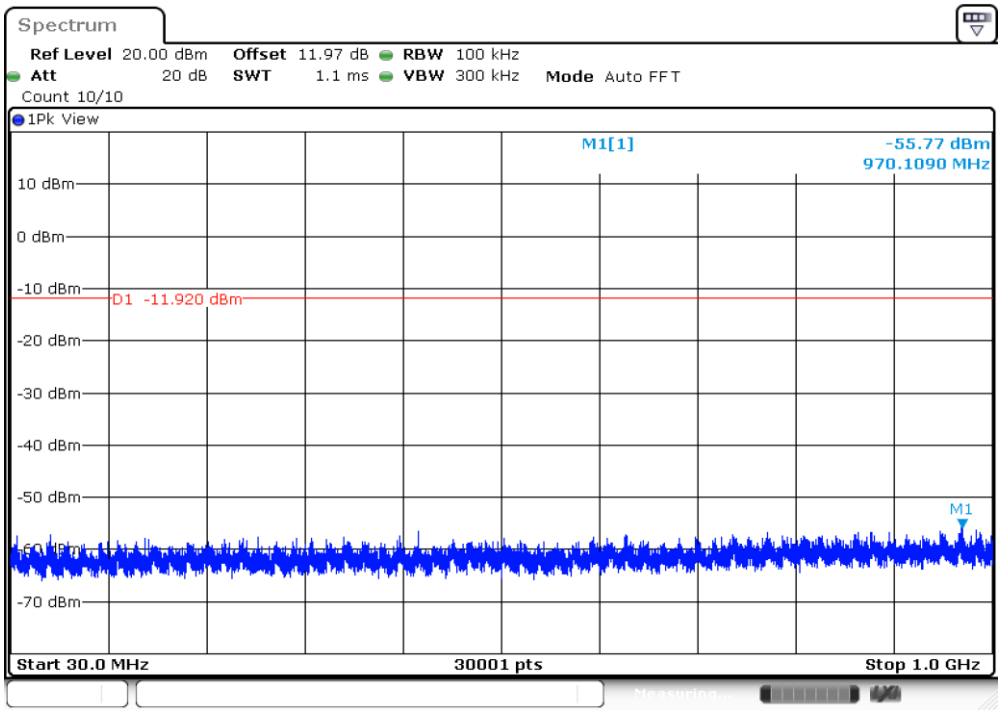

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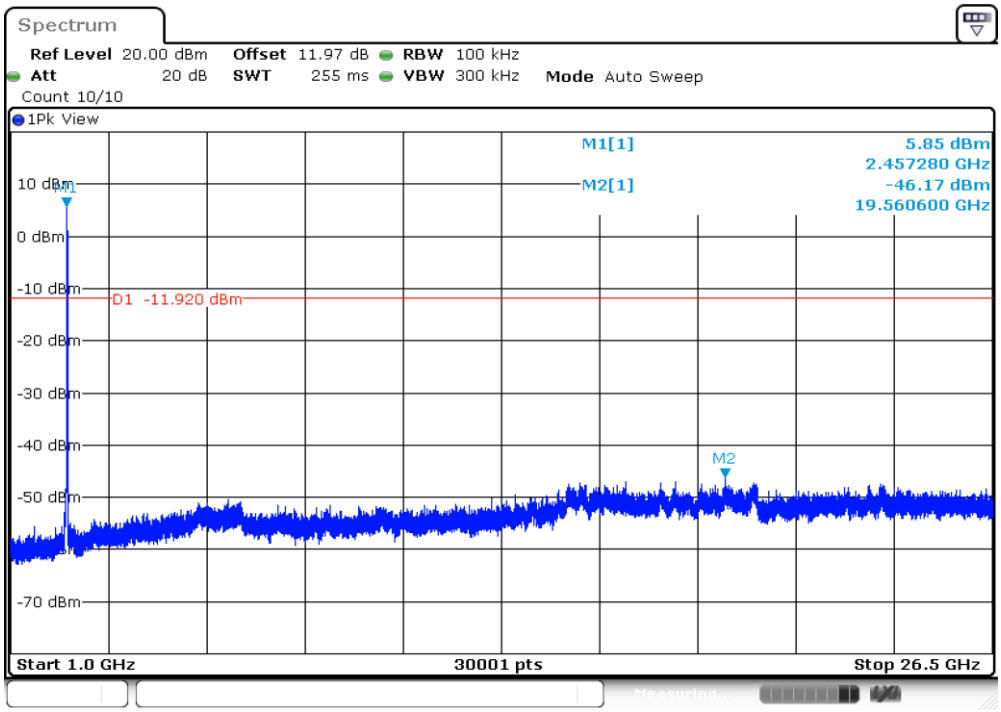

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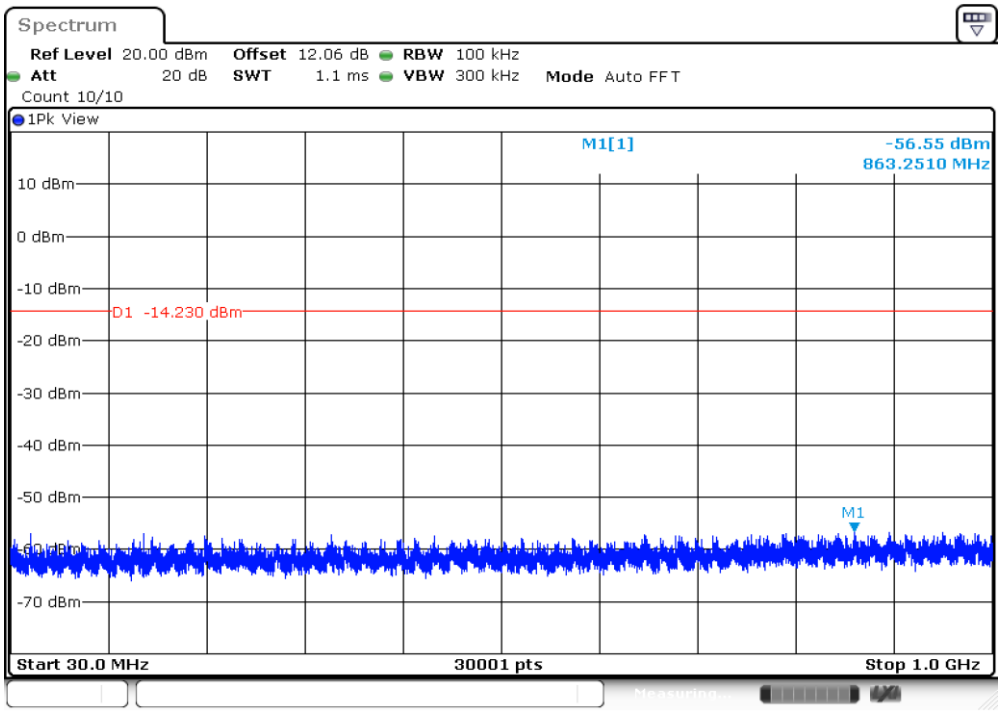

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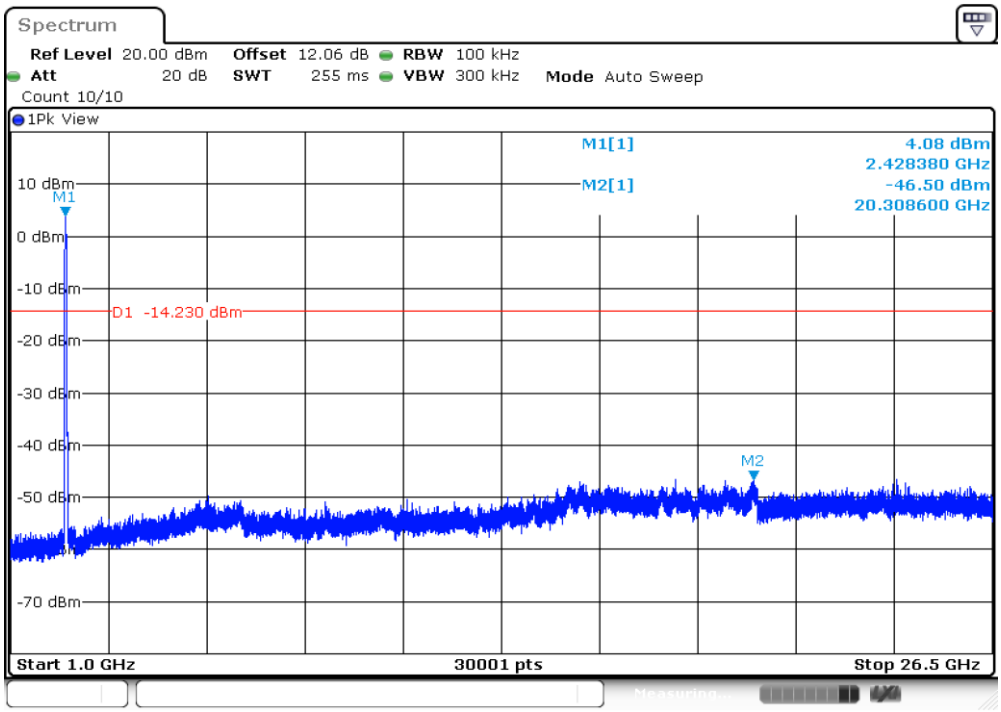

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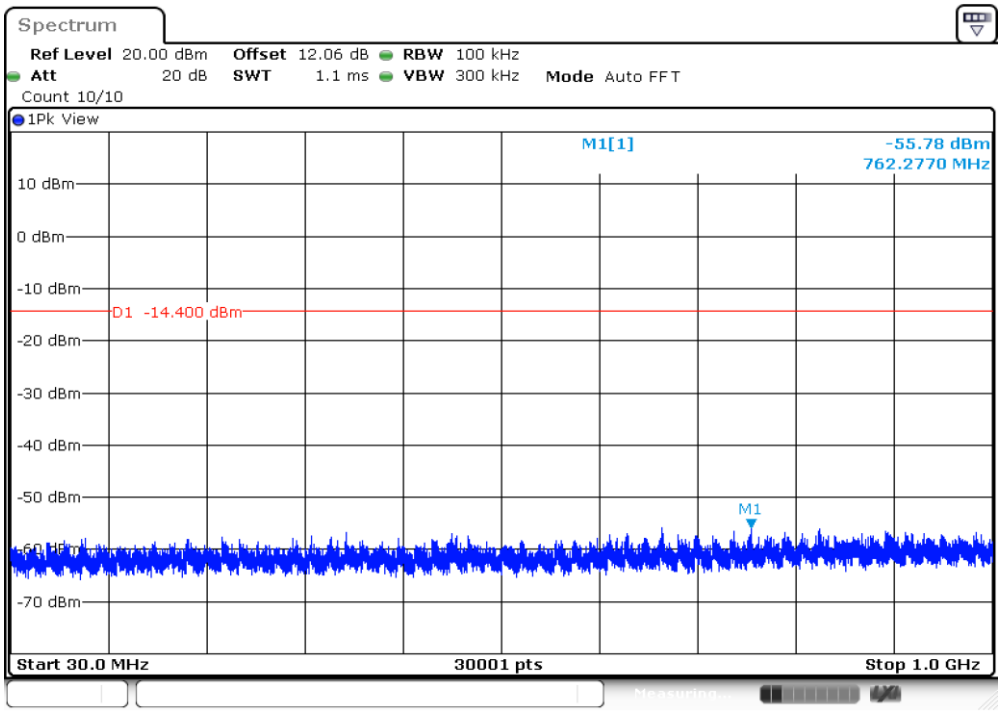
11AC40SISO_Ant6_2437_30~1000



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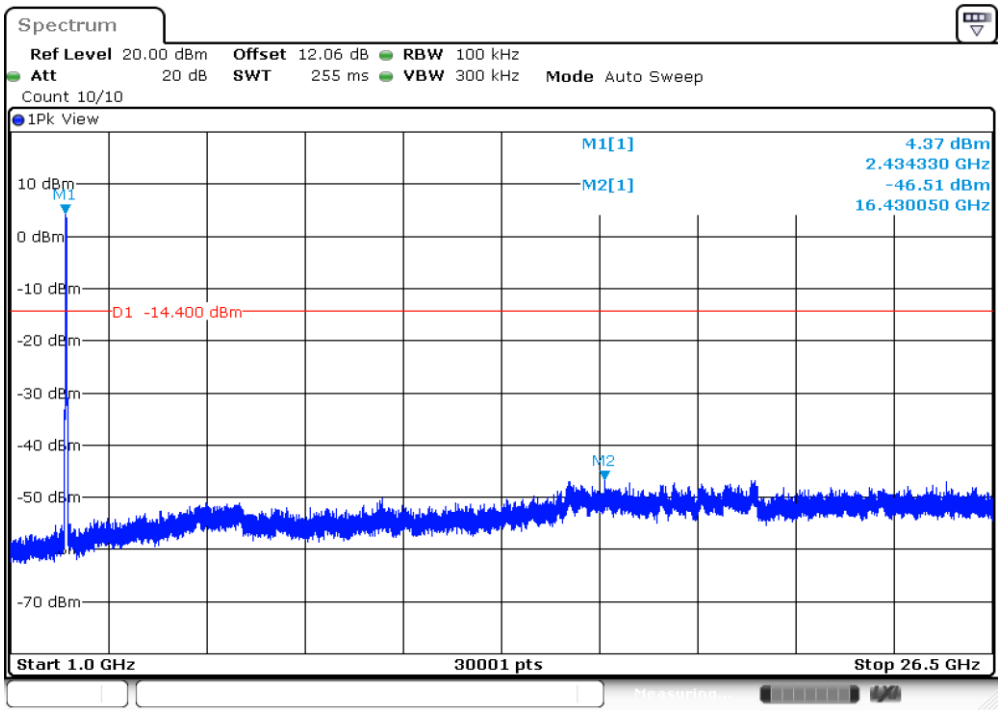
11AC40SISO_Ant6_2437_1000~26500



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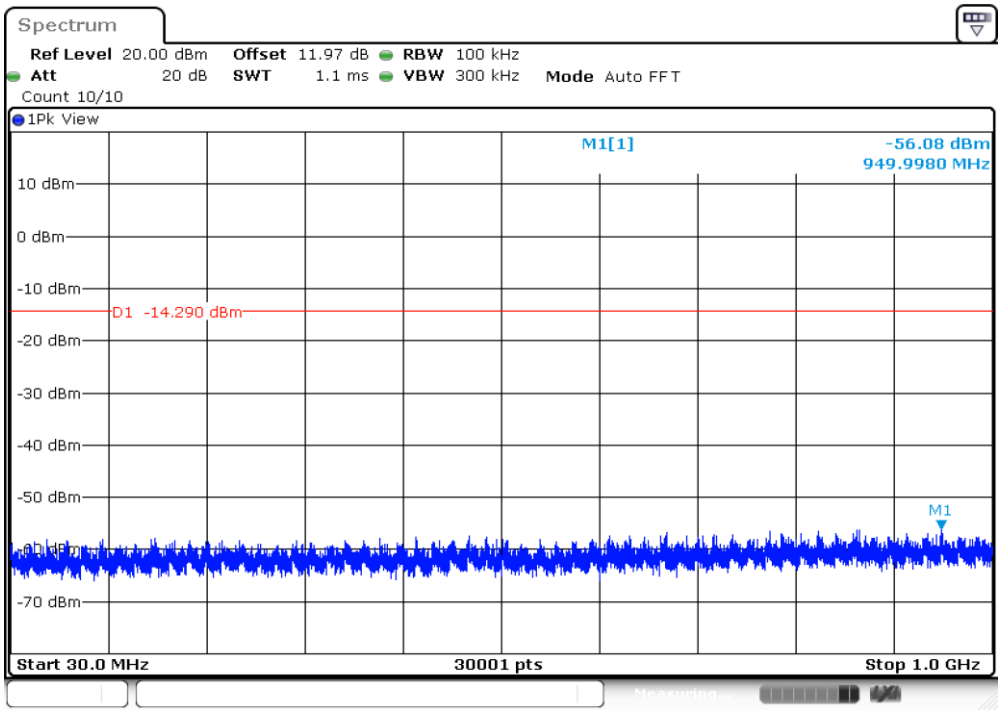

