

Appendix B: Test Results of Radiated Spurious Emissions & Mains

Conducted Emission Test

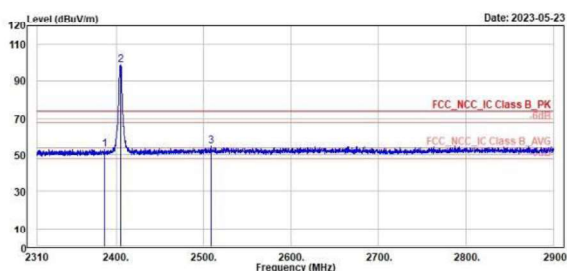
Band Edges, 2.31GHz ~ 2.9GHz

IEEE802.15.4

Low Channel (Horizontal) Peak



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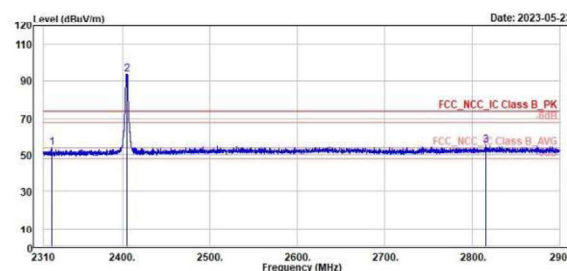


Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	2387.29	52.97	15.40	37.57	74.00	-21.03	125	203	Peak	Horizontal	
2 *	2405.00	98.85	61.21	37.64	74.00	24.85	125	203	Peak	Horizontal	
3	2508.36	54.73	16.87	37.86	74.00	-19.27	125	203	Peak	Horizontal	

Low Channel (Vertical) Peak



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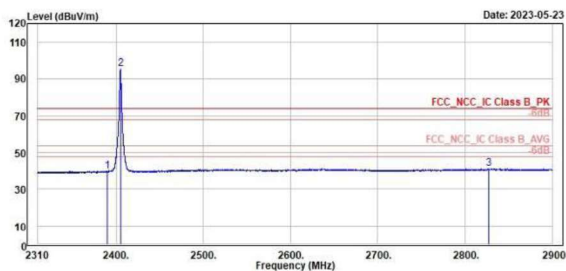
Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	2319.56	53.65	16.37	37.28	74.00	-20.35	388	171	Peak	Vertical	
2 *	2405.00	94.20	56.56	37.64	74.00	20.20	388	171	Peak	Vertical	
3	2815.63	55.28	17.09	38.19	74.00	-16.72	388	171	Peak	Vertical	

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Low Channel (Horizontal) Average



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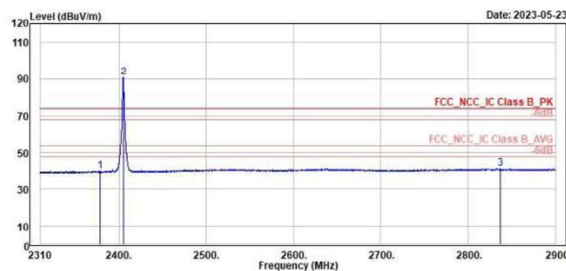


	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	2389.77	49.14	2.56	37.58	54.00	-13.86	125	203	Average	Horizontal		
2 *	2405.00	95.62	57.98	37.64	54.00	41.62	125	203	Average	Horizontal		
3	2827.19	41.52	3.33	38.19	54.00	-12.48	125	203	Average	Horizontal		

Low Channel (Vertical) Average



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	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	2378.68	49.11	2.59	37.52	54.00	-13.89	388	171	Average	Vertical		
2 *	2405.00	98.99	53.35	37.64	54.00	36.99	388	171	Average	Vertical		
3	2836.16	41.50	3.32	38.18	54.00	-12.50	388	171	Average	Vertical		

