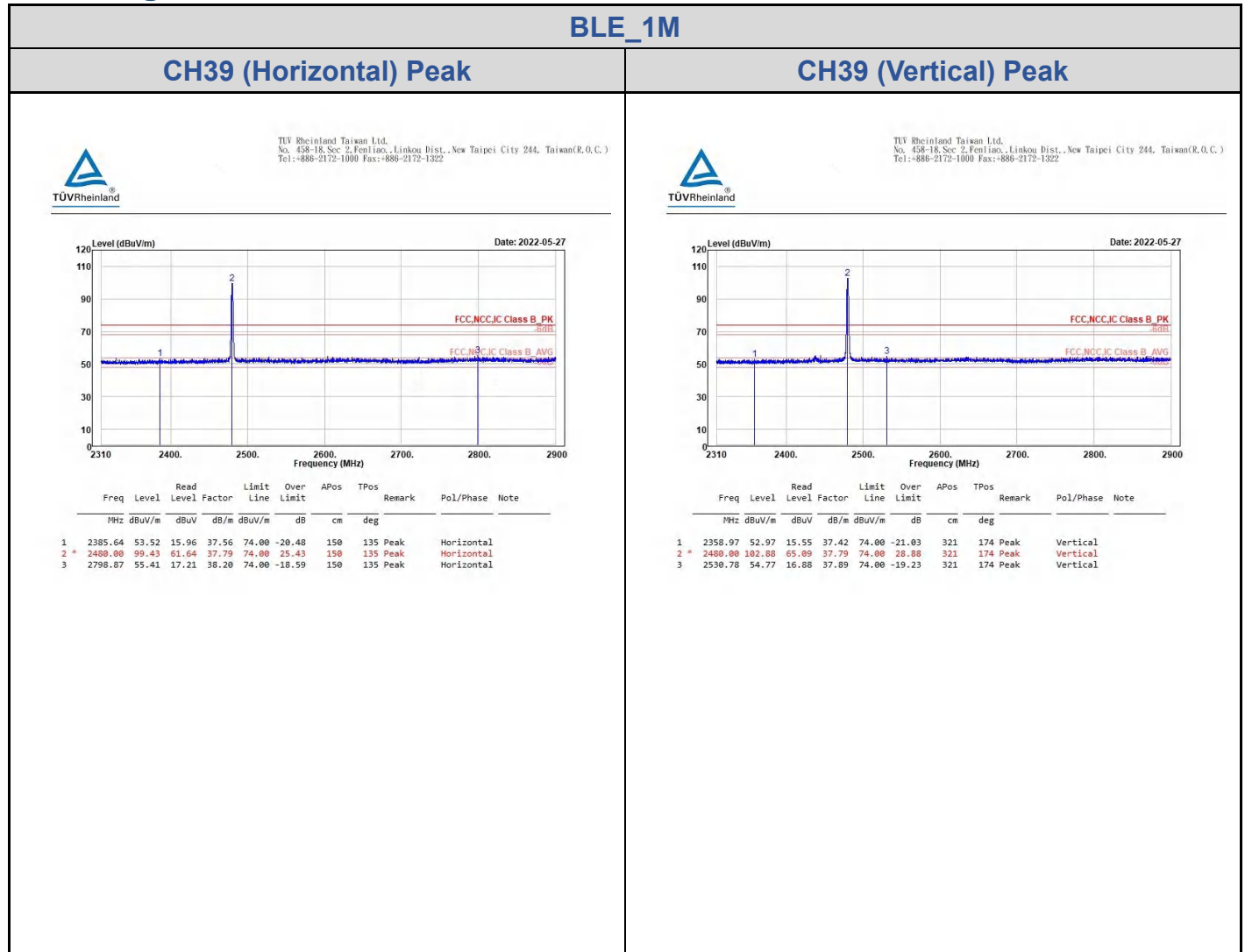


Appendix C:

Test Results of Radiated Spurious Emissions by PCB Antenna (ECC)
Band Edges, 2.31GHz ~ 2.9GHz



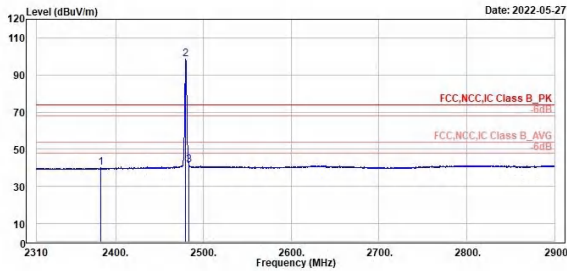
BLE_1M

CH39 (Horizontal) Average

CH39 (Vertical) Average



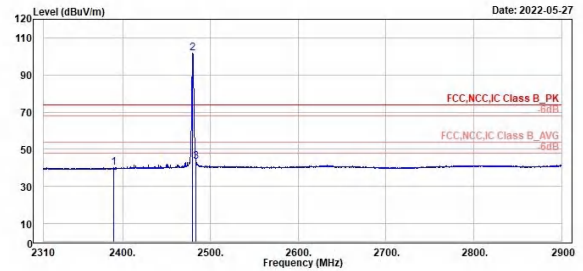
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Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	2382.69	39.99	2.45	37.54	54.00	-14.01	150	135	Average	Horizontal	
2 *	2480.00	98.34	60.53	37.79	54.00	44.34	150	135	Average	Horizontal	
3	2483.58	41.63	3.83	37.80	54.00	-12.37	150	135	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	2389.53	40.16	2.58	37.58	54.00	-13.84	321	174	Average	Vertical	
2 *	2480.00	101.81	64.02	37.79	54.00	47.81	321	174	Average	Vertical	
3	2483.46	43.24	5.44	37.80	54.00	-10.76	321	174	Average	Vertical	

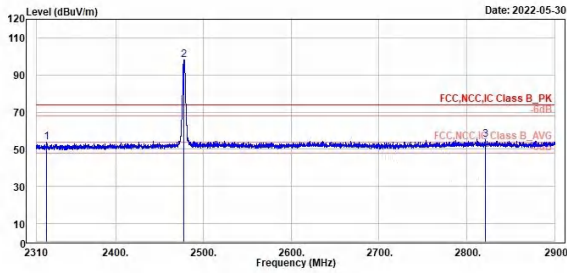
BLE_2M

CH38 (Horizontal) Peak

CH38 (Vertical) Peak



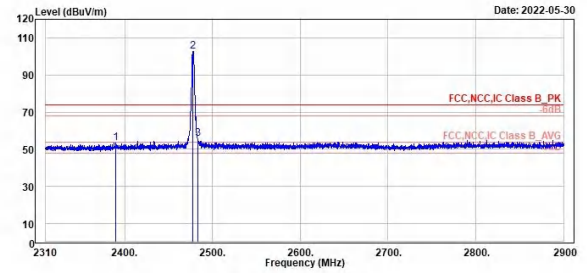
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Peak	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2321.09	53.97	16.69	37.28	74.00	-20.03	170		224 Peak	Horizontal	
2 *	2476.00	98.13	60.35	37.78	74.00	24.13	170		224 Peak	Horizontal	
3	2821.18	55.39	17.20	38.19	74.00	-18.61	170		224 Peak	Horizontal	