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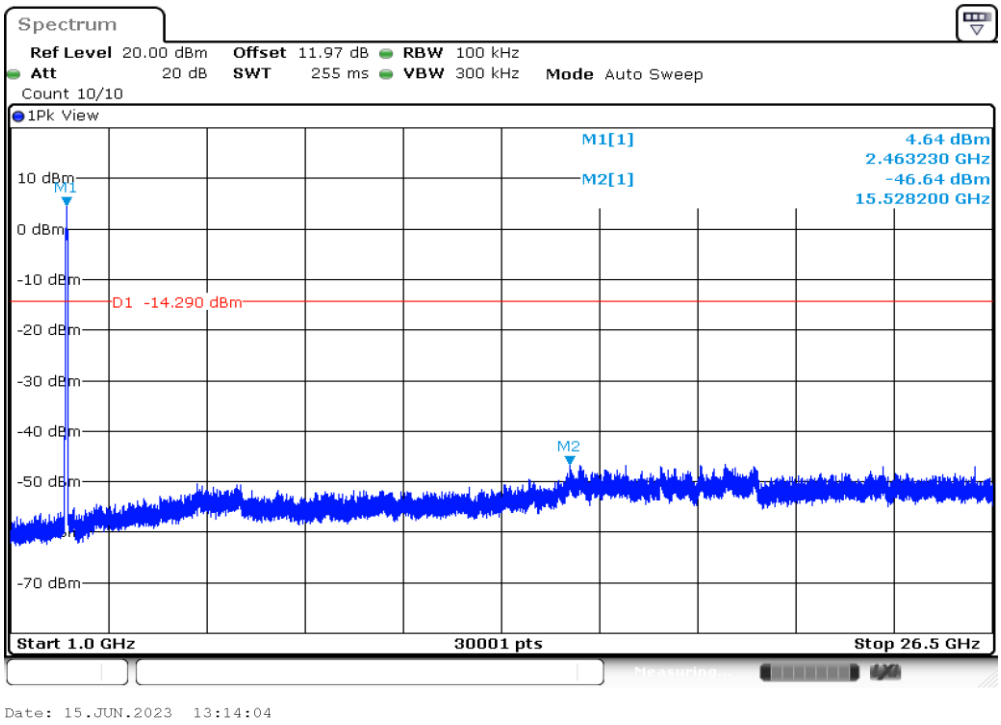
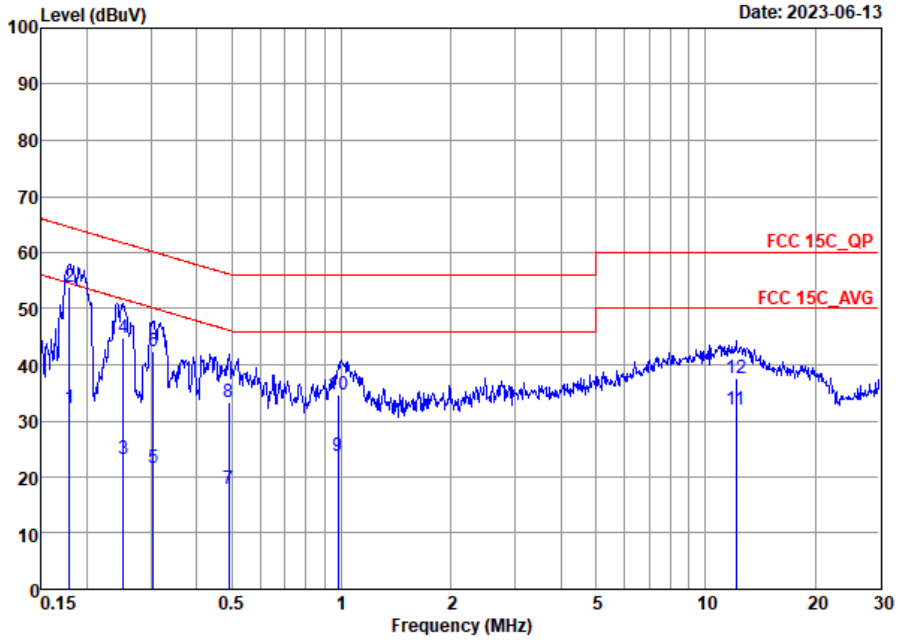


Appendix B. AC Conducted Emission Test Results

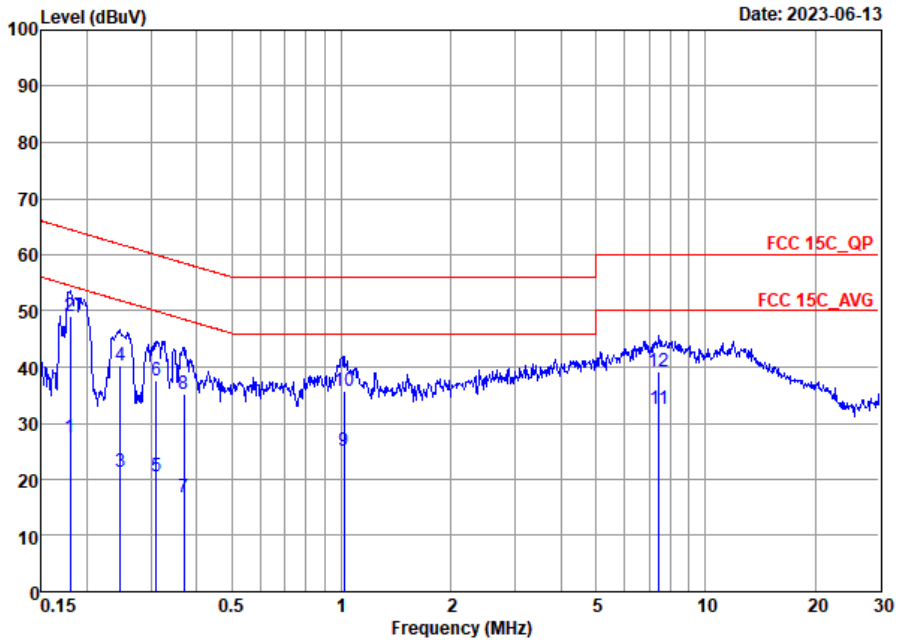
Test Engineer :	Lily Qiu	**Temperature :**	22~24℃
		Relative Humidity :	44~50%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-SZ
Condition: FCC 15C_QP LISN_20230420_L LINE

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.18	32.20	-22.35	54.55	11.60	10.46	10.14	Average
2	*	0.18	53.80	-10.75	64.55	33.20	10.46	10.14	QP
3		0.25	23.33	-28.36	51.69	2.80	10.38	10.15	Average
4		0.25	44.93	-16.76	61.69	24.40	10.38	10.15	QP
5		0.30	21.52	-28.63	50.15	1.01	10.36	10.15	Average
6		0.30	42.32	-17.83	60.15	21.81	10.36	10.15	QP
7		0.49	17.92	-28.22	46.14	-2.50	10.26	10.16	Average
8		0.49	33.22	-22.92	56.14	12.80	10.26	10.16	QP
9		0.98	23.70	-22.30	46.00	3.30	10.24	10.16	Average
10		0.98	34.60	-21.40	56.00	14.20	10.24	10.16	QP
11		12.12	32.01	-17.99	50.00	11.71	9.87	10.43	Average
12		12.12	37.71	-22.29	60.00	17.41	9.87	10.43	QP

Test Engineer :	Lily Qiu	**Temperature :**	22~24℃
		Relative Humidity :	44~50%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-SZ
Condition: FCC 15C_QP LISN_20230420_N NEUTRAL

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.18	27.35	-27.15	54.50	6.81	10.40	10.14	Average
2	*	0.18	49.15	-15.35	64.50	28.61	10.40	10.14	QP
3		0.25	21.27	-30.59	51.86	0.80	10.32	10.15	Average
4		0.25	40.37	-21.49	61.86	19.90	10.32	10.15	QP
5		0.31	20.55	-29.42	49.97	0.10	10.30	10.15	Average
6		0.31	37.65	-22.32	59.97	17.20	10.30	10.15	QP
7		0.37	16.71	-31.81	48.52	-3.70	10.25	10.16	Average
8		0.37	35.21	-23.31	58.52	14.80	10.25	10.16	QP
9		1.02	25.11	-20.89	46.00	4.70	10.25	10.16	Average
10		1.02	35.81	-20.19	56.00	15.40	10.25	10.16	QP
11		7.45	32.61	-17.39	50.00	12.19	10.05	10.37	Average
12		7.45	39.31	-20.69	60.00	18.89	10.05	10.37	QP

Note:

1. Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
2. Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)

Appendix C. Radiated Spurious Emission Test Data

Test Engineer :	Zhaohui Liang	**Relative Humidity :**	48~50%
		Temperature :	20~22℃

Radiated Spurious Emission Test Modes

Mode	Band (MHz)	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 1	2400-2483.5	6	802.11b	01	2412	1Mbps	-	-
Mode 2	2400-2483.5	6	802.11b	06	2437	1Mbps	-	-
Mode 3	2400-2483.5	6	802.11b	11	2462	1Mbps	-	-
Mode 4	2400-2483.5	6	802.11g	01	2412	6Mbps	-	-
Mode 5	2400-2483.5	6	802.11g	06	2437	6Mbps	-	-
Mode 6	2400-2483.5	6	802.11g	11	2462	6Mbps	-	-
Mode 7	2400-2483.5	6	802.11ac VHT20	01	2412	MCS0	-	-
Mode 8	2400-2483.5	6	802.11ac VHT20	06	2437	MCS0	-	-
Mode 9	2400-2483.5	6	802.11ac VHT20	11	2462	MCS0	-	-
Mode 10	2400-2483.5	6	802.11ac VHT40	03	2422	MCS0	-	-
Mode 11	2400-2483.5	6	802.11ac VHT40	09	2452	MCS0	-	-
Mode 12	2400-2483.5	6	802.11ac VHT20	01	2412	MCS0	-	LF

Note:

1. Only the worst case from single carrier has assessed LF mode to test.
2. For 802.11g only has assessed Harmonics for testing in accordance with the power lower than 802.11ac VHT20.
3. For 802.11ac VHT40 only has assessed Band Edge for testing in accordance with the power lower than BW20MHz (ex, 802.11ac VHT20).

Summary of each worse mode

Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	Remark
1	802.11b	01	2388.95	42.01	54.00	-11.99	V	AVERAGE	Pass	Band Edge
	802.11b	01	4824.00	50.13	74.00	-23.87	V	Peak	Pass	Harmonic
2	802.11b	06	-	-	-	-	-	-	-	Band Edge
	802.11b	06	4874.00	48.32	74.00	-25.68	V	Peak	Pass	Harmonic
3	802.11b	11	2483.51	41.88	54.00	-12.12	V	AVERAGE	Pass	Band Edge
	802.11b	11	4924.00	49.66	74.00	-24.34	V	Peak	Pass	Harmonic
4	802.11g	01	-	-	-	-	-	-	-	Band Edge
	802.11g	01	4824.00	45.47	74.00	-28.53	H	Peak	Pass	Harmonic
5	802.11g	06	-	-	-	-	-	-	-	Band Edge
	802.11g	06	7311.00	47.62	74.00	-26.38	H	Peak	Pass	Harmonic
6	802.11g	11	-	-	-	-	-	-	-	Band Edge
	802.11g	11	7386.00	47.56	74.00	-26.44	V	Peak	Pass	Harmonic
7	802.11ac VHT20	01	2389.87	50.82	54.00	-3.18	V	AVERAGE	Pass	Band Edge
	802.11ac VHT20	01	4824.00	45.49	74.00	-28.51	V	Peak	Pass	Harmonic
8	802.11ac VHT20	06	-	-	-	-	-	-	-	Band Edge
	802.11ac VHT20	06	7311.00	47.93	74.00	-26.07	H	Peak	Pass	Harmonic
9	802.11ac VHT20	11	2483.55	49.28	54.00	-4.72	H	AVERAGE	Pass	Band Edge
	802.11ac VHT20	11	7386.00	48.40	74.00	-25.60	H	Peak	Pass	Harmonic
10	802.11ac VHT40	03	2389.52	49.86	54.00	-4.14	V	AVERAGE	Pass	Band Edge
	802.11ac VHT40	03	-	-	-	-	-	-	-	Harmonic
11	802.11ac VHT40	09	2483.54	49.46	54.00	-4.54	V	AVERAGE	Pass	Band Edge
	802.11ac VHT40	09	-	-	-	-	-	-	-	Harmonic
12	802.11ac VHT20	01	853.53	31.09	46	-14.91	H	Peak	Pass	LF

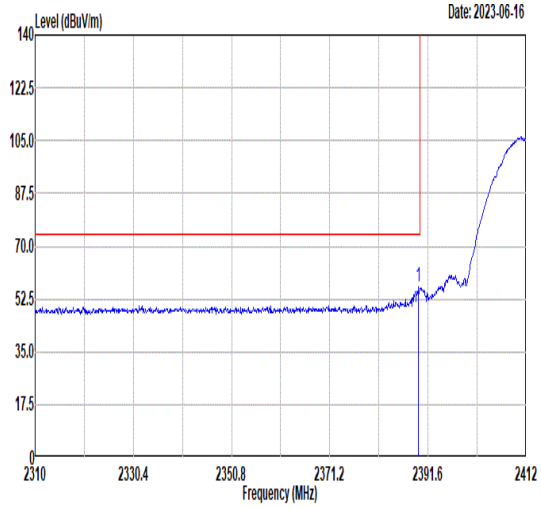
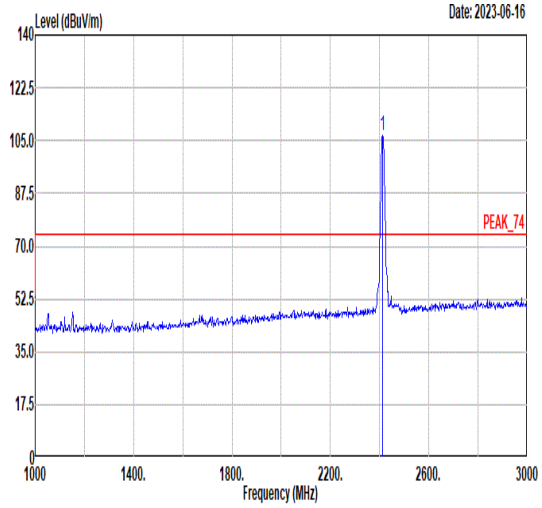
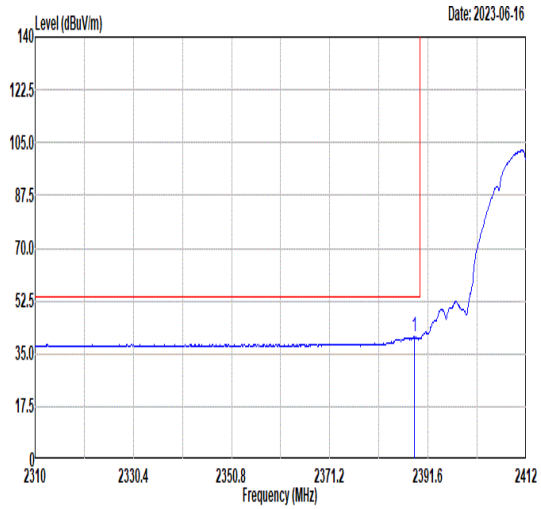
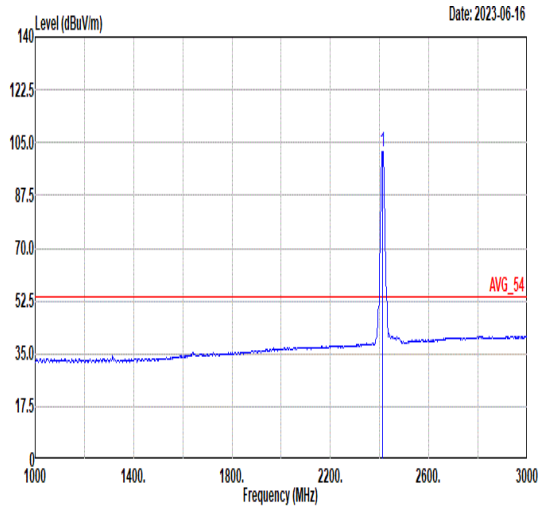
Co-location