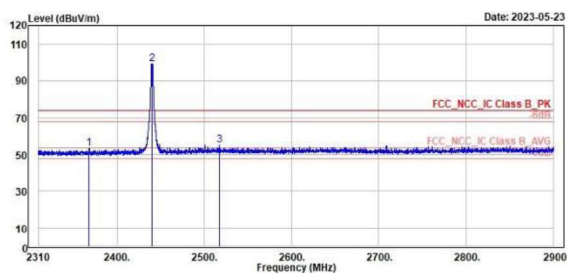
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Middle Channel (Horizontal) Peak

Middle Channel (Vertical) Peak



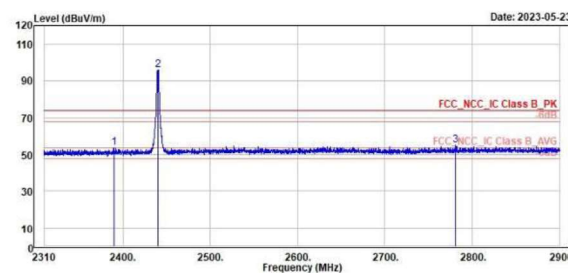
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Peak	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2368.06	53.36	15.98	37.46	74.00	-20.64	100	202	Peak	HORIZONTAL		
2 *	2440.00	99.56	61.88	37.68	74.00	25.56	100	202	Peak	HORIZONTAL		
3	2517.33	55.41	17.54	37.87	74.00	-18.59	100	202	Peak	HORIZONTAL		



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Peak	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2389.65	53.80	16.22	37.58	74.00	-20.20	372	177	Peak	Vertical		
2 *	2440.00	96.23	58.55	37.68	74.00	22.23	372	177	Peak	Vertical		
3	2780.47	55.12	16.94	38.18	74.00	-18.88	372	177	Peak	Vertical		

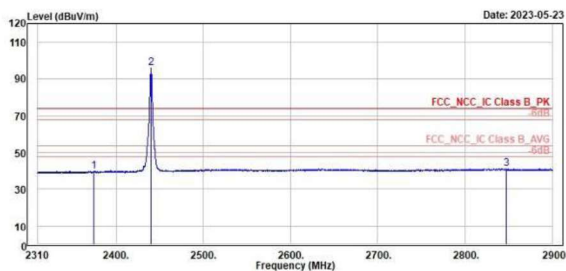
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Middle Channel (Horizontal) Average

Middle Channel (Vertical) Average



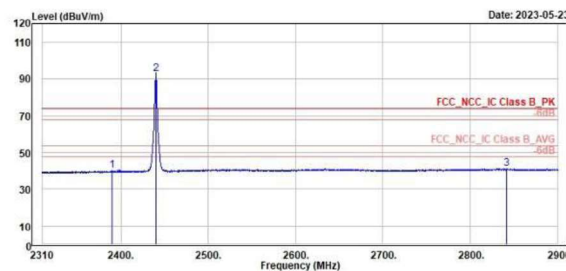
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	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	2374.78	49.28	2.78	37.50	54.00	-13.72	100	202	Average	HORIZONTAL		
2 *	2440.00	96.28	56.69	37.68	54.00	42.28	100	202	Average	HORIZONTAL		
3	2847.49	41.49	3.32	38.17	54.00	-12.51	100	202	Average	HORIZONTAL		



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	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	2389.41	49.74	3.16	37.58	54.00	-13.26	372	177	Average	Vertical		
2 *	2440.00	92.84	55.26	37.68	54.00	38.84	372	177	Average	Vertical		
3	2841.59	41.62	3.45	38.17	54.00	-12.38	372	177	Average	Vertical		

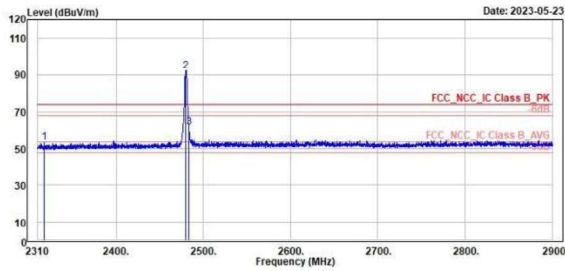
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High Channel (Horizontal) Peak