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Peak	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2389.53	53.18	15.60	37.58	74.00	-20.82	181		178 Peak	Vertical	
2 *	2476.00	102.04	65.06	37.78	74.00	28.04	181		178 Peak	Vertical	
3	2483.70	55.72	17.92	37.80	74.00	-18.28	181		178 Peak	Vertical	

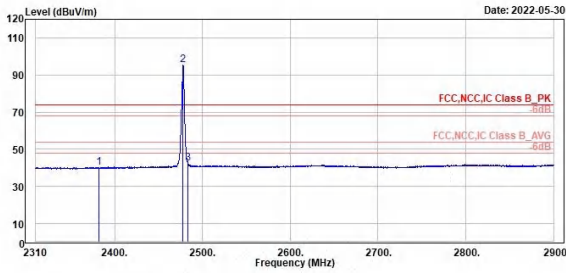
BLE_2M

CH38 (Horizontal) Average

CH38 (Vertical) Average



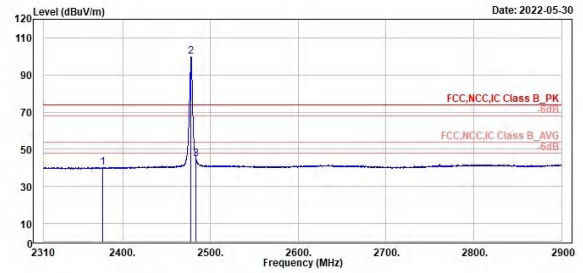
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Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2381.86	40.26	2.72	37.54	54.00	-13.74	170	224	Average	Horizontal	
2 *	2478.00	95.28	57.50	37.78	54.00	41.28	170	224	Average	Horizontal	
3	2483.58	42.39	4.59	37.80	54.00	-11.61	170	224	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	dB	cm	deg			
1	2377.73	40.31	2.79	37.52	54.00	-13.69	181	178	Average	Vertical	
2 *	2478.00	99.89	62.11	37.78	54.00	45.89	181	178	Average	Vertical	
3	2483.46	44.78	6.98	37.80	54.00	-9.22	181	178	Average	Vertical	

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

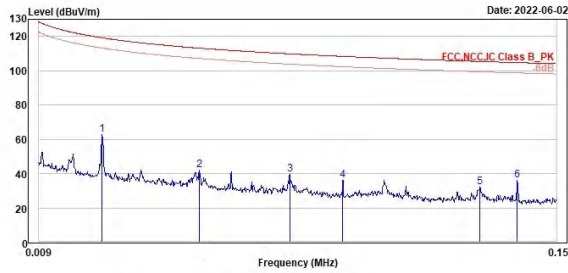
BLE_1M

CH0 (Open) 9kHz~150kHz

CH0 (Open) 150kHz~30MHz



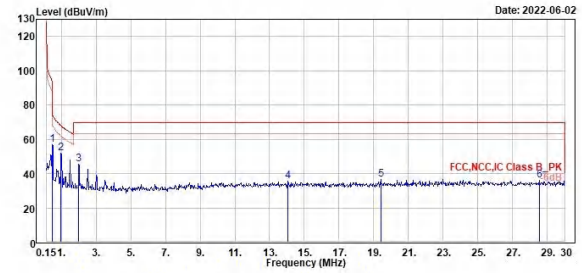
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Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note	
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	0.03	62.05	43.67	19.18	119.18	-56.33	100	341	QP	Open
2	0.05	42.01	22.76	19.25	113.13	-71.12	100	356	QP	Open
3	0.08	39.35	20.64	18.71	109.82	-70.47	100	162	QP	Open
4	0.09	36.27	17.88	18.39	108.34	-72.07	100	7	QP	Open
5	0.13	31.89	13.57	18.32	105.38	-73.49	100	160	QP	Open
6	0.14	36.14	17.70	18.36	104.72	-68.50	100	28	QP	Open



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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	0.40	56.71	37.76	18.95	94.01	-37.30	100	139	QP	Open
2	0.99	51.68	32.42	19.26	67.73	-16.05	100	149	QP	Open
3	2.00	45.35	25.94	19.41	69.50	-24.15	100	140	QP	Open
4	14.06	35.50	13.72	21.78	69.50	-34.00	100	147	QP	Open
5	19.40	36.43	14.28	22.15	69.50	-33.07	100	227	QP	Open
6	28.54	35.90	13.31	22.59	69.50	-33.60	100	64	QP	Open

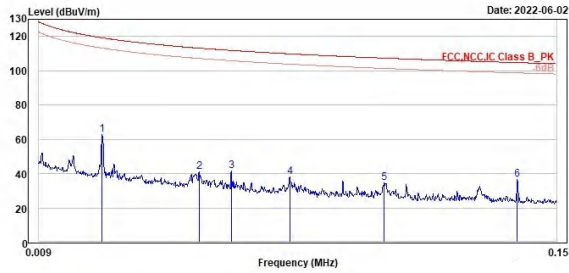
BLE_2M

CH1 (Open) 9kHz~150kHz

CH1 (Open) 150kHz~30MHz



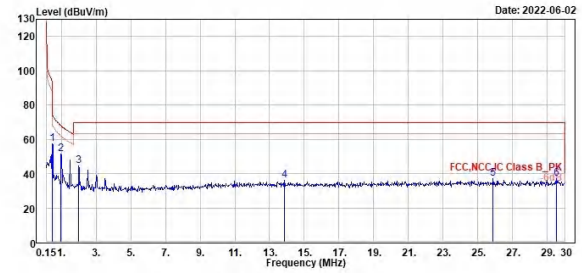
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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	0.03	62.90	43.72	19.18	119.18	-56.28	100	90	QP	Open	
2	0.05	40.97	21.72	19.25	113.13	-72.16	100	138	QP	Open	
3	0.06	41.38	22.32	19.06	111.82	-70.44	100	339	QP	Open	
4	0.08	38.23	19.52	18.71	109.82	-71.59	100	168	QP	Open	
5	0.10	34.74	16.51	18.23	107.34	-72.60	100	162	QP	Open	
6	0.14	36.58	18.22	18.36	104.72	-68.14	100	44	QP	Open	