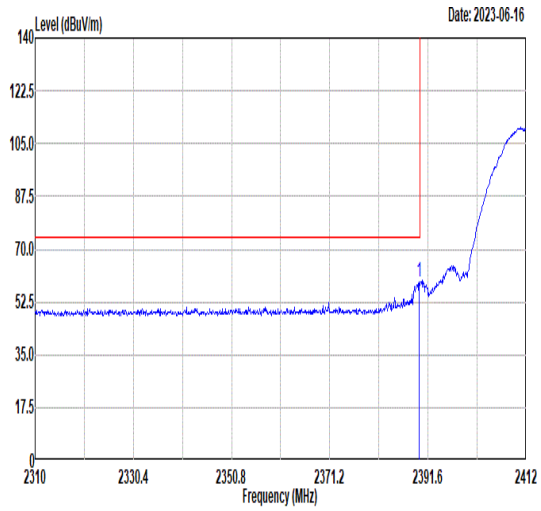
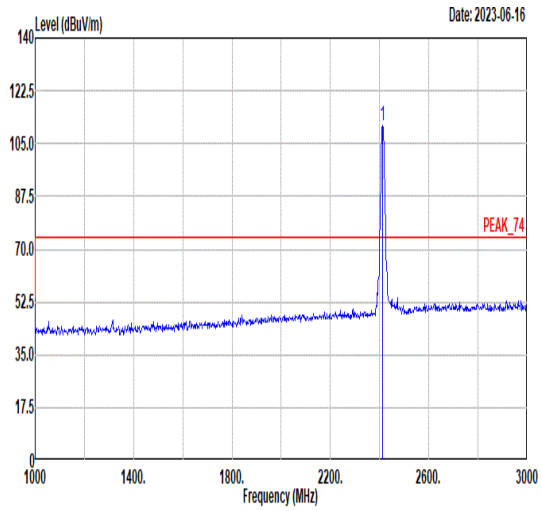
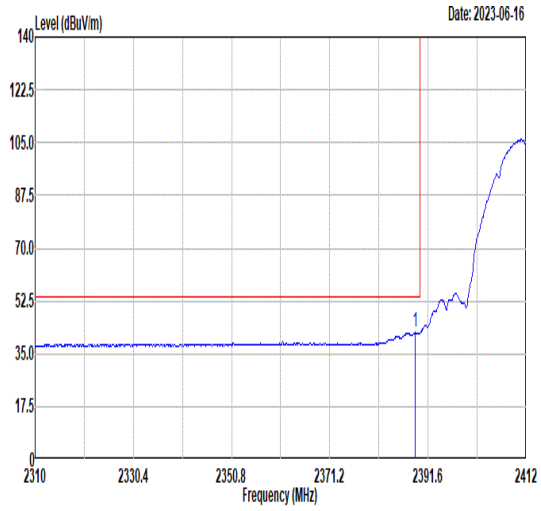
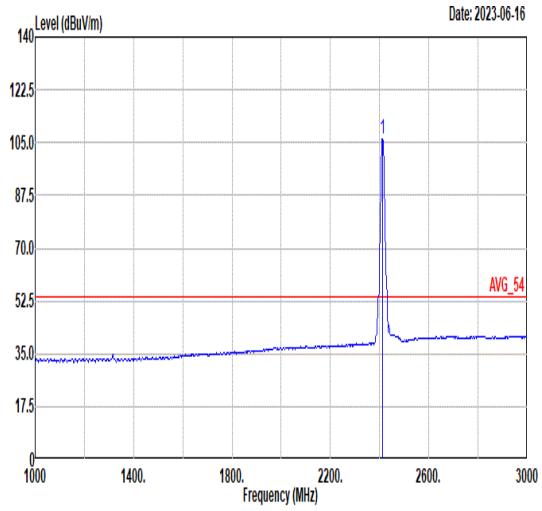
WIFI 802.11ac VHT20 CH01& LTE B13 (Band Edge @ 3m)

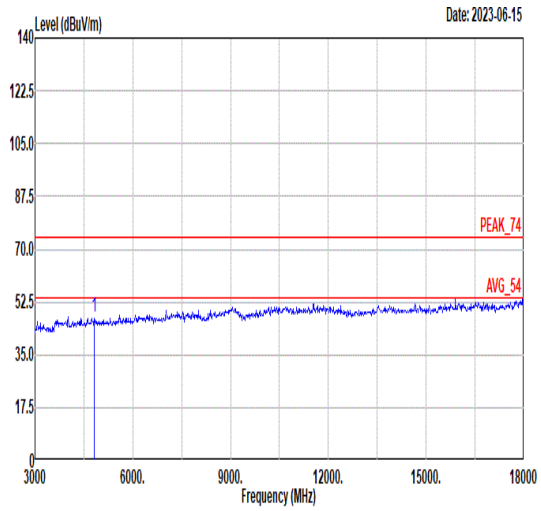
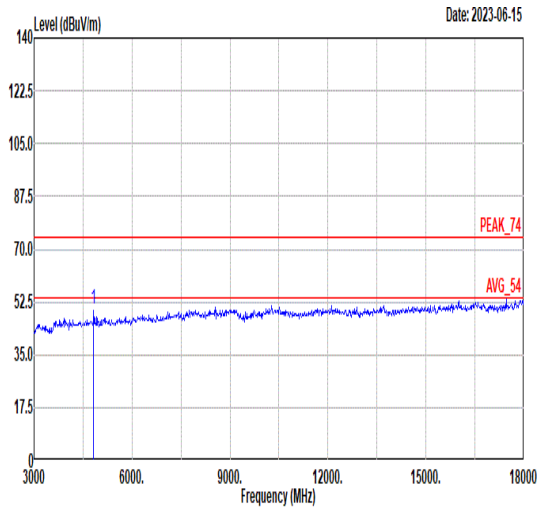
	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
WIFI 802.11ac VHT20 CH01& LTE B13 Co-location		2389.695	59.32	-14.68	74	52.27	32.36	6.44	31.75	100	324	P	H
		2389.905	49.2	-4.8	54	42.15	32.36	6.44	31.75	100	324	A	H
	*	2412	108.64	-	-	101.55	32.37	6.44	31.72	100	324	P	H
	*	2412	100.49	-	-	93.4	32.37	6.44	31.72	100	324	A	H
		2389.485	60.33	-13.67	74	53.28	32.36	6.44	31.75	218	319	P	V
		2389.905	50.22	-3.78	54	43.17	32.36	6.44	31.75	218	319	A	V
	*	2412	109.74	-	-	102.65	32.37	6.44	31.72	218	319	P	V
	*	2412	101.13	-	-	94.04	32.37	6.44	31.72	218	319	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

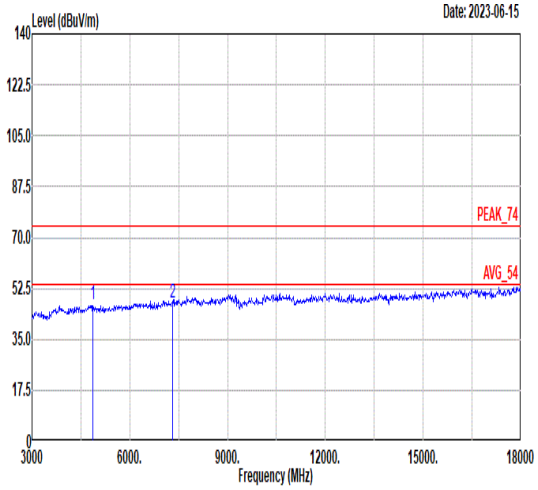
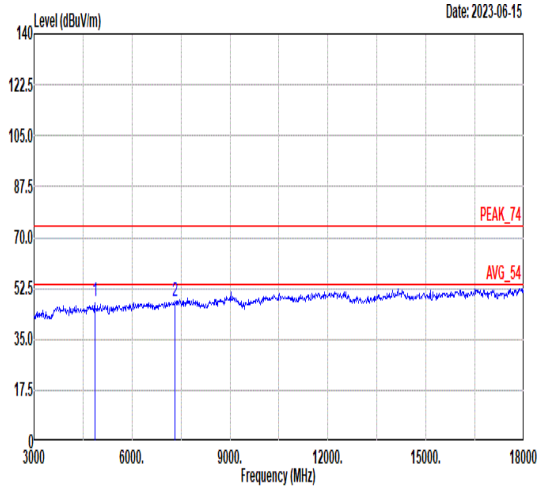
WIFI 802.11ac VHT20 CH01& LTE B13 (Harmonic @ 3m)

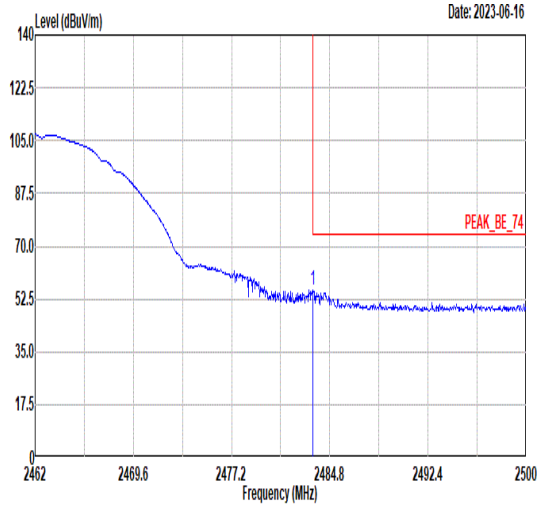
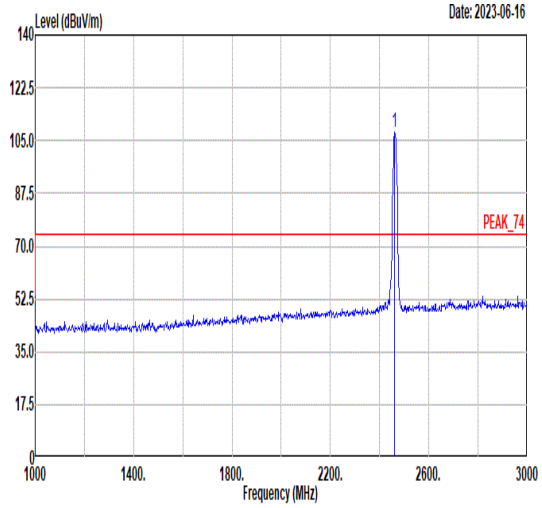
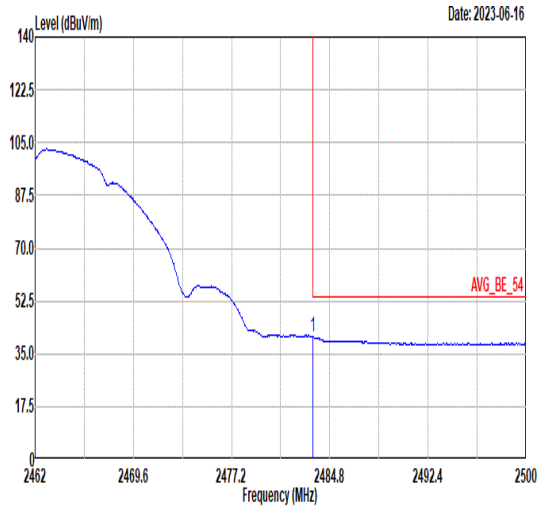
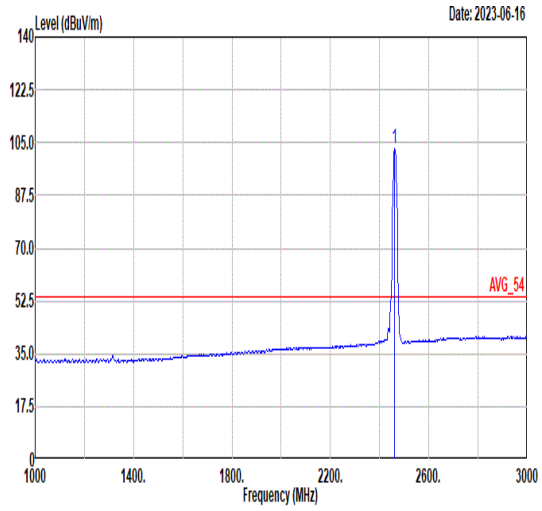
	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
WIFI 802.11ac VHT20 CH01& LTE B13 Co-location		4824	44.52	-29.48	74	58.15	34.4	9.47	57.5	-	-	P	H
		4824	44.48	-29.52	74	58.11	34.4	9.47	57.5	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