High Channel (Vertical) Peak



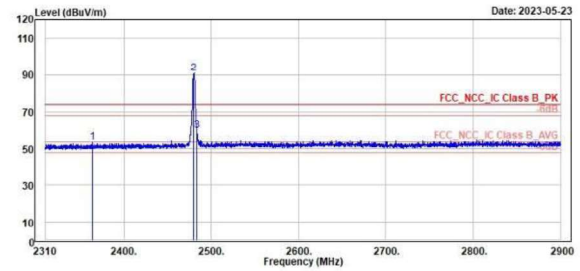
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	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2317.20	53.30	16.04	37.26	74.00	-20.70	122	190	Peak	Horizontal		
2 *	2480.00	92.11	54.52	37.79	74.00	18.11	122	190	Peak	Horizontal		
3	2483.46	61.46	23.66	37.80	74.00	-12.54	122	190	Peak	Horizontal		



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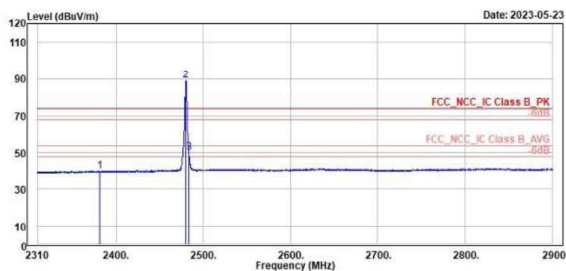
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	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2364.16	53.60	16.15	37.45	74.00	-20.40	100	160	Peak	Vertical		
2 *	2480.00	90.62	52.83	37.79	74.00	16.62	100	160	Peak	Vertical		
3	2483.46	59.83	22.03	37.80	74.00	-14.17	100	160	Peak	Vertical		

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High Channel (Horizontal) Average



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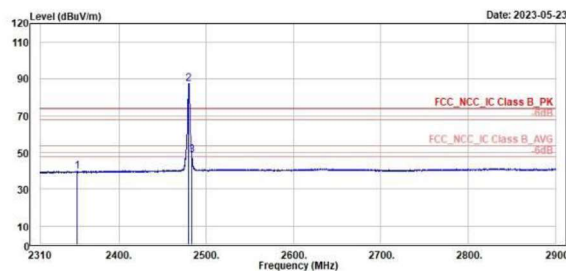


Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	2388.00	49.19	2.66	37.53	54.00	-13.81	122	190	Average	Horizontal	
2 *	2488.00	88.83	51.04	37.79	54.00	34.83	122	190	Average	Horizontal	
3 †	2483.46	50.20	12.40	37.80	54.00	-3.80	122	190	Average	Horizontal	

High Channel (Vertical) Average



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Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	2352.13	49.20	2.81	37.39	54.00	-13.80	100	160	Average	Vertical	
2 *	2488.00	87.37	49.58	37.79	54.00	33.37	100	160	Average	Vertical	
3 †	2483.46	48.80	11.00	37.80	54.00	-5.20	100	160	Average	Vertical	

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

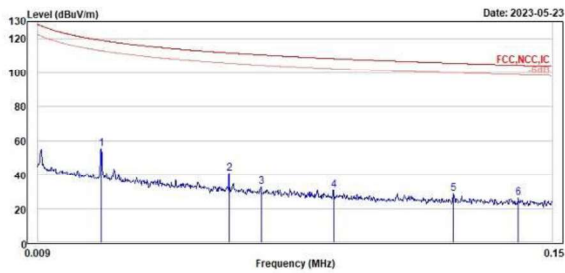
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Middle Channel (Open) 9kHz~150kHz