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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	0.40	57.22	38.27	18.95	94.01	-36.79	100	142	QP	Open	
2	0.99	51.57	32.31	19.26	67.73	-16.16	100	151	QP	Open	
3	2.00	44.47	25.06	19.41	69.50	-25.03	100	149	QP	Open	
4	13.85	36.06	14.29	21.77	69.50	-33.44	100	223	QP	Open	
5	25.88	37.08	14.61	22.47	69.50	-32.42	100	47	QP	Open	
6	29.52	36.06	14.23	22.63	69.50	-32.64	100	250	QP	Open	

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

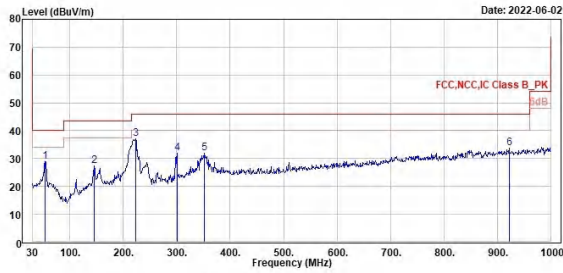
BLE_1M

CH0 (Horizontal)

CH0 (Vertical)



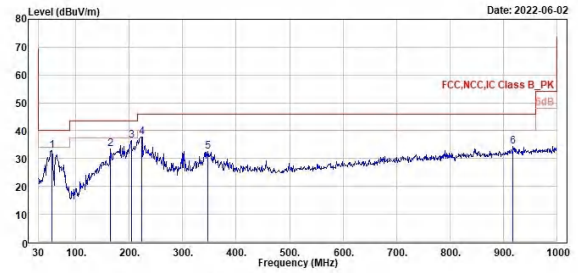
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Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	53.28	28.04	35.22	-6.38	40.00	-11.16	200	86 QP	Horizontal
2	145.43	27.32	33.55	-6.23	43.50	-16.18	100	238 QP	Horizontal
3	223.03	36.98	44.81	-7.83	46.00	-9.02	100	92 QP	Horizontal
4	300.63	32.06	36.78	-4.72	46.00	-13.94	220	324 QP	Horizontal
5	352.04	31.83	35.69	-3.86	46.00	-14.17	200	356 QP	Horizontal
6	922.40	33.79	28.70	5.09	46.00	-12.21	400	237 QP	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	55.22	32.99	39.51	-6.52	40.00	-7.01	100	34 QP	Vertical
2	164.83	33.45	39.37	-5.92	43.50	-10.05	100	133 QP	Vertical
3	223.63	36.48	44.74	-8.26	43.50	-7.02	100	162 QP	Vertical
4	223.03	37.78	45.61	-7.83	46.00	-8.22	100	241 QP	Vertical
5	347.19	32.44	36.37	-3.93	46.00	-13.56	100	66 QP	Vertical
6	918.52	34.52	29.55	4.97	46.00	-11.48	200	273 QP	Vertical

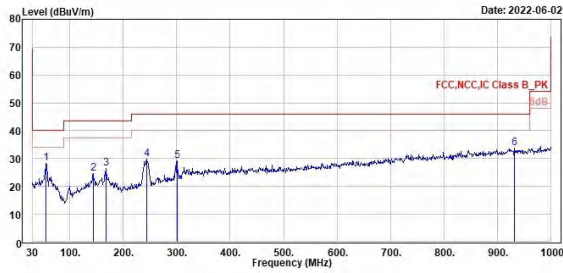
BLE_2M

CH1 (Horizontal)

CH1 (Vertical)



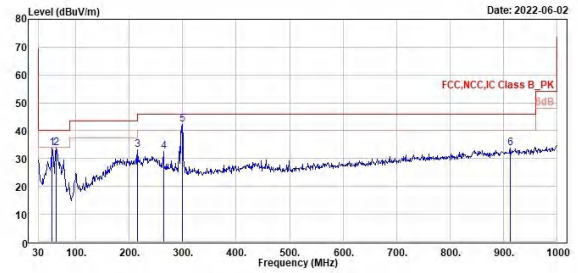
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Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	55.22	28.43	34.95	-6.52	48.00	-11.57	100	86 QP	Horizontal
2	143.49	24.61	30.80	-6.19	43.50	-18.89	300	272 QP	Horizontal
3	167.74	26.58	32.57	-5.99	43.50	-16.92	200	104 QP	Horizontal
4	243.40	29.66	36.37	-6.71	46.00	-16.34	100	94 QP	Horizontal
5	300.63	29.23	33.95	-4.72	46.00	-16.77	100	244 QP	Horizontal
6	932.10	33.76	28.40	5.28	46.00	-12.24	100	291 QP	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	55.22	33.91	48.43	-6.52	48.00	-6.09	100	232 QP	Vertical
2	62.98	33.67	41.32	-7.65	48.00	-6.33	100	232 QP	Vertical
3	215.27	33.10	41.24	-8.14	43.50	-10.40	100	152 QP	Vertical
4	263.77	32.63	38.79	-6.16	46.00	-13.37	100	182 QP	Vertical
5	299.66	42.24	46.97	-4.73	46.00	-3.76	100	197 QP	Vertical
6	912.70	33.06	28.79	4.27	46.00	-12.34	100	9 QP	Vertical

Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

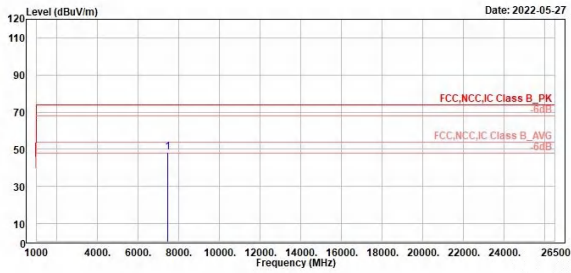
BLE_1M

CH39 (Horizontal)

CH39 (Vertical)



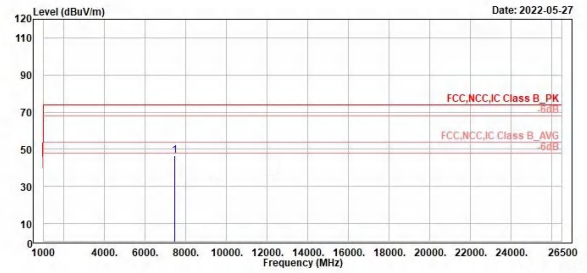
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Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	7440.00	48.53	55.88	-7.35	74.00	+25.47	300	118 Peak	Horizontal	