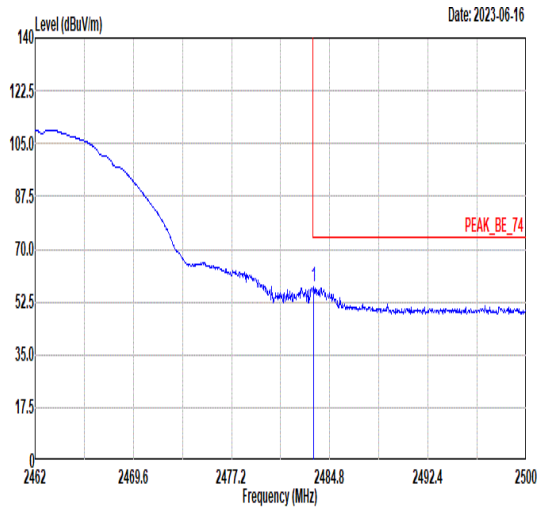
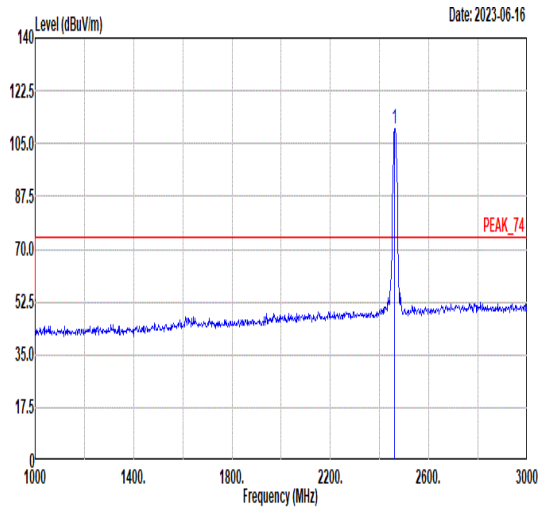
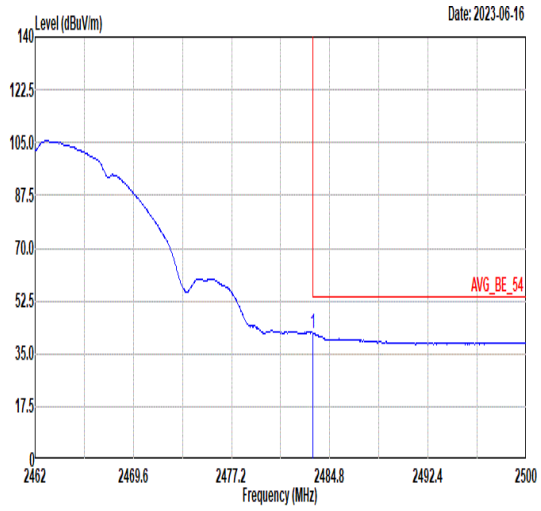
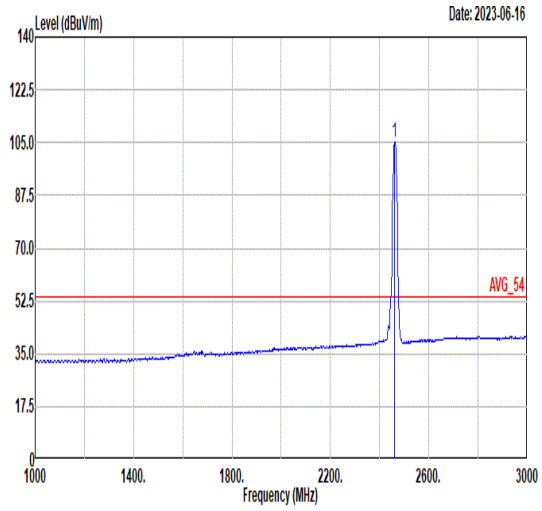
Mode	1	
	Band Edge	
	2400-2483.5_802.11b_CH01_2412MHz	
ANT	6	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2389.66 56.65 74.00 -17.35 48.71 32.26 7.76 32.08 300 311 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2412.00 106.69 ------ ------ 98.65 32.31 7.81 32.08 300 311 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2388.85 40.69 54.00 -13.31 32.75 32.26 7.76 32.08 300 311 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2412.00 102.14 ------ ------ 94.10 32.31 7.81 32.08 300 311 AVERAGE

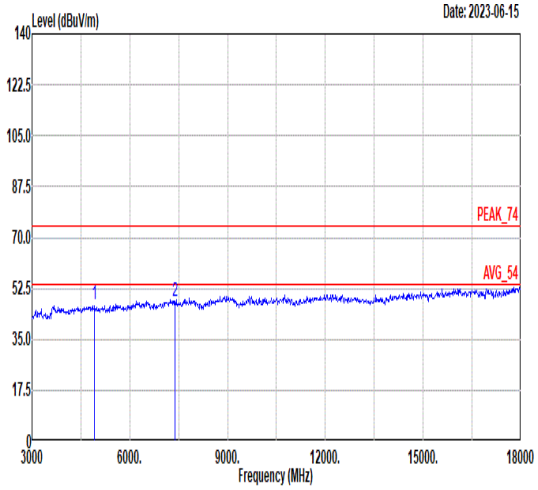
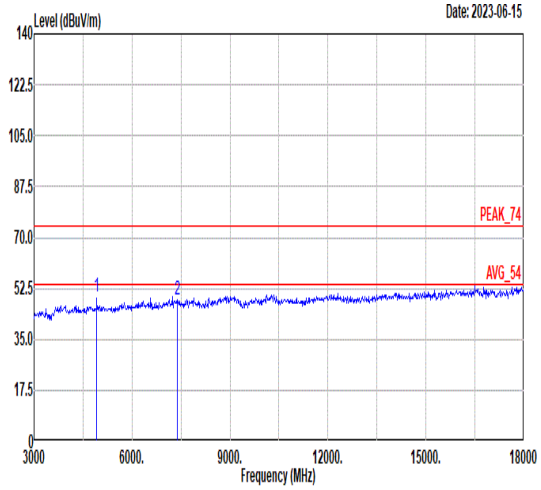
Mode	1	
	Band Edge	
	2400-2483.5_802.11b_CH01_2412MHz	
ANT	6	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.76 59.10 74.00 -14.90 51.16 32.26 7.76 32.08 298 255 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 110.74 ------ ------ 102.70 32.31 7.81 32.08 298 255 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2388.95 42.01 54.00 -11.99 34.07 32.26 7.76 32.08 298 255 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 106.00 ------ ------ 97.97 32.30 7.81 32.08 298 255 AVERAGE

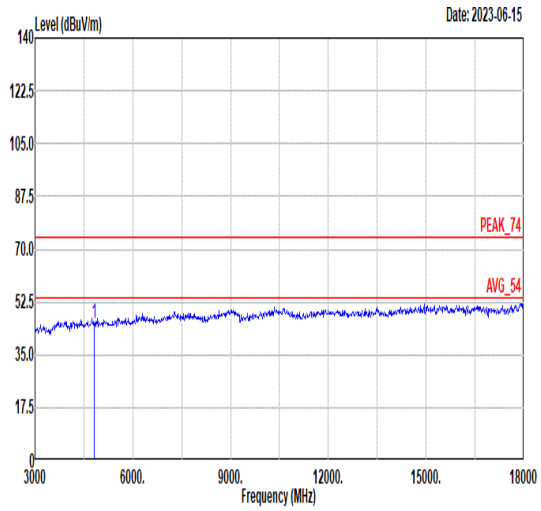
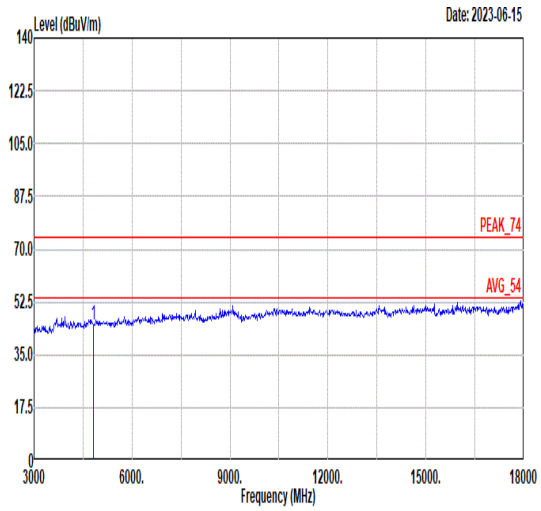
Mode	1	
	Harmonic	
	2400-2483.5_802.11b_CH01_2412MHz	
ANT	6	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4824.00 47.38 74.00 -26.62 53.05 34.83 11.08 51.58 356 344 Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4824.00 50.13 74.00 -23.87 55.80 34.83 11.08 51.58 100 50 Peak

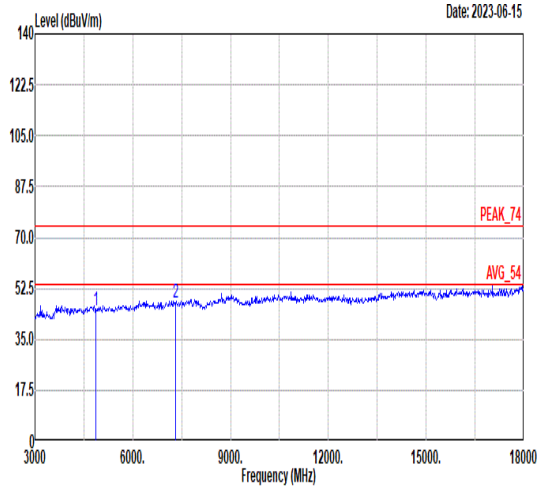
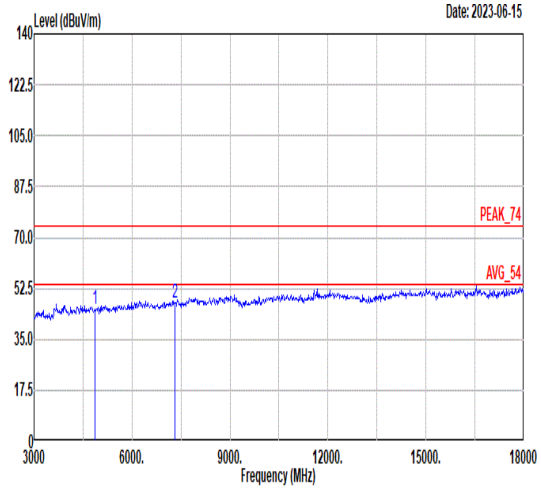
Mode	2	
	Harmonic	
	2400-2483.5_802.11b_CH06_2437MHz	
ANT	6	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4874.00 46.80 74.00 -27.20 52.43 34.85 11.10 51.58 354 334 Peak 2 7311.00 47.57 74.00 -26.43 49.33 36.32 13.08 51.16 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4874.00 48.32 74.00 -25.68 53.95 34.85 11.10 51.58 293 63 Peak 2 7311.00 48.04 74.00 -25.96 49.80 36.32 13.08 51.16 --- --- Peak

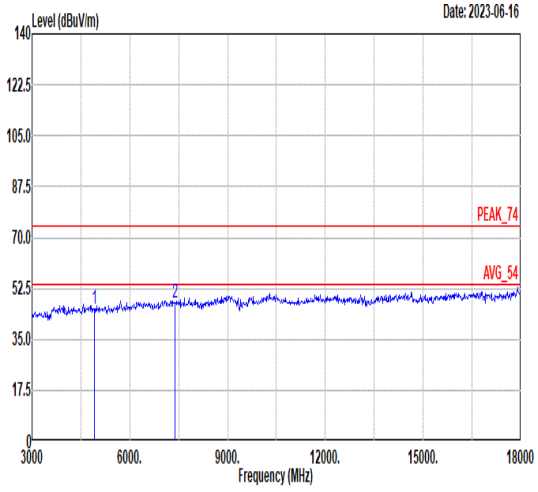
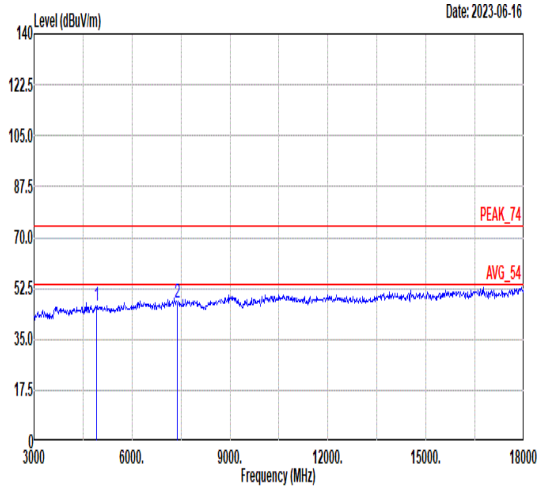
Mode	3	
	Band Edge	
	2400-2483.5_802.11b_CH11_2462MHz	
ANT	6	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2483.51 55.48 74.00 -18.52 47.24 32.46 7.88 32.10 400 297 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2462.00 107.69 ------ ------ 99.50 32.42 7.86 32.09 400 297 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2483.51 40.57 54.00 -13.43 32.33 32.46 7.88 32.10 400 297 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2462.00 103.10 ------ ------ 94.91 32.42 7.86 32.09 400 297 AVERAGE

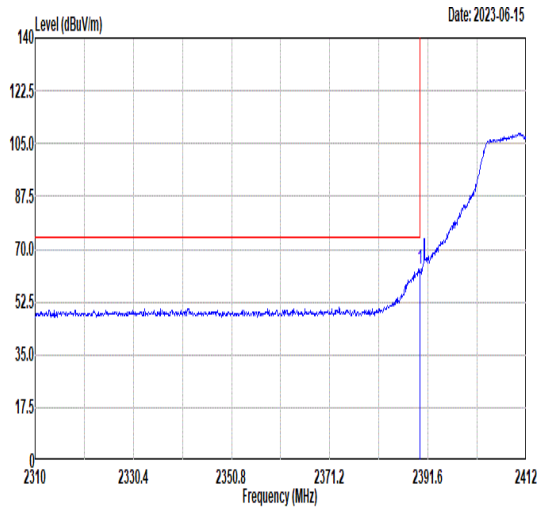
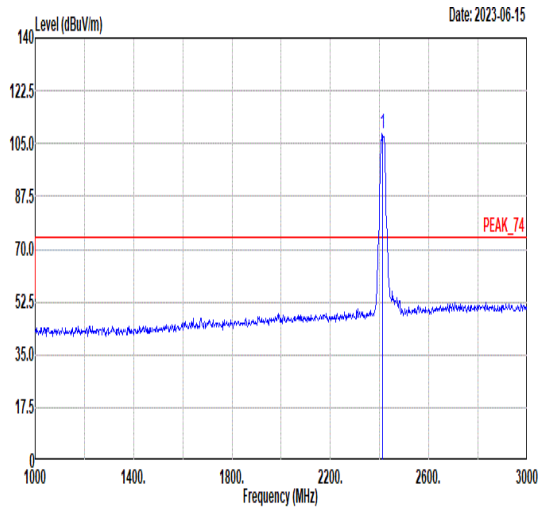
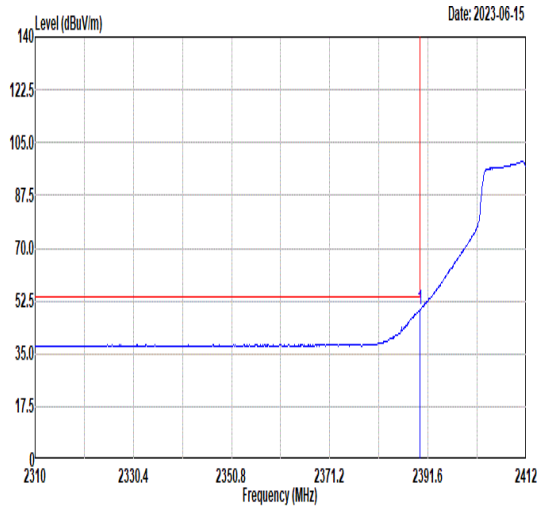
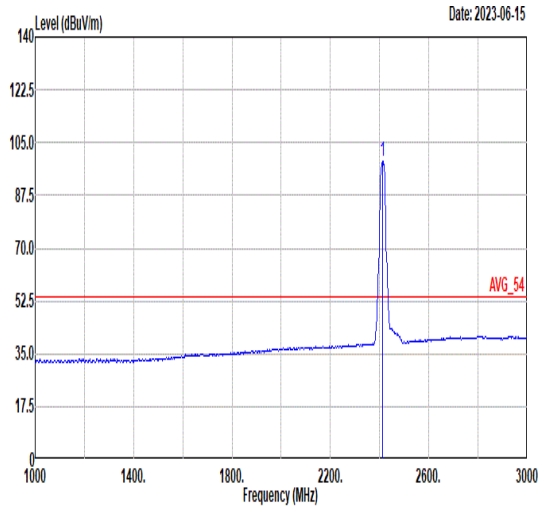
Mode	3	
	Band Edge	
	2400-2483.5_802.11b_CH11_2462MHz	
ANT	6	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2483.55 57.34 74.00 -16.66 49.10 32.46 7.88 32.10 400 283 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2462.00 110.13 ------ ------ 101.94 32.42 7.86 32.09 400 283 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2483.51 41.88 54.00 -12.12 33.64 32.46 7.88 32.10 400 283 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2462.00 105.29 ------ ------ 97.10 32.42 7.86 32.09 400 283 AVERAGE