Middle Channel (Open) 150kHz~30MHz



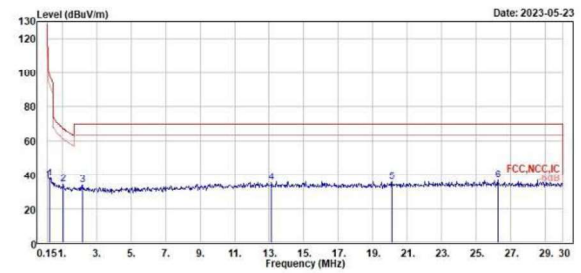
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Peak	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	0.03	55.37	36.42	18.95	119.13	-63.76	100	323 Peak	Open	
2	0.06	40.82	21.97	18.85	111.82	-71.00	100	360 Peak	Open	
3	0.07	32.78	14.14	18.64	110.67	-77.89	100	328 Peak	Open	
4	0.09	30.64	12.48	18.16	108.50	-77.86	100	156 Peak	Open	
5	0.12	28.53	10.51	18.02	105.00	-77.27	100	361 Peak	Open	
6	0.14	26.00	7.91	18.09	104.63	-78.63	100	360 Peak	Open	



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Peak	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	0.27	37.36	18.74	18.62	98.99	-61.63	100	61 Peak	Open	
2	1.08	34.32	15.23	19.09	66.97	-32.65	100	303 Peak	Open	
3	2.21	33.71	14.30	19.41	69.50	-35.79	100	105 Peak	Open	
4	13.13	34.89	13.11	21.78	69.50	-34.61	100	278 Peak	Open	
5	20.09	35.66	13.42	22.24	69.50	-33.84	100	72 Peak	Open	
6	26.24	36.77	14.47	22.30	69.50	-32.73	100	105 Peak	Open	

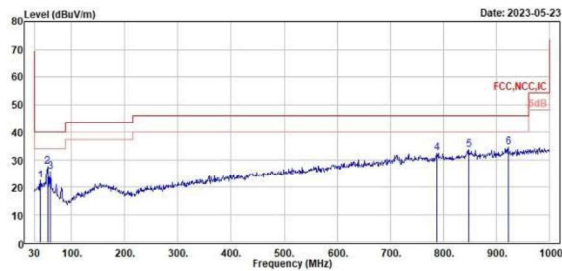
Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

IEEE802.15.4

Middle Channel (Horizontal)



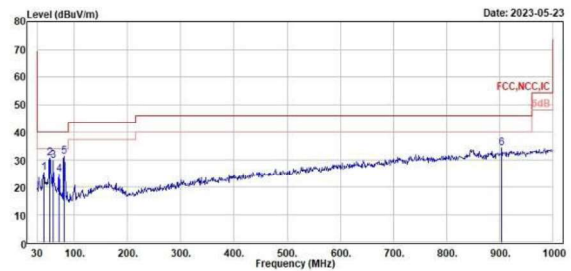
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	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	40.67	22.65	30.56	-7.91	40.00	-17.35	300	83 Peak	Horizontal	
2	54.25	27.68	34.67	-6.99	40.00	-12.32	100	190 Peak	Horizontal	
3	60.07	25.83	33.51	-7.68	40.00	-14.17	100	360 Peak	Horizontal	
4	787.57	32.54	29.59	2.95	46.00	-13.46	200	316 Peak	Horizontal	
5	848.68	33.71	30.05	3.66	46.00	-12.29	400	315 Peak	Horizontal	
6	922.40	34.76	29.90	4.86	46.00	-11.24	300	256 Peak	Horizontal	