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Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	7440.00	46.51	53.86	-7.35	74.00	-27.49	248	360 Peak	Vertical	

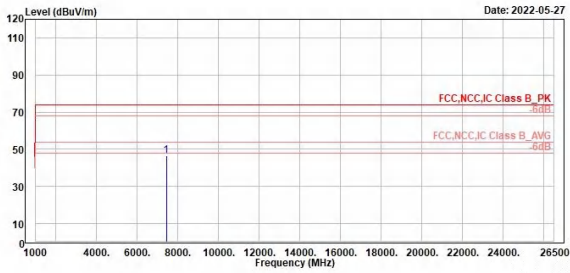
BLE_2M

CH38 (Horizontal)

CH38 (Vertical)



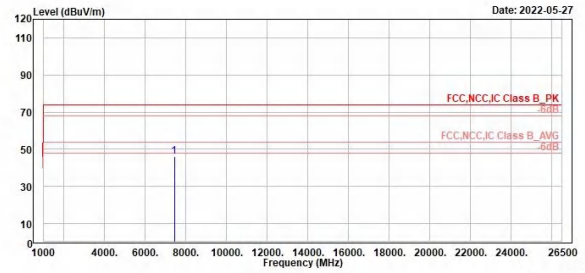
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Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	7434.00	46.69	54.04	-7.35	74.00	-27.31	300	128 Peak	Horizontal	



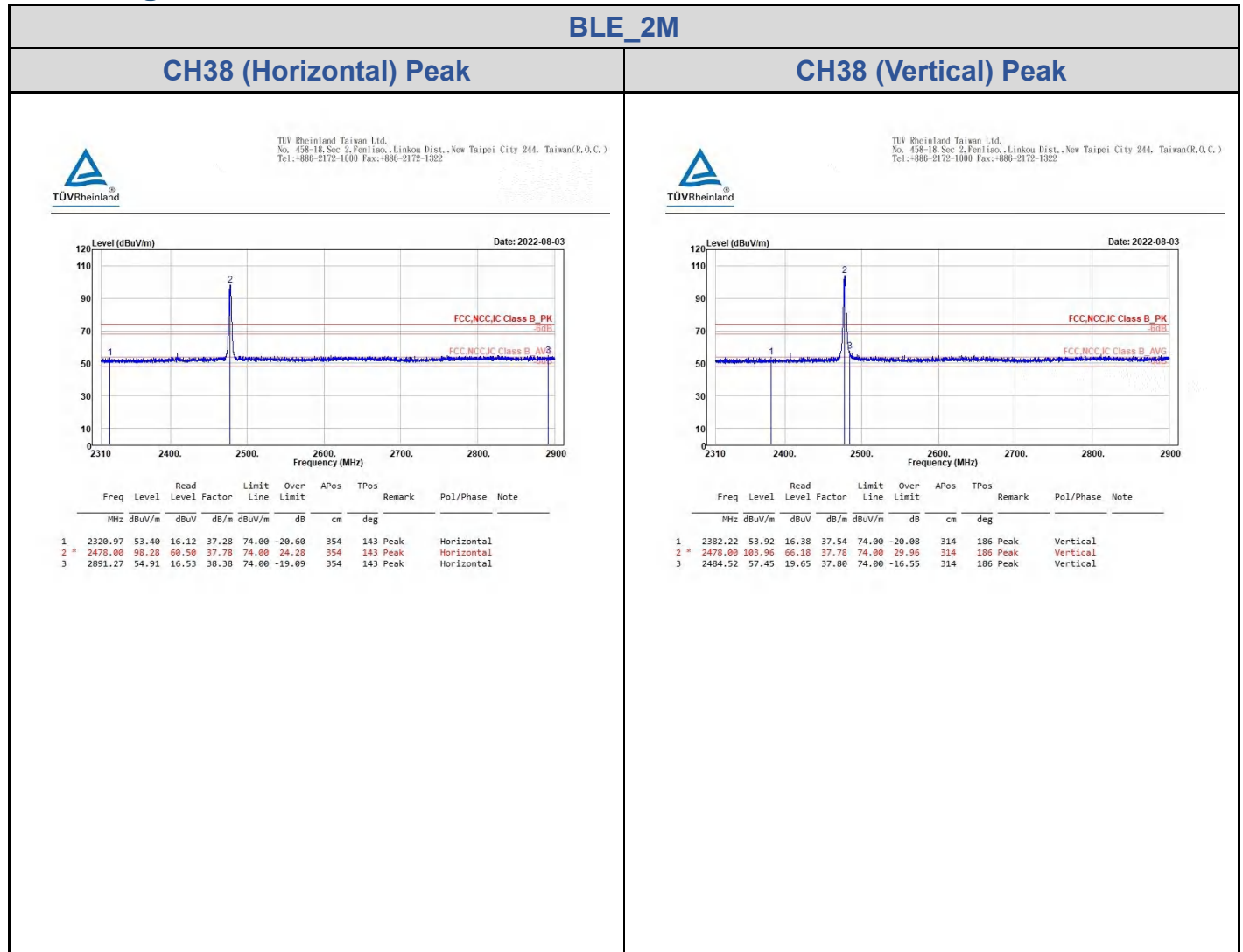
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Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	7434.00	46.16	53.51	-7.35	74.00	-27.84	300	198 Peak	Vertical	

Test Results of Radiated Spurious Emissions by PCB Antenna (ECC, Buck PWM On)

Band Edges, 2.31GHz ~ 2.9GHz



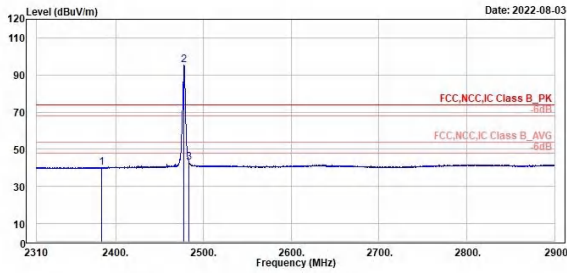
BLE_2M

CH38 (Horizontal) Average

CH38 (Vertical) Average



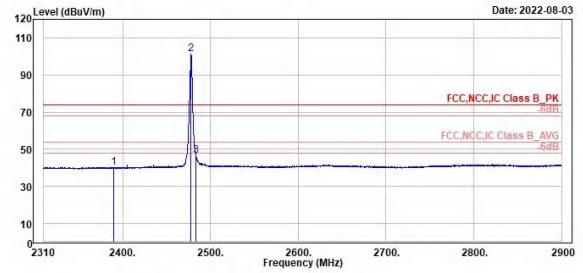
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1	2	3							
Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
2383.87	48.32	2.77	37.55	54.00	-13.68	354	143 Average	Horizontal	
2478.00	95.43	57.65	37.78	54.00	41.43	354	143 Average	Horizontal	
2483.78	42.95	5.15	37.80	54.00	-11.05	354	143 Average	Horizontal	