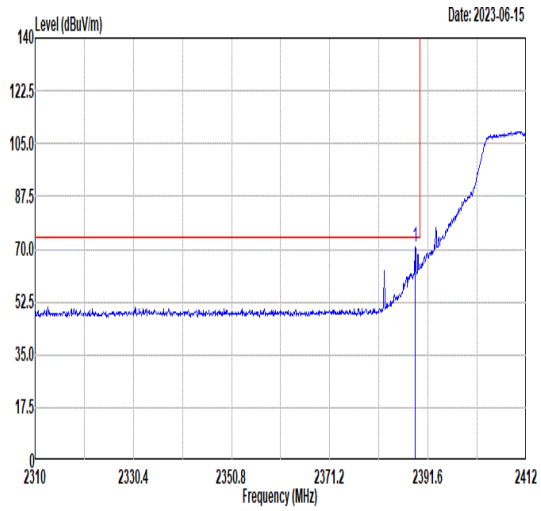
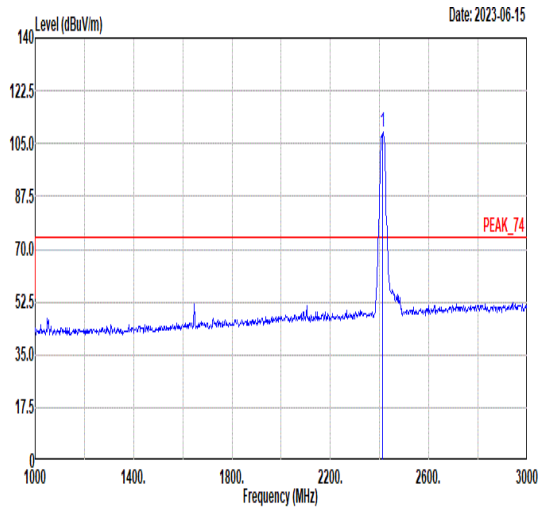
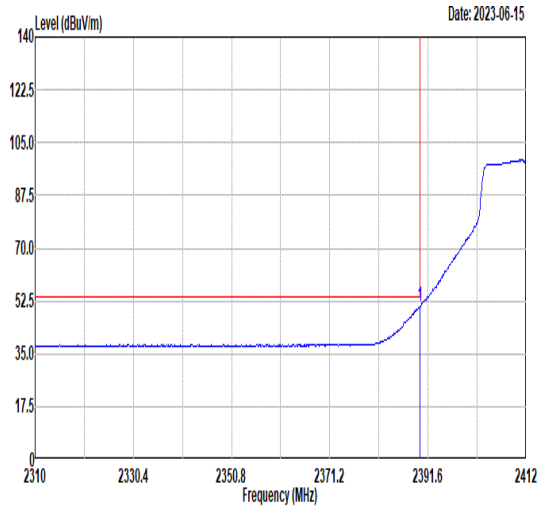
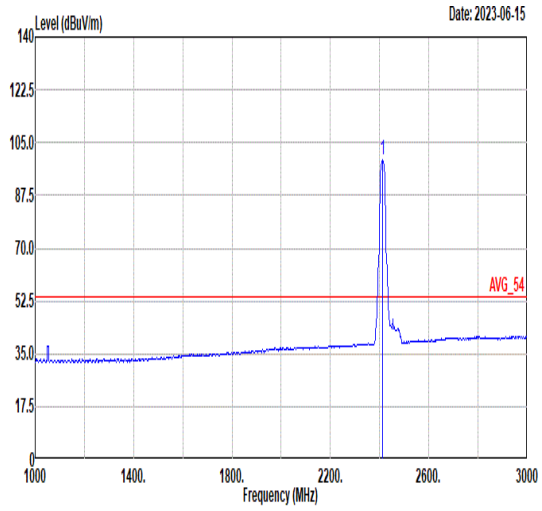
Mode	3	
	Harmonic	
	2400-2483.5_802.11b_CH11_2462MHz	
ANT	6	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4924.00 46.93 74.00 -27.07 52.52 34.87 11.12 51.58 --- --- Peak 2 7386.00 47.84 74.00 -26.16 49.54 36.35 13.13 51.18 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4924.00 49.66 74.00 -24.34 55.25 34.87 11.12 51.58 285 60 Peak 2 7386.00 48.39 74.00 -25.61 50.09 36.35 13.13 51.18 --- --- Peak

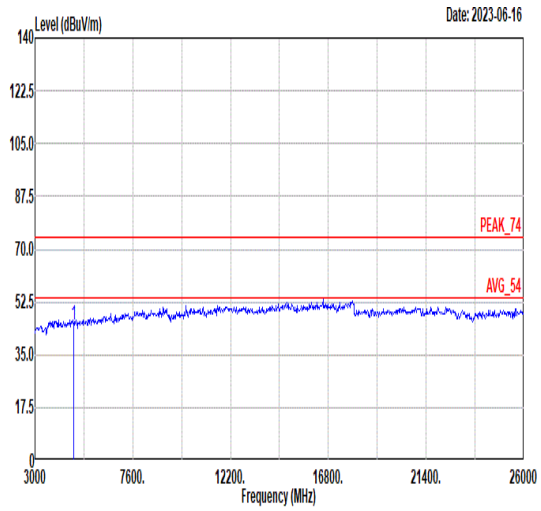
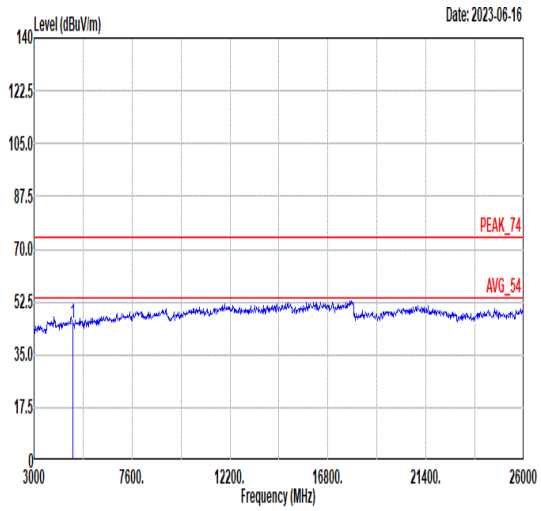
Mode	4	
	Harmonic	
	2400-2483.5_802.11g_CH01_2412MHz	
ANT	6	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4824.00 45.47 74.00 -28.53 51.14 34.83 11.08 51.58 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4824.00 45.17 74.00 -28.83 50.84 34.83 11.08 51.58 --- --- Peak

Mode	5	
	Harmonic	
	2400-2483.5_802.11g_CH06_2437MHz	
ANT	6	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4874.00 44.96 74.00 -29.04 50.59 34.85 11.10 51.58 --- --- Peak 2 7311.00 47.62 74.00 -26.38 49.38 36.32 13.08 51.16 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4874.00 45.25 74.00 -28.75 50.88 34.85 11.10 51.58 --- --- Peak 2 7311.00 47.43 74.00 -26.57 49.19 36.32 13.08 51.16 --- --- Peak

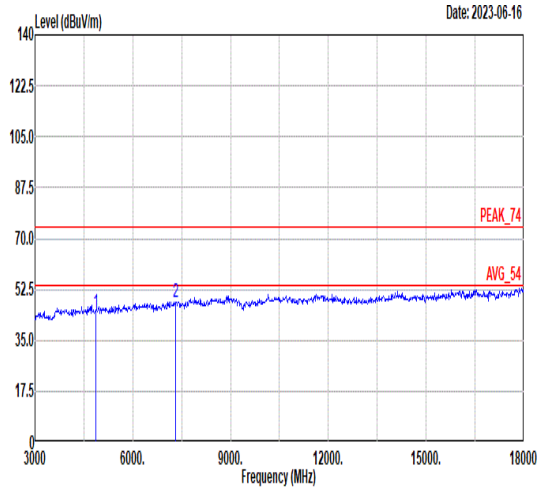
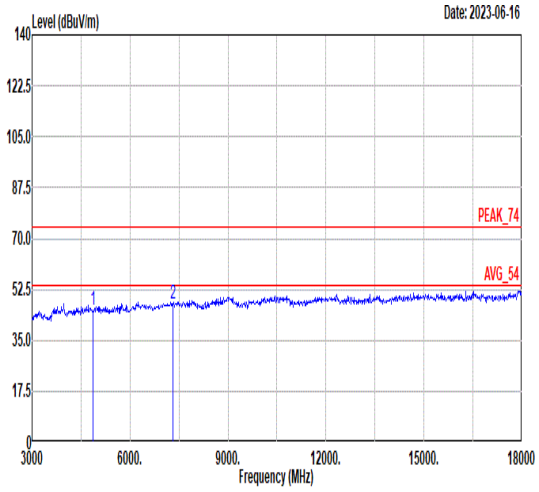
Mode	6	
	Harmonic	
	2400-2483.5_802.11g_CH11_2462MHz	
ANT	6	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4924.00 45.31 74.00 -28.69 50.90 34.87 11.12 51.58 --- --- Peak 2 7386.00 47.39 74.00 -26.61 49.09 36.35 13.13 51.18 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4924.00 46.65 74.00 -27.35 52.24 34.87 11.12 51.58 --- --- Peak 2 7386.00 47.56 74.00 -26.44 49.26 36.35 13.13 51.18 --- --- Peak

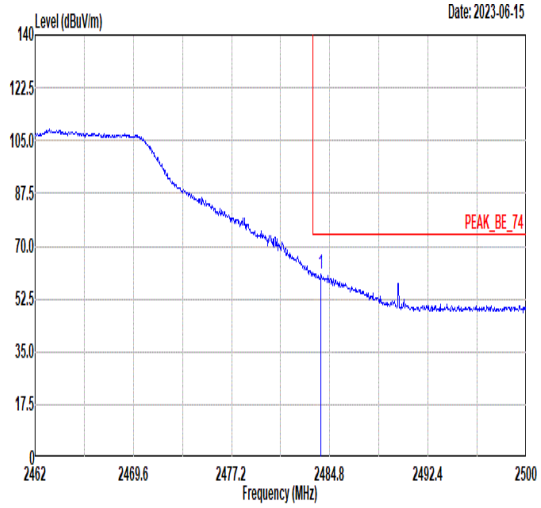
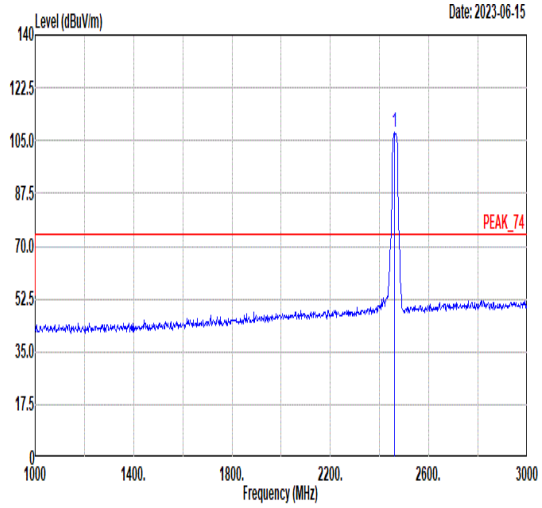
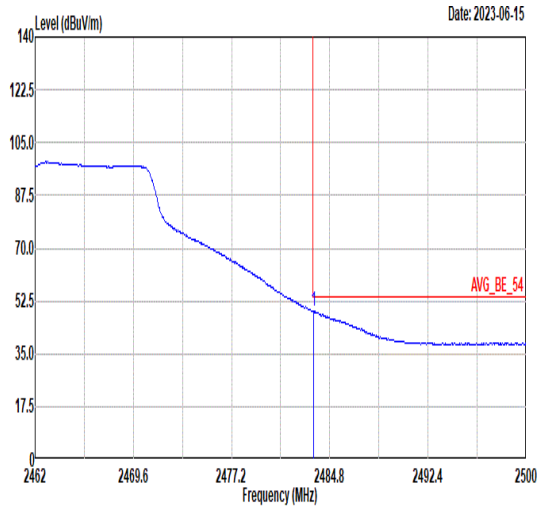
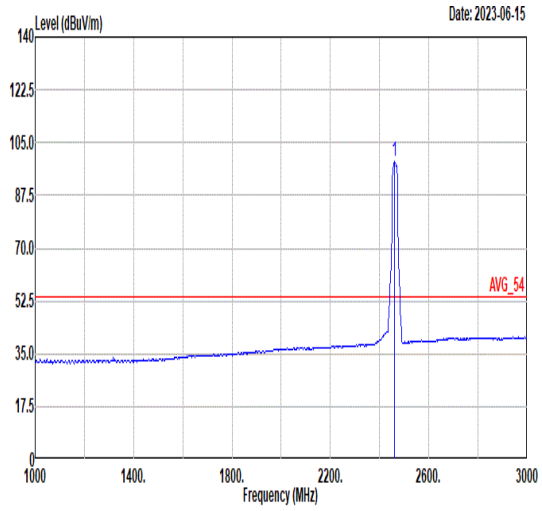
Mode	7	
	Band Edge	
	2400-2483.5_802.11ac VHT20_CH01_2412MHz	
ANT	6	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2389.87 63.54 74.00 -10.46 55.60 32.26 7.76 32.08 305 320 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2412.00 108.07 ------ ------ 100.04 32.30 7.81 32.08 305 320 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2389.97 49.76 54.00 -4.24 41.82 32.26 7.76 32.08 305 320 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2412.00 98.58 ------ ------ 90.54 32.31 7.81 32.08 305 320 AVERAGE

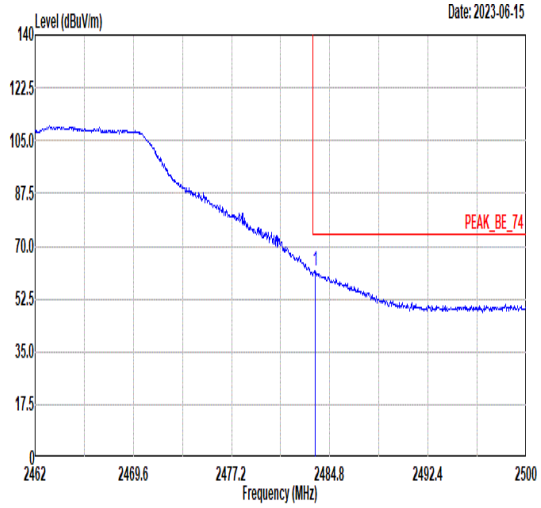
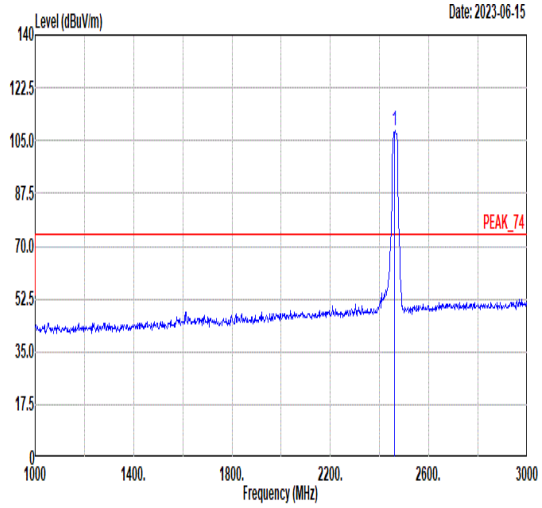
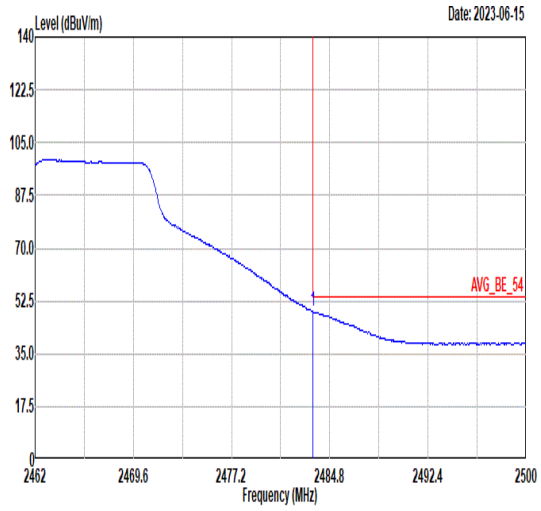
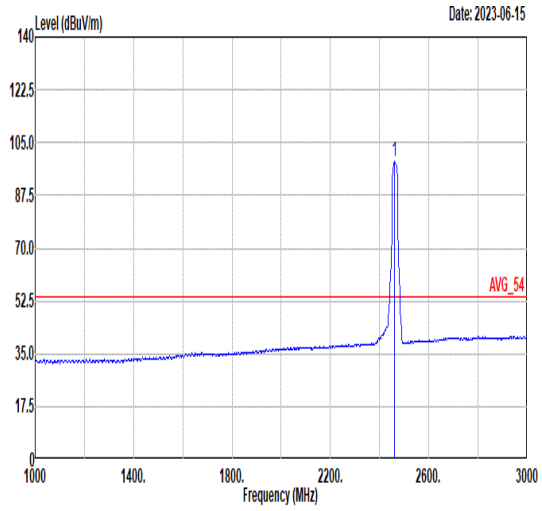
Mode	7	
	Band Edge	
	2400-2483.5_802.11ac VHT20_CH01_2412MHz	
ANT	6	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2388.95 70.55 74.00 -3.45 62.61 32.26 7.76 32.08 306 280 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 108.66 ------ ------ 100.62 32.31 7.81 32.08 306 280 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.87 50.82 54.00 -3.18 42.88 32.26 7.76 32.08 306 280 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2412.00 99.19 ------ ------ 91.15 32.31 7.81 32.08 306 280 AVERAGE