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	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	41.64	25.57	33.34	-7.77	40.00	-14.43	100	193 Peak	Vertical	
2	53.28	30.78	37.69	-6.91	40.00	-9.22	267	233 Peak	Vertical	
3	60.07	29.76	37.44	-7.68	40.00	-10.24	200	12 Peak	Vertical	
4	70.74	24.94	35.07	-10.13	40.00	-15.06	100	307 Peak	Vertical	
5	80.44	31.20	43.43	-12.23	40.00	-8.80	200	318 Peak	Vertical	
6	903.97	34.28	29.94	4.34	46.00	-11.72	300	124 Peak	Vertical	

Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

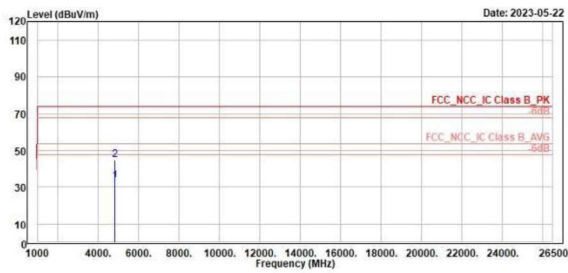
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Low Channel (Horizontal)

Low Channel (Vertical)



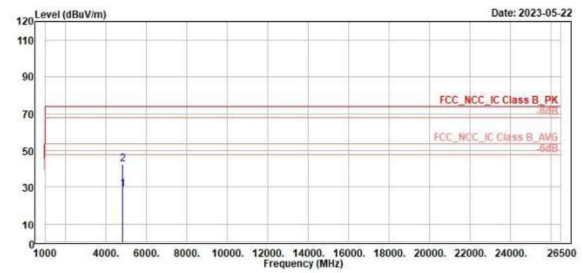
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	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	4810.00	33.68	44.06	-10.38	54.00	-20.32	251			1 Average	Horizontal	
2	4810.00	44.95	55.33	-10.38	74.00	-29.05	251			1 Peak	Horizontal	



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	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	4810.00	28.96	39.34	-10.38	54.00	-25.04	336	360	Average	Vertical		
2	4810.00	42.76	53.14	-10.38	74.00	-31.24	336	360	Peak	Vertical		

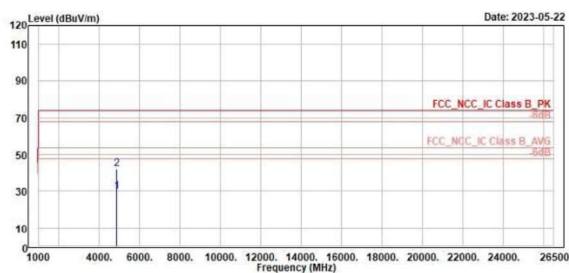
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Middle Channel (Horizontal)

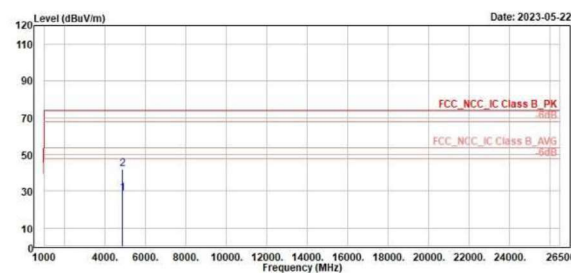
Middle Channel (Vertical)



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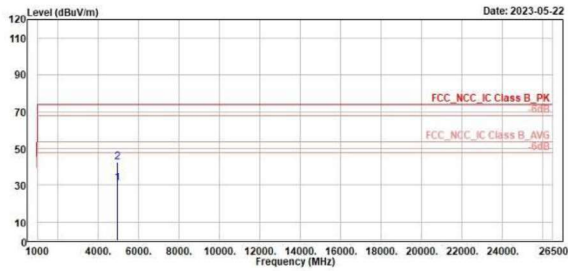
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High Channel (Horizontal)