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1	2	3							
Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
2398.00	48.35	2.77	37.58	54.00	-13.65	314	186 Average	Vertical	
2478.00	101.09	63.31	37.78	54.00	47.09	314	186 Average	Vertical	
2483.46	46.53	8.73	37.80	54.00	-7.47	314	186 Average	Vertical	

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

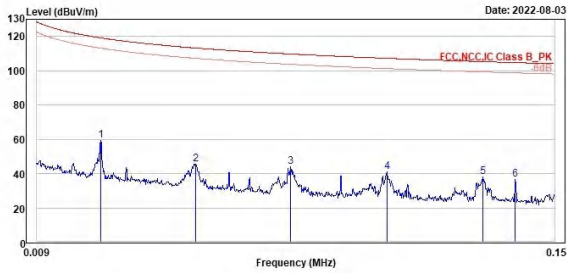
BLE_2M

CH38 (Open) 9kHz~150kHz

CH38 (Open) 150kHz~30MHz



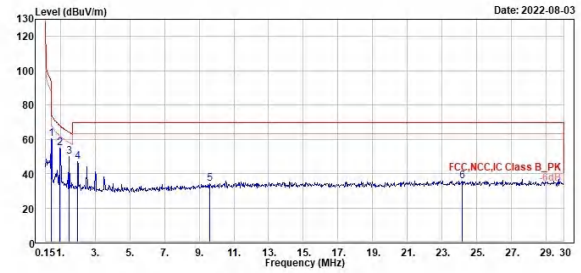
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Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	0.03	59.30	40.11	19.19	119.13	-59.83	100	190 QP	Open
2	0.05	45.50	26.24	19.26	113.23	-67.73	100	210 QP	Open
3	0.08	44.20	25.51	18.69	109.74	-65.54	100	209 QP	Open
4	0.10	40.83	22.59	18.24	107.23	-66.40	100	219 QP	Open
5	0.13	38.10	19.77	18.33	105.29	-67.19	100	219 QP	Open
6	0.14	36.43	18.07	18.36	104.72	-68.29	100	154 QP	Open



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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	0.40	60.13	41.18	18.95	94.01	-33.88	100	147 QP	Open
2	0.99	54.09	35.63	19.26	67.73	-12.84	100	125 QP	Open
3	1.49	50.10	30.76	19.34	64.12	-14.02	100	129 QP	Open
4	2.00	47.15	27.74	19.41	69.50	-22.35	100	128 QP	Open
5	9.61	34.33	13.02	21.31	69.50	-35.17	100	128 QP	Open
6	24.15	35.76	13.38	22.38	69.50	-33.74	100	334 QP	Open

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

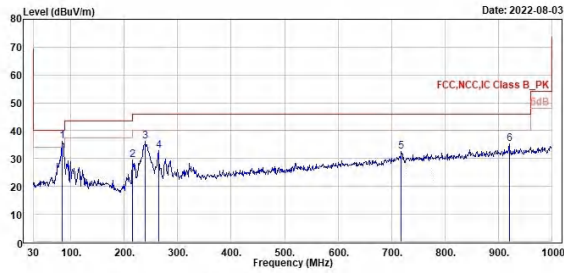
BLE_2M

CH38 (Horizontal)

CH38 (Vertical)



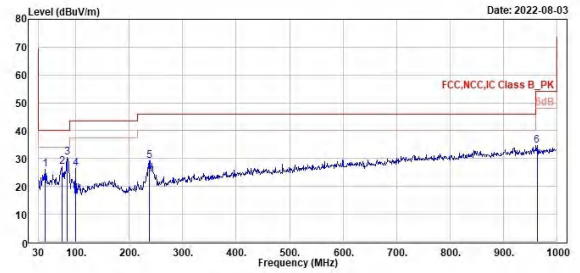
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Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	84.32	36.06	47.52	-11.46	48.00	-3.94	480	188 QP	Horizontal
2	215.27	29.46	37.60	-8.14	43.50	-14.04	180	168 QP	Horizontal
3	239.52	36.28	43.02	-6.74	46.00	-9.72	180	147 QP	Horizontal
4	263.77	32.81	38.97	-6.16	46.00	-13.19	180	163 QP	Horizontal
5	718.78	32.62	38.86	1.76	46.00	-13.38	180	297 QP	Horizontal
6	928.46	35.28	38.27	5.01	46.00	-10.72	185	360 QP	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	26.15	32.27	-6.12	48.00	-13.85	180	178 QP	Vertical
2	73.65	26.94	36.24	-9.30	48.00	-13.06	180	279 QP	Vertical
3	83.35	38.49	41.73	-11.24	48.00	-9.51	480	121 QP	Vertical
4	98.87	26.48	38.87	-11.59	43.50	-17.02	280	141 QP	Vertical
5	237.58	29.35	36.14	-6.79	46.00	-16.65	180	187 QP	Vertical
6	963.14	34.62	28.95	5.67	54.00	-19.38	480	26 QP	Vertical

Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

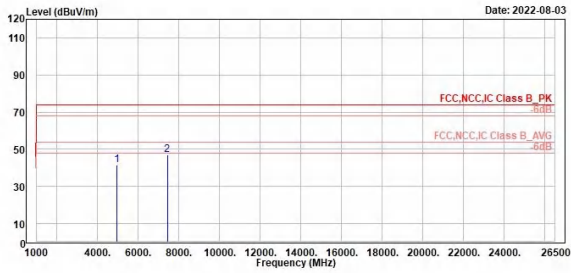
BLE_2M

CH38 (Horizontal)

CH38 (Vertical)



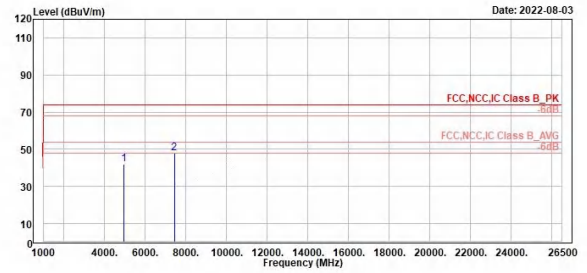
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Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	4956.00	41.37	58.92	-9.55	74.00	-32.63	280	173	Peak	Horizontal	
2	7434.00	47.03	54.39	-7.36	74.00	-26.97	380	149	Peak	Horizontal	