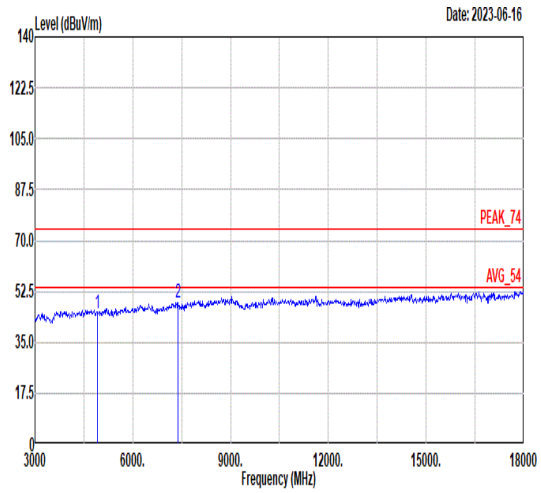
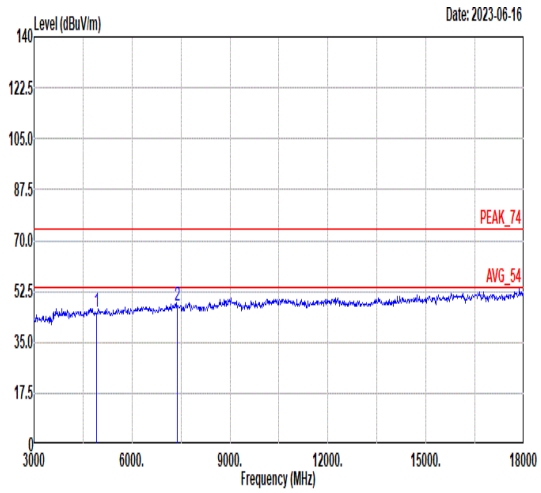
Mode	7	
	Harmonic	
	2400-2483.5_802.11ac VHT20_CH01_2412MHz	
ANT	6	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4824.00 44.97 74.00 -29.03 50.64 34.83 11.08 51.58 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4824.00 45.49 74.00 -28.51 51.16 34.83 11.08 51.58 --- --- Peak

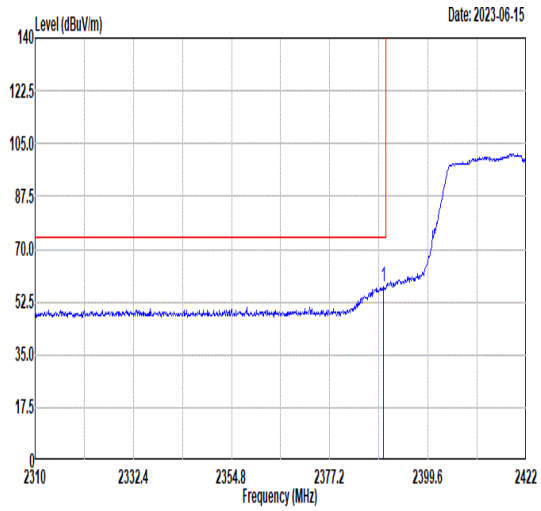
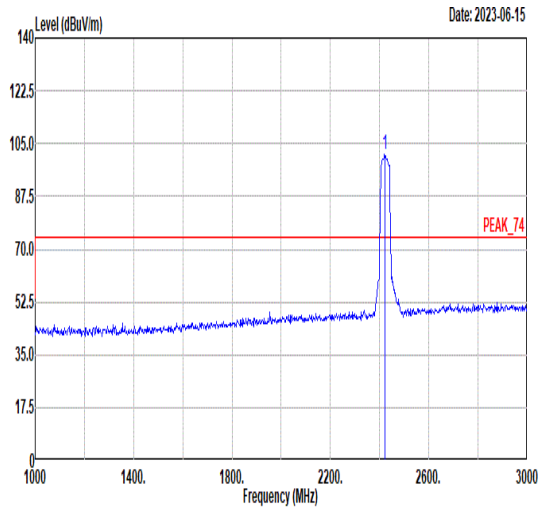
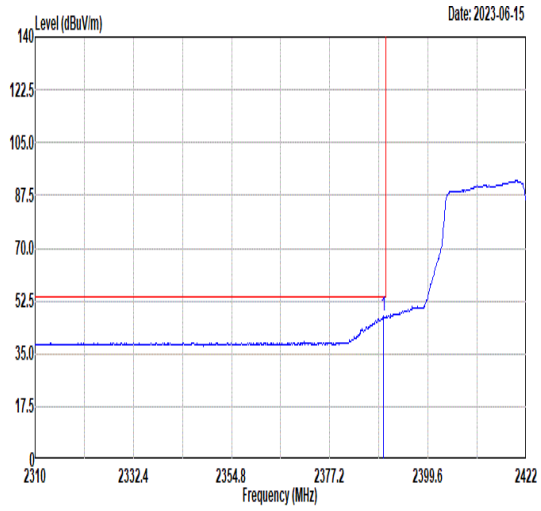
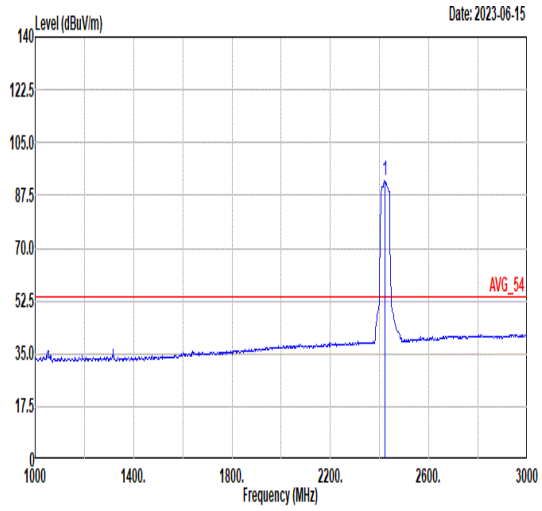
Note: Only the worst case from single carrier has assessed 18G ~26GHz to test.

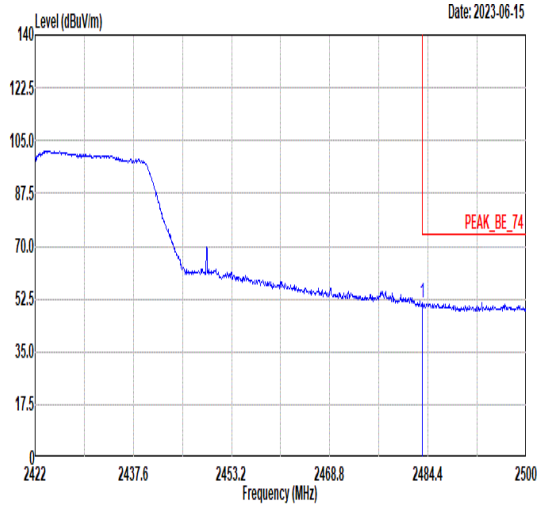
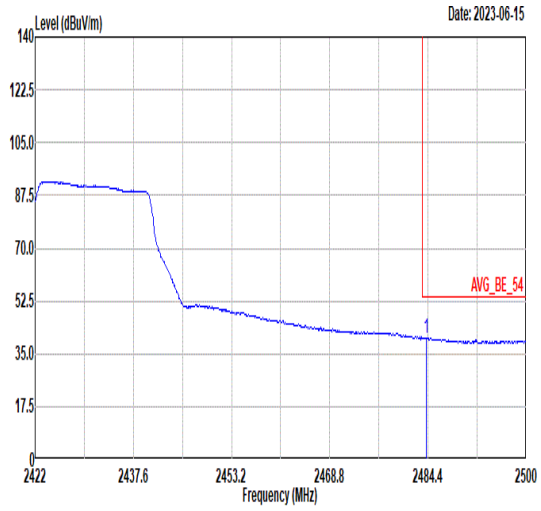
Mode	8	
	Harmonic	
	2400-2483.5_802.11ac VHT20_CH06_2437MHz	
ANT	6	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4874.00 44.59 74.00 -29.41 50.22 34.85 11.10 51.58 --- --- Peak 2 7311.00 47.93 74.00 -26.07 49.69 36.32 13.08 51.16 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4874.00 45.31 74.00 -28.69 50.94 34.85 11.10 51.58 --- --- Peak 2 7311.00 47.37 74.00 -26.63 49.13 36.32 13.08 51.16 --- --- Peak

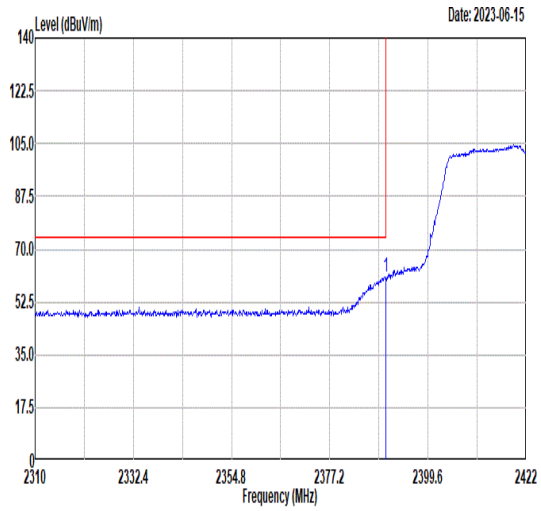
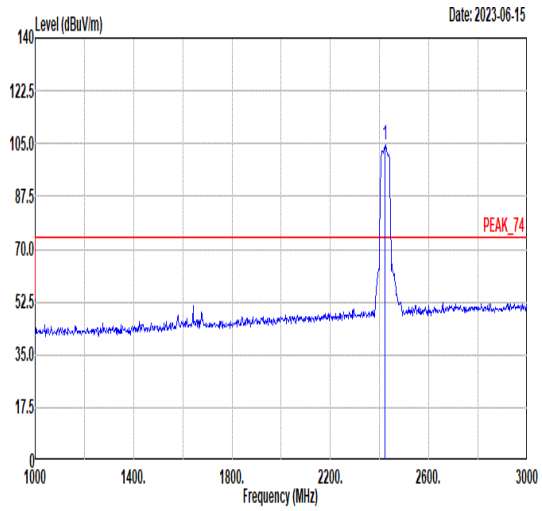
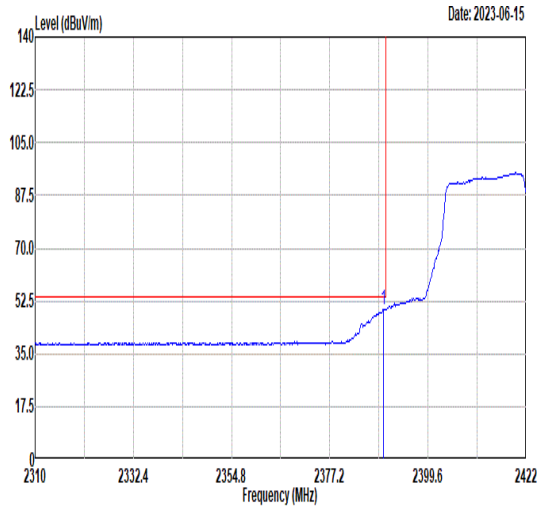
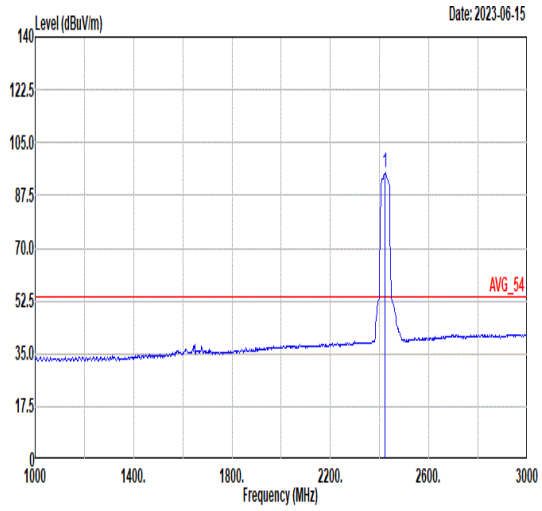
Mode	9	
	Band Edge	
	2400-2483.5_802.11ac VHT20_CH11_2462MHz	
ANT	6	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2484.12 60.78 74.00 -13.22 52.53 32.47 7.88 32.10 314 312 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2462.00 107.93 ------ ------ 99.76 32.41 7.85 32.09 314 312 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2483.55 49.28 54.00 -4.72 41.04 32.46 7.88 32.10 314 312 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2462.00 98.59 ------ ------ 90.42 32.41 7.85 32.09 314 312 AVERAGE

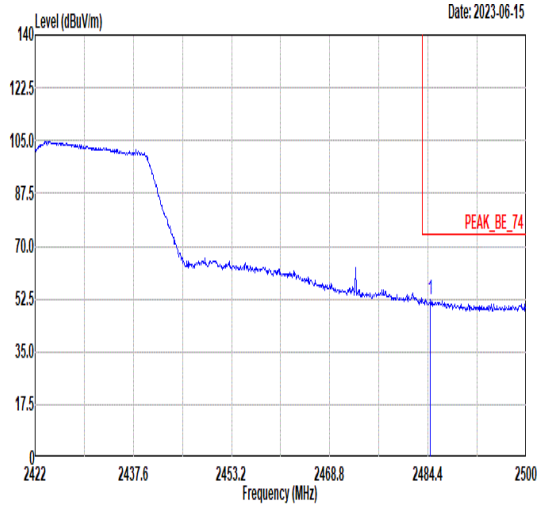
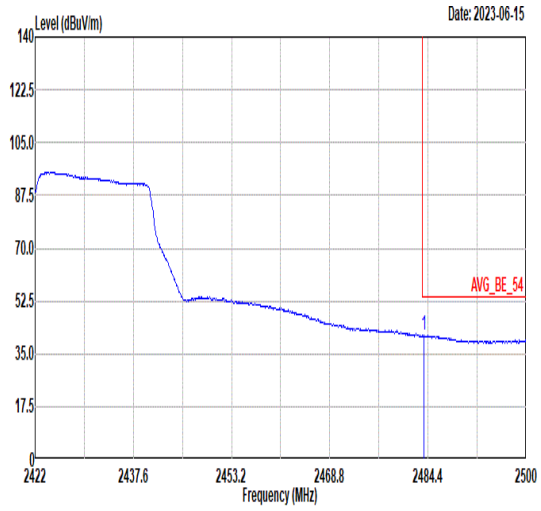
Mode	9	
	Band Edge	
	2400-2483.5_802.11ac VHT20_CH11_2462MHz	
ANT	6	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2483.70 61.85 74.00 -12.15 53.61 32.46 7.88 32.10 315 289 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2462.00 108.15 ------ ------ 99.96 32.42 7.86 32.09 315 289 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2483.51 48.92 54.00 -5.08 40.68 32.46 7.88 32.10 315 289 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2462.00 98.66 ------ ------ 90.49 32.41 7.85 32.09 315 289 AVERAGE