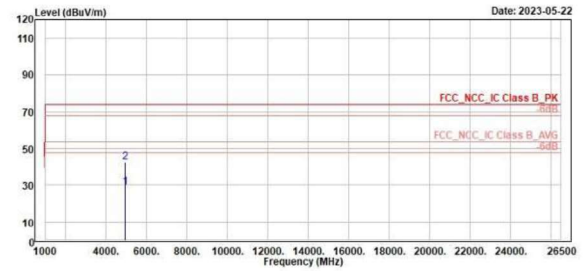
High Channel (Vertical)



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Mains Conducted Emission, 150kHz ~ 30MHz

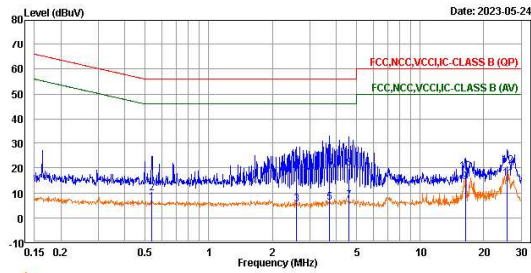
Worst Band

(Line)

(Neutral)



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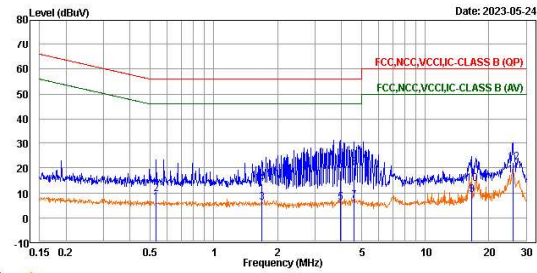


Trace: 1

	Freq	Level	Read	Limit	Over			
	MHz	dBuV	Level Factor	Line	Limit	Remark	Pol/Phase	Note
1	0.54	5.92	-3.71	9.63	46.00	-40.08 Average	line1	
2	0.54	10.01	0.38	9.63	56.00	-45.99 QP	line1	
3	2.60	5.53	-4.13	9.66	46.00	-40.47 Average	line1	
4	2.60	18.46	8.80	9.66	56.00	-37.54 QP	line1	
5	3.74	6.02	-3.66	9.68	46.00	-39.98 Average	line1	
6	3.74	19.67	9.99	9.68	56.00	-36.33 QP	line1	
7	4.60	6.61	-3.09	9.70	46.00	-39.39 Average	line1	
8	4.60	19.78	10.08	9.70	56.00	-36.22 QP	line1	
9	16.33	14.15	4.38	9.77	50.00	-35.85 Average	line1	
10	16.33	18.56	8.79	9.77	60.00	-41.44 QP	line1	
11	25.83	15.57	5.83	9.74	50.00	-34.43 Average	line1	
12	25.83	20.96	11.22	9.74	60.00	-39.04 QP	line1	



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Trace: 1

	Freq	Level	Read	Limit	Over			
	MHz	dBuV	Level Factor	Line	Limit	Remark	Pol/Phase	Note
1	0.53	5.92	-3.71	9.63	46.00	-40.08 Average	neutral	
2	0.53	9.57	-0.06	9.63	56.00	-46.43 QP	neutral	
3	1.69	6.05	-3.61	9.66	46.00	-39.95 Average	neutral	
4	1.69	13.53	3.87	9.66	56.00	-42.47 QP	neutral	
5	3.97	6.25	-3.44	9.69	46.00	-39.75 Average	neutral	
6	3.97	18.64	8.95	9.69	56.00	-37.36 QP	neutral	
7	4.60	6.67	-3.04	9.71	46.00	-39.33 Average	neutral	
8	4.60	20.04	10.33	9.71	56.00	-35.96 QP	neutral	
9	16.50	9.10	-0.74	9.84	50.00	-46.90 Average	neutral	
10	16.50	13.77	3.93	9.84	60.00	-46.23 QP	neutral	
11	25.96	16.89	7.02	9.87	50.00	-33.11 Average	neutral	
12	25.96	22.15	12.28	9.87	60.00	-37.85 QP	neutral	