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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	4956.00	42.16	51.71	-9.55	74.00	-31.84	280	341	Peak	Vertical	
2	7434.00	47.98	55.34	-7.36	74.00	-26.02	380	2	Peak	Vertical	

Test Results of Radiated Spurious Emissions by PCB Antenna

(ECC)_2nd Source

Band Edges, 2.31GHz ~ 2.9GHz

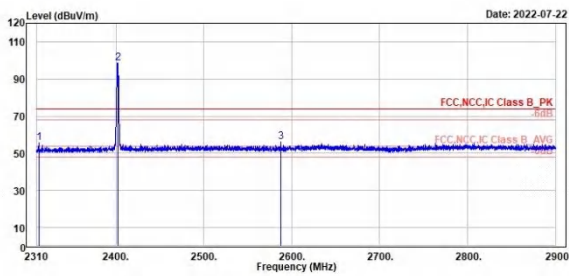
BLE_1M

CH0 (Horizontal) Peak

CH0 (Vertical) Peak



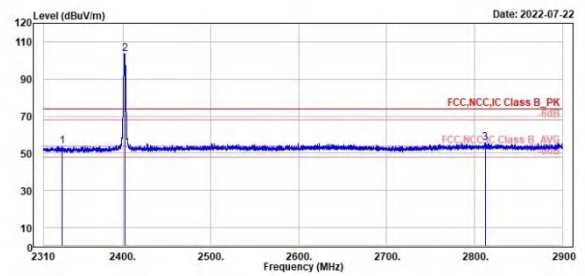
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1	2	3							
Freq	Level	Read	Limit	Over	Apos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	2312.71	55.61	18.35	37.26	74.00	-18.39	100	212 Peak	Horizontal
2 *	2402.00	98.46	60.83	37.63	74.00	24.46	100	212 Peak	Horizontal
3	2587.89	56.01	18.06	37.95	74.00	-17.99	100	212 Peak	Horizontal



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1	2	3							
Freq	Level	Read	Limit	Over	Apos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	2331.00	53.82	16.51	37.31	74.00	-20.18	303	182 Peak	Vertical
2 *	2402.00	103.71	66.08	37.63	74.00	29.71	303	182 Peak	Vertical
3	2811.97	55.54	17.34	36.20	74.00	-18.46	303	182 Peak	Vertical

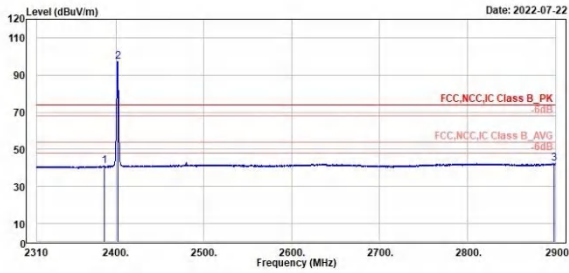
BLE_1M

CH0 (Horizontal) Average

CH0 (Vertical) Average



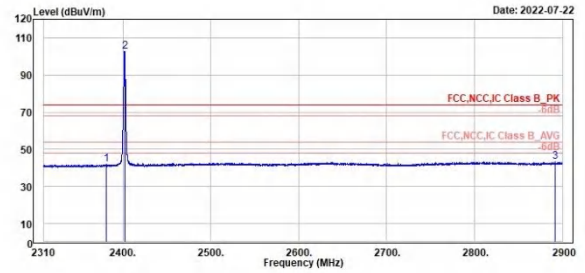
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Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2386.70	48.92	3.35	37.57	54.00	-13.08	100	212	Average	Horizontal	
2 *	2482.00	97.37	59.74	37.63	54.00	43.37	100	212	Average	Horizontal	
3	2898.35	42.31	3.90	38.41	54.00	-11.69	100	212	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	dB	cm	deg			
1	2381.15	41.78	4.25	37.53	54.00	-12.22	303	182	Average	Vertical	
2 *	2482.00	102.72	65.89	37.63	54.00	48.72	303	182	Average	Vertical	
3	2891.15	43.37	5.00	38.37	54.00	-10.63	303	182	Average	Vertical	

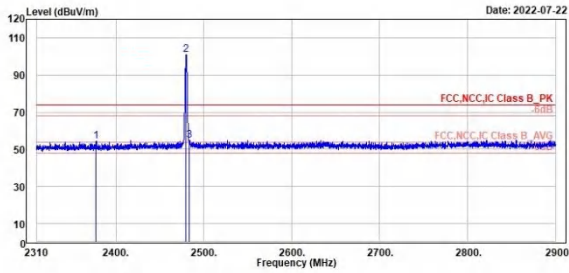
BLE_1M

CH39 (Horizontal) Peak

CH39 (Vertical) Peak



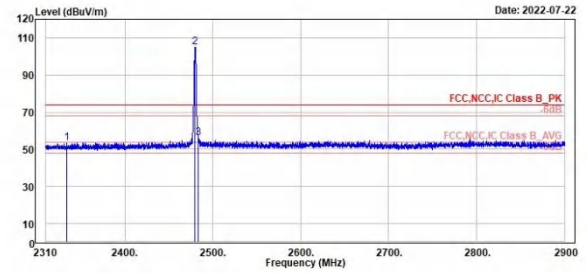
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Freq	Level	Read	Level	Factor	Limit	Over	Apos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2377.73	54.42	16.90	37.52	74.00	-19.58	188	208	Peak	Horizontal	
2 *	2480.00	101.03	63.24	37.79	74.00	27.03	188	208	Peak	Horizontal	
3	2483.81	54.90	17.10	37.80	74.00	-19.10	188	208	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	2333.04	53.52	16.20	37.32	74.00	-20.48	312	100	Peak	Vertical	
2 *	2480.00	105.06	67.27	37.79	74.00	31.06	312	100	Peak	Vertical	
3	2483.81	55.95	18.15	37.80	74.00	-18.05	312	100	Peak	Vertical	