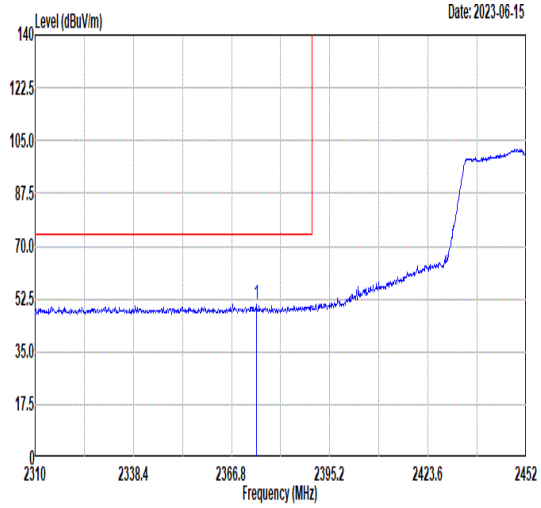
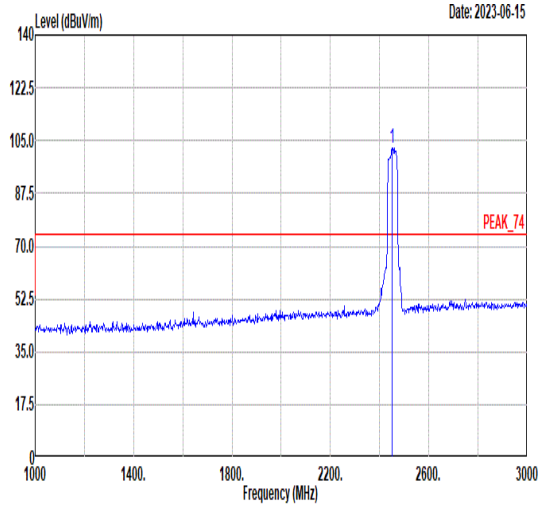
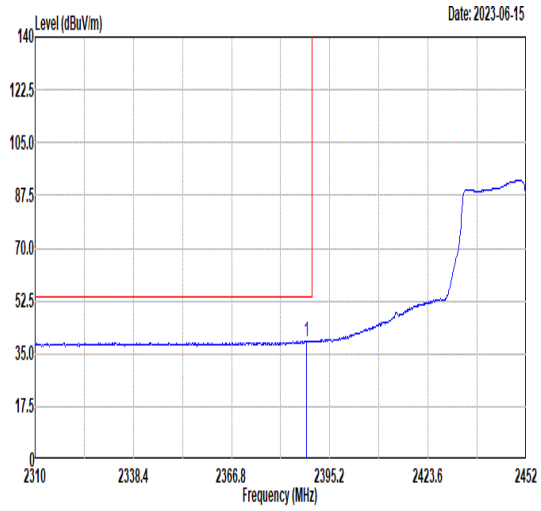
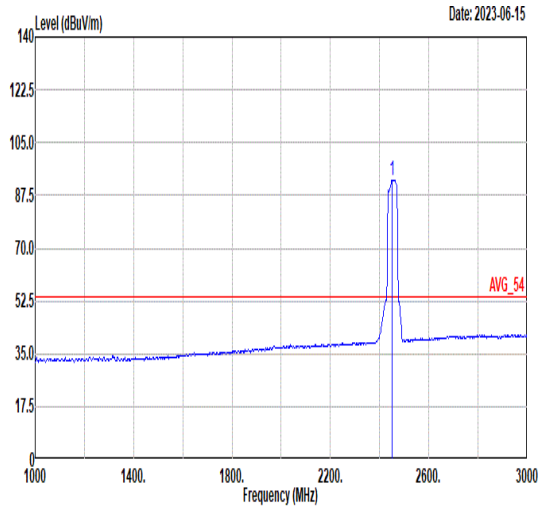
Mode	9	
	Harmonic	
	2400-2483.5_802.11ac VHT20_CH11_2462MHz	
ANT	6	
Pol.	Horizontal	Vertical
Peak Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4924.00 45.14 74.00 -28.86 50.73 34.87 11.12 51.58 --- --- Peak 2 7386.00 48.40 74.00 -25.60 50.10 36.35 13.13 51.18 --- --- Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 4924.00 45.69 74.00 -28.31 51.28 34.87 11.12 51.58 --- --- Peak 2 7386.00 47.40 74.00 -26.60 49.10 36.35 13.13 51.18 --- --- Peak

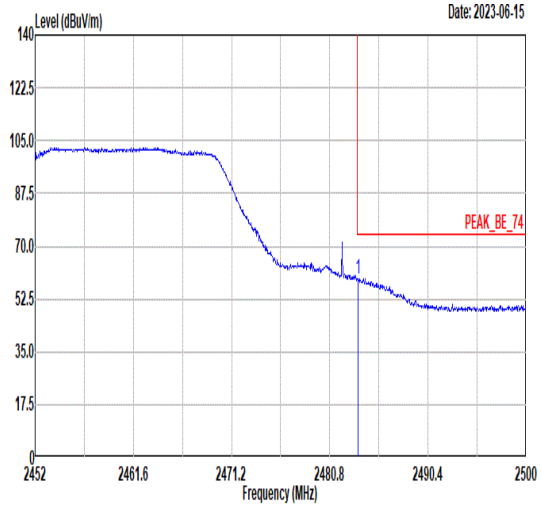
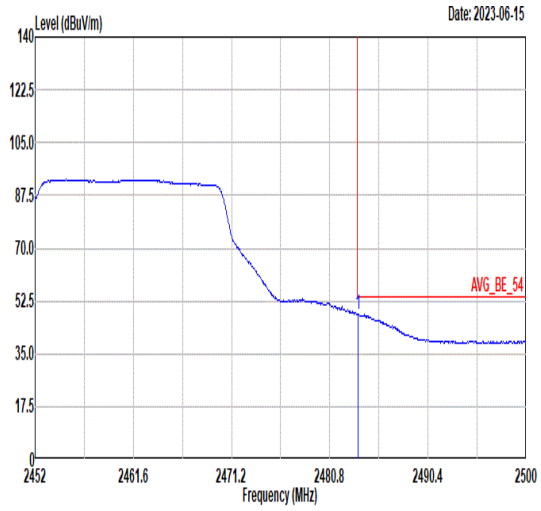
Mode	10	
	Band Edge - L	
	2400-2483.5_802.11ac VHT40_CH03_2422MHz	
ANT	6	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.52 57.59 74.00 -16.41 49.65 32.26 7.76 32.08 300 310 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2422.00 101.31 ------ ------ 93.25 32.32 7.82 32.08 300 310 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2389.52 47.45 54.00 -6.55 39.51 32.26 7.76 32.08 300 310 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2422.00 92.21 ------ ------ 84.15 32.32 7.82 32.08 300 310 AVERAGE

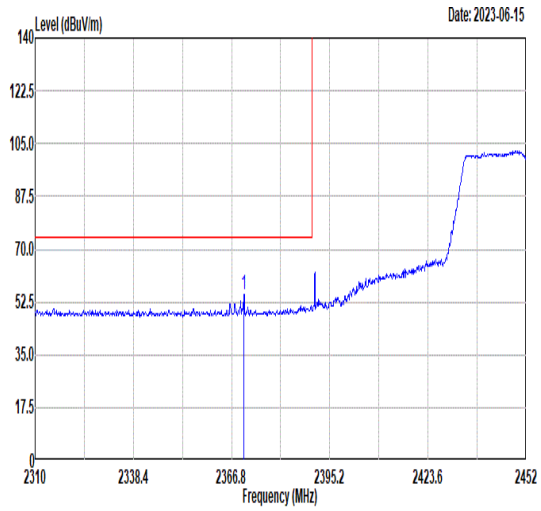
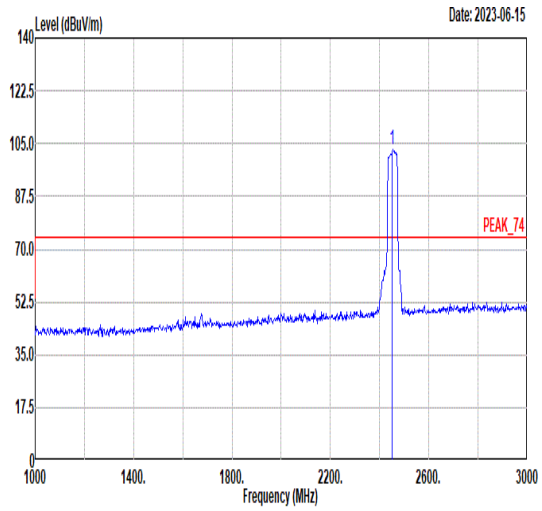
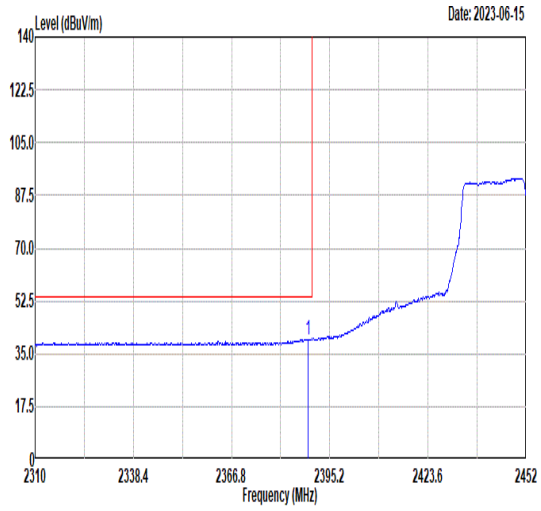
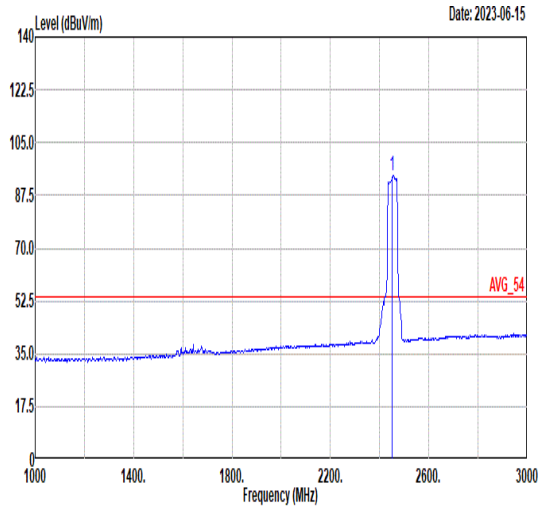
Mode	10	
	Band Edge - R	
	2400-2483.5_802.11ac VHT40_CH03_2422MHz	
ANT	6	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2483.54 51.13 74.00 -22.87 42.89 32.46 7.88 32.10 300 310 PEAK	Blank
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2484.09 40.26 54.00 -13.74 32.02 32.46 7.88 32.10 300 310 AVERAGE	Blank

Mode	10	
	Band Edge - L	
	2400-2483.5_802.11ac VHT40_CH03_2422MHz	
ANT	6	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2389.97 60.59 74.00 -13.41 52.65 32.26 7.76 32.08 297 290 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2422.00 104.43 ------ ------ 96.35 32.34 7.82 32.08 297 290 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2389.52 49.86 54.00 -4.14 41.92 32.26 7.76 32.08 297 290 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2422.00 95.00 ------ ------ 86.93 32.33 7.82 32.08 297 290 AVERAGE

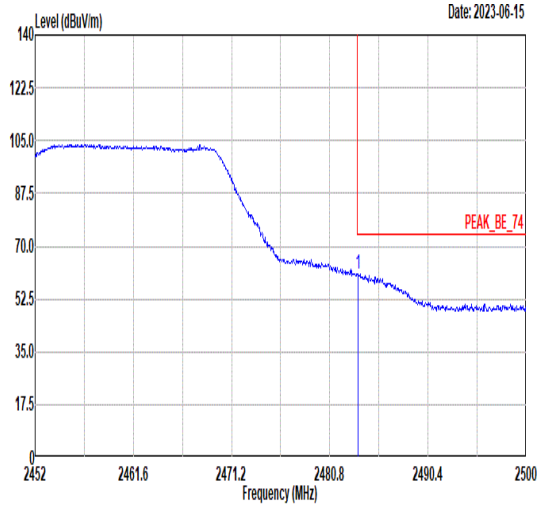
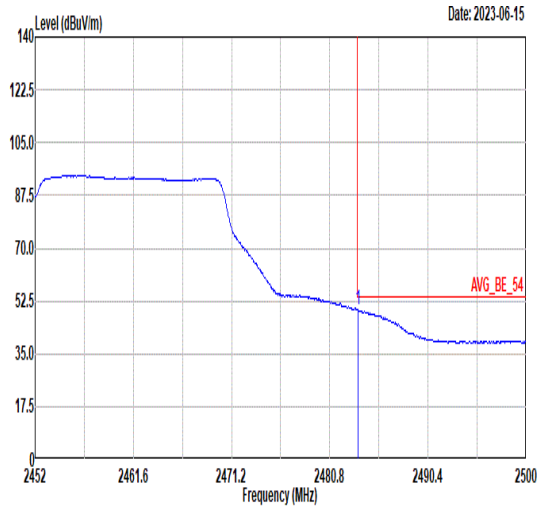
Mode	10	
	Band Edge - R	
	2400-2483.5_802.11ac VHT40_CH03_2422MHz	
ANT	6	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2484.79 52.38 74.00 -21.62 44.13 32.47 7.88 32.10 297 290 PEAK	Blank
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2483.78 41.34 54.00 -12.66 33.10 32.46 7.88 32.10 297 290 AVERAGE	Blank

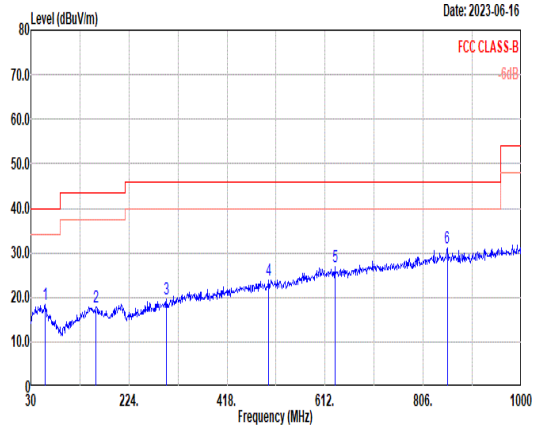
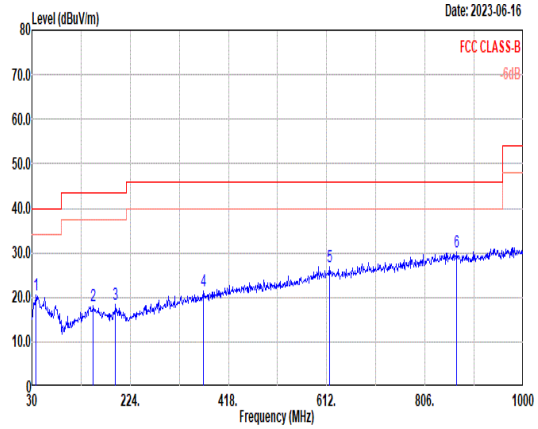
Mode	11	
	Band Edge - L	
	2400-2483.5_802.11ac VHT40_CH09_2452MHz	
ANT	6	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2373.90 50.74 74.00 -23.26 42.87 32.22 7.72 32.07 360 322 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2452.00 102.41 ------ ------ 94.25 32.40 7.85 32.09 360 322 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2388.38 39.24 54.00 -14.76 31.31 32.25 7.76 32.08 360 322 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2452.00 92.59 ------ ------ 84.43 32.40 7.85 32.09 360 322 AVERAGE

Mode	11	
	Band Edge - R	
	2400-2483.5_802.11ac VHT40_CH09_2452MHz	
ANT	6	
Pol.	Horizontal	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2483.58 59.30 74.00 -14.70 51.06 32.46 7.88 32.10 360 322 PEAK	Blank
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2483.58 48.07 54.00 -5.93 39.83 32.46 7.88 32.10 360 322 AVERAGE	Blank

Mode	11	
	Band Edge - L	
	2400-2483.5_802.11ac VHT40_CH09_2452MHz	
ANT	6	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2370.35 55.06 74.00 -18.94 47.21 32.21 7.71 32.07 315 290 PEAK	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2452.00 103.19 ------ ------ 95.03 32.40 7.85 32.09 315 290 PEAK
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2388.95 39.74 54.00 -14.26 31.80 32.26 7.76 32.08 315 290 AVERAGE	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark 1 2452.00 94.03 ------ ------ 85.87 32.40 7.85 32.09 315 290 AVERAGE

Note: The higher Signals which are no mark are within frequency band can be ignored.

Mode	11	
	Band Edge - R	
	2400-2483.5_802.11ac VHT40_CH09_2452MHz	
ANT	6	
Pol.	Vertical	Fundamental
Peak	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2483.54 60.77 74.00 -13.23 52.53 32.46 7.88 32.10 315 290 PEAK	Blank
Avg	 Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB cm deg 1 2483.54 49.46 54.00 -4.54 41.22 32.46 7.88 32.10 315 290 AVERAGE	Blank

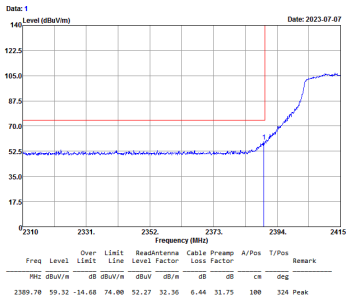
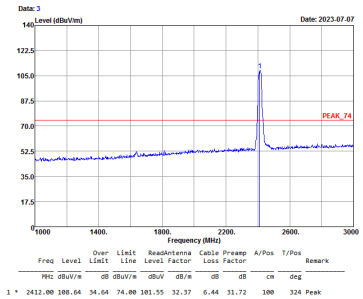
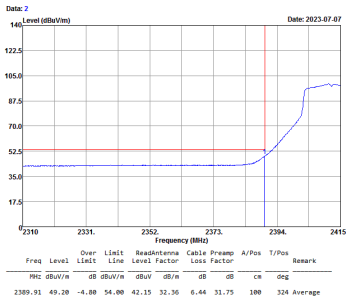
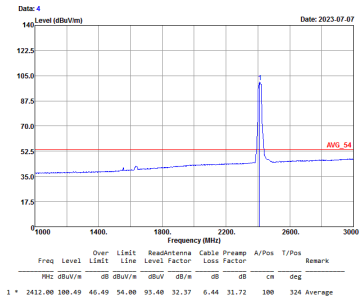
Mode	12	
	LF	
	2400-2483.5_802.11b_CH01_2412MHz	
ANT	6	
Pol.	Horizontal	Vertical
QP/ Peak		

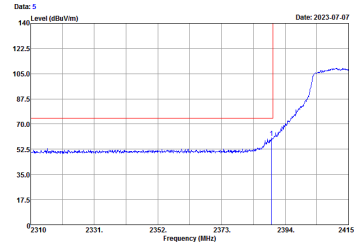
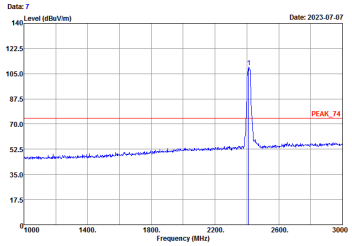
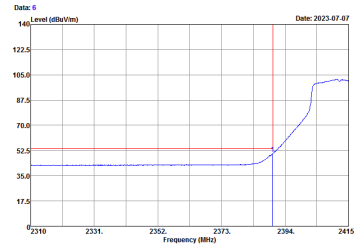
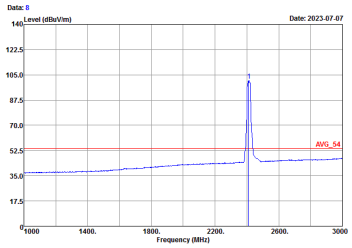
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	cm	deg	
1	58.13	18.54	40.00	-21.46	35.71	12.86	1.57	31.60	---	---	Peak
2	159.01	17.95	43.50	-25.55	30.77	16.32	2.24	31.38	---	---	Peak
3	297.72	19.72	46.00	-26.28	29.05	19.38	2.71	31.42	---	---	Peak
4	499.48	23.77	46.00	-22.23	27.80	23.69	3.48	31.20	---	---	Peak
5	631.40	26.80	46.00	-19.20	29.38	25.09	3.81	31.48	---	---	Peak
6	853.53	31.09	46.00	-14.91	31.58	26.52	4.40	31.41	---	---	Peak

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	cm	deg	
1	37.76	20.63	40.00	-19.37	30.33	20.44	1.30	31.44	---	---	Peak
2	151.25	18.18	43.50	-25.32	30.90	16.48	2.20	31.40	---	---	Peak
3	194.90	18.47	43.50	-25.03	32.14	15.35	2.29	31.31	---	---	Peak
4	368.53	21.35	46.00	-24.65	28.70	21.02	2.97	31.34	---	---	Peak
5	617.82	26.82	46.00	-19.18	29.55	25.01	3.79	31.53	---	---	Peak
6	869.05	30.24	46.00	-15.76	30.63	26.62	4.43	31.44	---	---	Peak

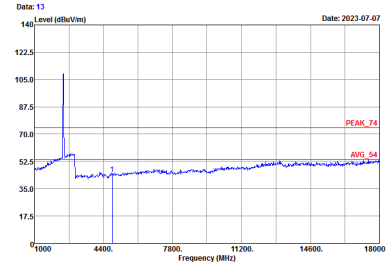
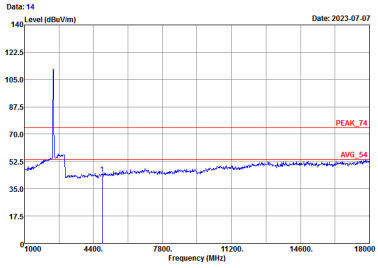
Co-location

802. 11ac VHT20 CH01 2412MHz&LTE Band13 (Band Edge @ 3m)

	Horizontal	Fundamental
Peak		
Avg.		

	Vertical	Fundamental
Peak	 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2389.49 60.33 -13.67 74.00 53.28 32.36 6.44 31.75 218 319 Peak	 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2412.00 109.74 35.74 74.00 102.65 32.37 6.44 31.72 218 319 Peak
Avg.	 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 2389.91 50.22 -3.78 54.00 43.17 32.36 6.44 31.75 218 319 Average	 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 * 2412.00 101.13 47.13 54.00 94.04 32.37 6.44 31.72 218 319 Average

802.11ac VHT20 CH01 2412MHz &LTE Band13 (Harmonic @ 3m)

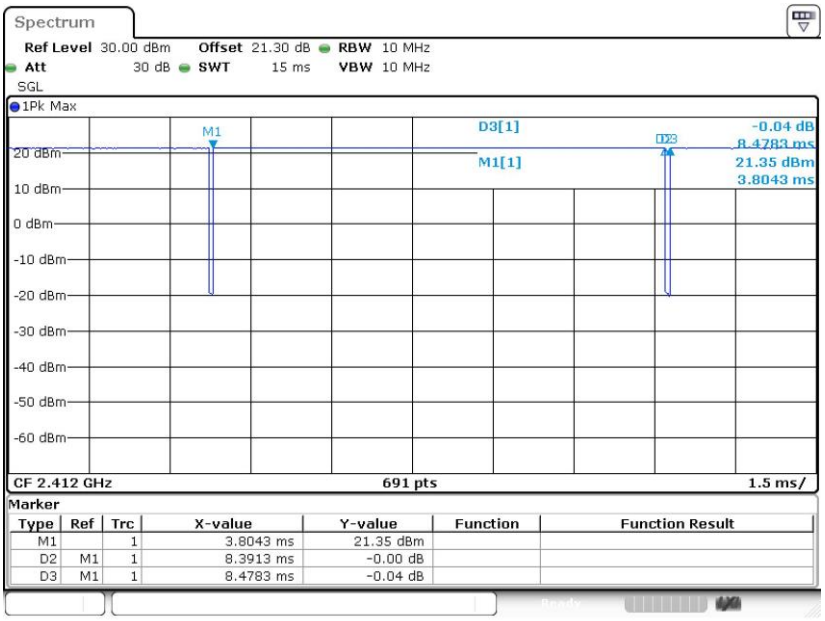
	Horizontal	Vertical
Peak **Avg.**	 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4824.00 44.52 -29.48 74.00 58.15 34.40 9.47 57.50 --- --- Peak	 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4824.00 44.48 -29.52 74.00 58.11 34.40 9.47 57.50 --- --- Peak

Note: The over limit line signals are Fundamental signal which can be ignored.

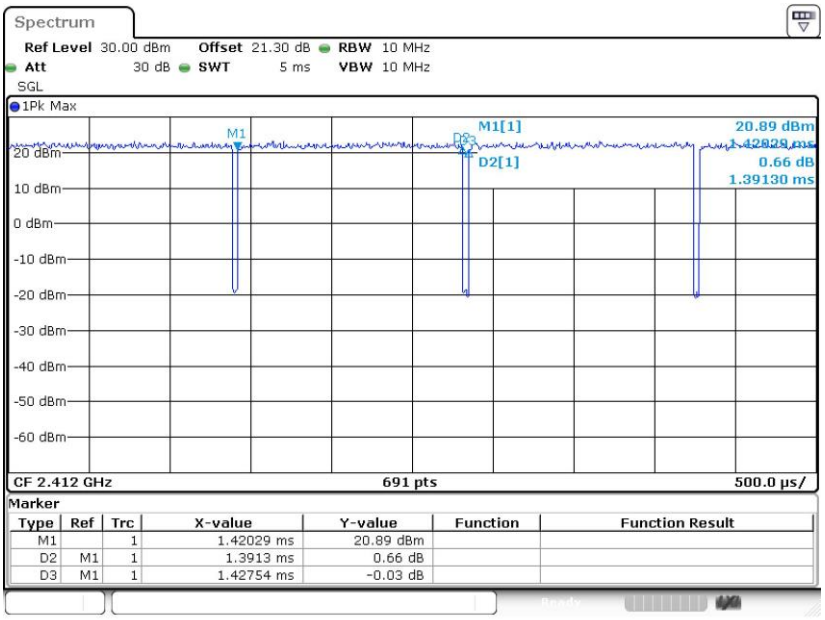
Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11b	98.97	-	-	10Hz
802.11g	97.46	1.391	0.719	1KHz
802.11ac VHT20	97.28	1.297	0.771	1KHz
802.11ac VHT40	92.92	0.646	1.547	3KHz

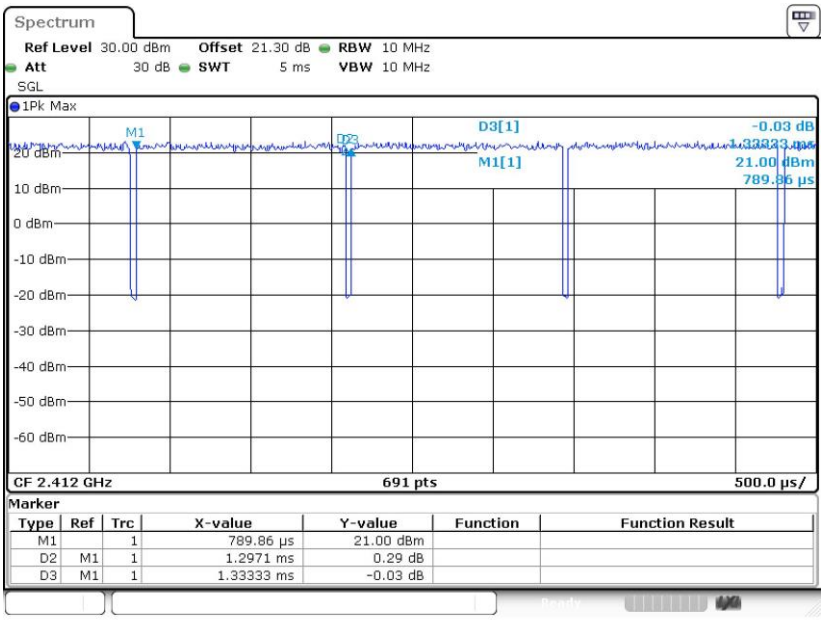
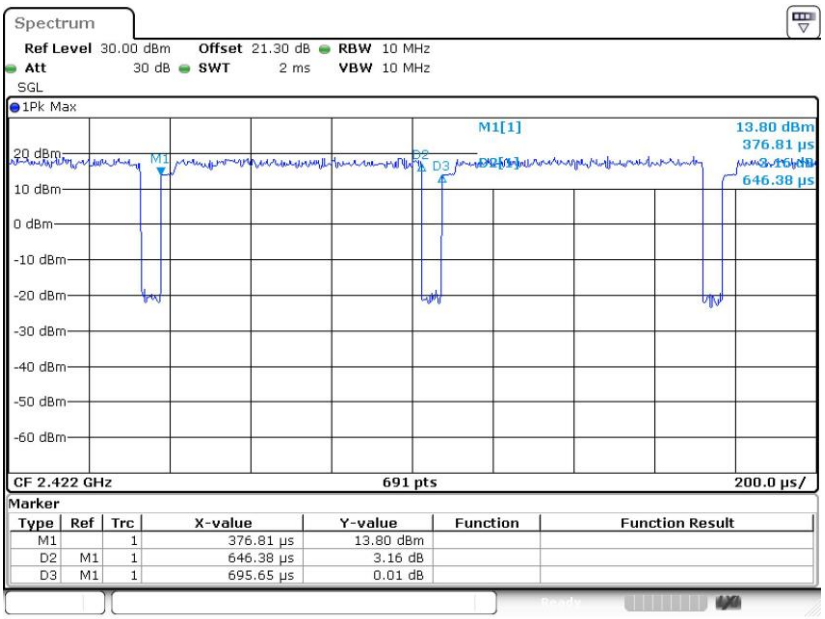
802.11b



802.11g



802.11ac VHT20



802.11 ac VHT 40