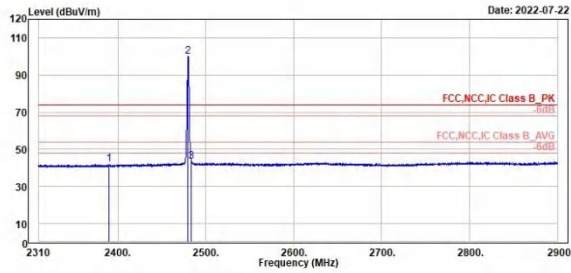
BLE_1M

CH39 (Horizontal) Average

CH39 (Vertical) Average



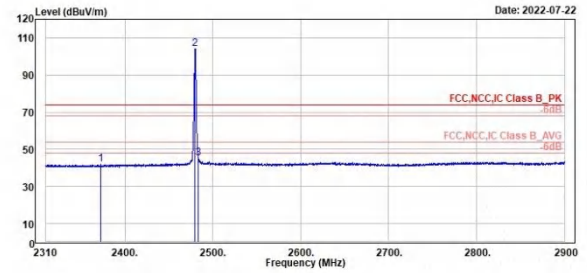
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1	2	3								
Level	Level	Level								
Factor	Factor	Factor								
Limit	Limit	Limit								
Over	Over	Over								
Line	Line	Line								
Limit	Limit	Limit								
Apos	Apos	Apos								
Tpos	Tpos	Tpos								
Remark	Remark	Remark								
Pol/Phase	Pol/Phase	Pol/Phase								
Note	Note	Note								
2389.77	42.06	4.48	37.58	54.00	-11.94	188	208	Average	Horizontal	
2480.00	99.99	62.20	37.79	54.00	45.99	188	208	average	Horizontal	
2483.46	43.39	5.59	37.00	54.00	-10.61	188	208	Average	Horizontal	



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1	2	3								
Level	Level	Level								
Factor	Factor	Factor								
Limit	Limit	Limit								
Over	Over	Over								
Line	Line	Line								
Limit	Limit	Limit								
Apos	Apos	Apos								
Tpos	Tpos	Tpos								
Remark	Remark	Remark								
Pol/Phase	Pol/Phase	Pol/Phase								
Note	Note	Note								
2372.30	41.83	4.34	37.49	54.00	-12.17	312	100	Average	Vertical	
2480.00	104.08	66.29	37.79	54.00	50.08	312	100	Average	Vertical	
2483.46	45.27	7.47	37.00	54.00	-8.73	312	100	Average	Vertical	

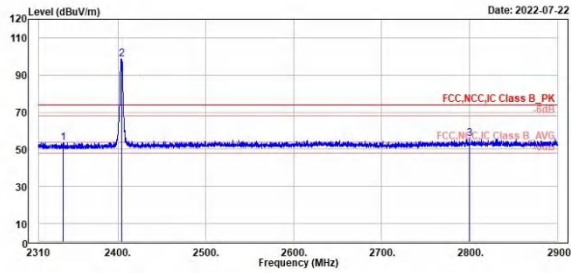
BLE_2M

CH1 (Horizontal) Peak

CH1 (Vertical) Peak



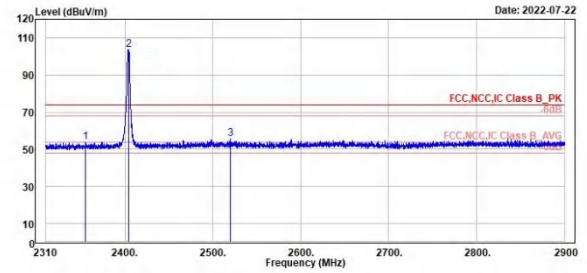
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Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2338.20	53.56	16.22	37.34	74.00	-20.44	100	212	Peak	Horizontal	
2 *	2404.00	98.69	61.85	37.64	74.00	24.69	100	212	Peak	Horizontal	
3	2799.82	55.52	17.32	38.20	74.00	-18.48	100	212	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	2355.55	53.96	16.56	37.40	74.00	-20.04	302	184	Peak	Vertical	
2 *	2404.00	103.56	65.92	37.64	74.00	29.56	302	184	Peak	Vertical	
3	2520.39	55.70	17.83	37.87	74.00	-18.30	302	184	Peak	Vertical	

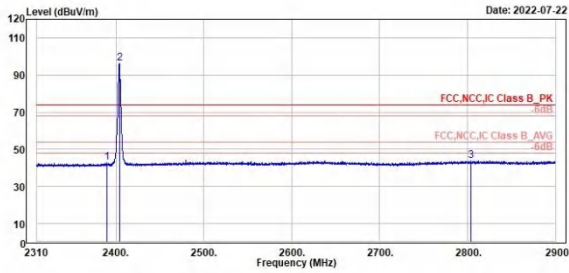
BLE_2M

CH1 (Horizontal) Average

CH1 (Vertical) Average



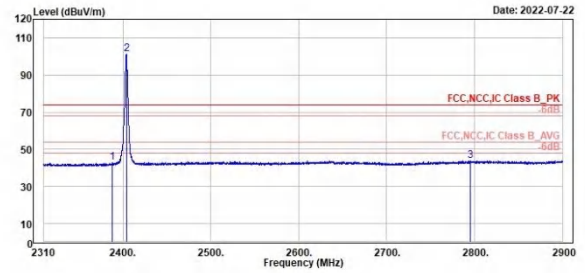
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Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	2390.00	42.69	5.11	37.58	54.00	-11.31	100	212 Average	Horizontal
2 *	2404.00	96.28	50.64	37.64	54.00	42.28	100	212 Average	Horizontal
3	2803.48	43.74	5.54	38.20	54.00	-10.26	100	212 Average	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	2388.23	42.67	5.10	37.57	54.00	-11.33	302	104 Average	Vertical
2 *	2404.00	101.18	63.54	37.64	54.00	47.18	302	104 Average	Vertical
3	2794.63	43.81	5.61	38.20	54.00	-10.19	302	104 Average	Vertical

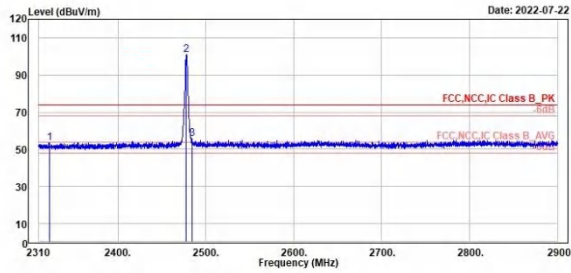
BLE_2M

CH38 (Horizontal) Peak

CH38 (Vertical) Peak



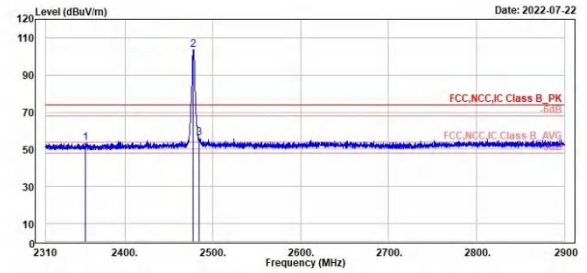
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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	2322.27	53.43	16.15	37.28	74.00	-20.57	188	208	Peak	Horizontal	
2 *	2478.00	108.82	63.04	37.78	74.00	26.82	188	208	Peak	Horizontal	
3	2484.17	55.74	17.94	37.80	74.00	-18.26	188	208	Peak	Horizontal	



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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	2355.55	53.24	15.84	37.40	74.00	-20.76	314	201	Peak	Vertical	
2 *	2478.00	103.58	65.80	37.78	74.00	29.58	314	201	Peak	Vertical	
3	2484.52	55.93	18.13	37.80	74.00	-18.07	314	201	Peak	Vertical	

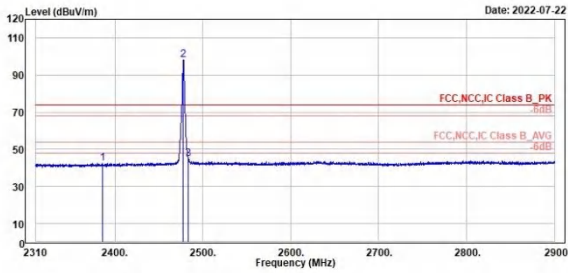
BLE_2M

CH38 (Horizontal) Average

CH38 (Vertical) Average



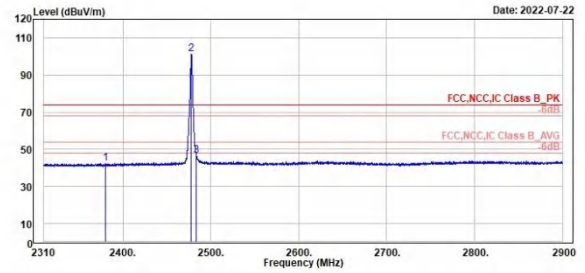
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Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2386.35	42.64	5.07	37.57	54.00	-11.36	188	208	Average	Horizontal	
2 *	2478.00	98.27	60.49	37.78	54.00	44.27	188	208	Average	Horizontal	
3	2483.46	44.89	7.09	37.80	54.00	-9.11	188	208	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	dB	cm	deg			
1	2388.21	42.49	4.96	37.53	54.00	-11.51	314	201	Average	Vertical	
2 *	2478.00	101.15	63.27	37.78	54.00	47.15	314	201	Average	Vertical	
3	2483.46	46.55	8.75	37.80	54.00	-7.45	314	201	Average	Vertical	

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

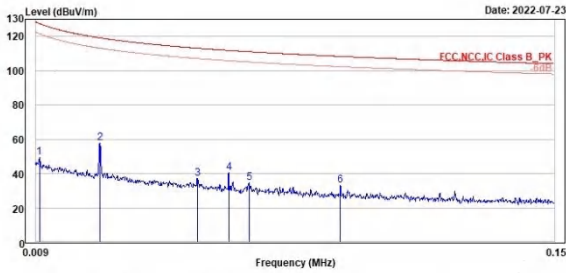
BLE_1M

CH19 (Open) 9kHz~150kHz

CH19 (Open) 150kHz~30MHz



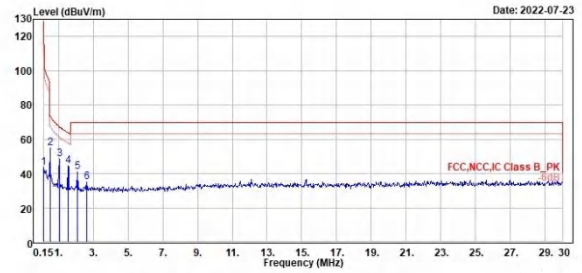
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Freq	Level	Read	Limit	Over	Apos	Tpos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	0.01	49.18	31.47	17.71	127.60	-78.42	100	6	QP
2	0.03	57.85	36.66	19.19	119.13	-61.28	100	360	QP
3	0.05	37.24	18.00	19.24	113.11	-75.87	100	143	QP
4	0.06	40.47	21.41	19.06	111.82	-71.35	100	349	QP
5	0.07	34.66	15.72	18.94	111.88	-76.42	100	282	QP
6	0.09	33.16	14.77	18.39	108.34	-75.18	100	169	QP



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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	0.15	43.61	25.21	18.40	104.88	-60.47	100	15	QP
2	0.51	55.06	36.11	18.95	73.48	-18.42	100	170	QP
3	1.05	48.65	29.38	19.27	67.22	-18.57	100	133	QP
4	1.55	44.71	25.36	19.35	63.78	-19.07	100	160	QP
5	2.09	40.89	21.47	19.42	69.58	-28.61	100	166	QP
6	2.63	35.31	15.83	19.48	69.58	-34.19	100	166	QP

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

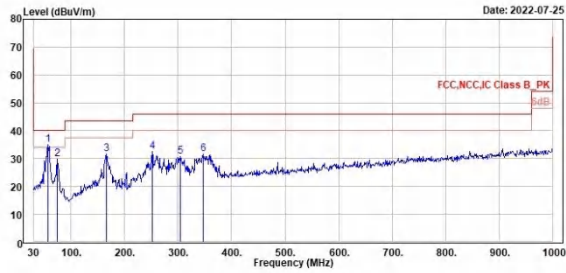
BLE_1M

CH19 (Horizontal)

CH19 (Vertical)



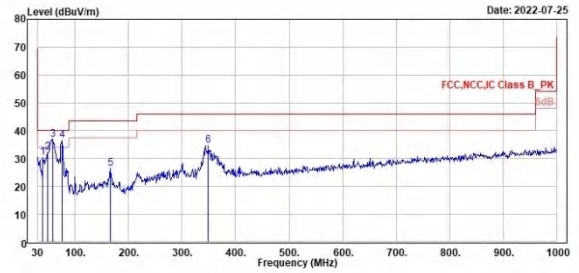
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Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note	
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	57.16	34.92	41.63	-6.71	40.00	-5.08	200	73	QP	Horizontal
2	73.65	29.96	39.26	-9.30	40.00	-10.04	200	200	QP	Horizontal
3	165.80	31.76	37.75	-5.99	43.50	-11.74	200	266	QP	Horizontal
4	251.16	32.40	38.85	-6.45	46.00	-13.60	100	266	QP	Horizontal
5	304.51	30.65	35.39	-4.74	46.00	-15.35	100	70	QP	Horizontal
6	346.22	31.54	35.49	-3.95	46.00	-14.46	100	254	QP	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	39.70	30.38	36.74	-6.36	40.00	-9.62	100	87	QP	Vertical
2	48.43	32.34	38.43	-6.09	40.00	-7.66	100	66	QP	Vertical
3	58.13	36.64	43.72	-6.88	40.00	-3.16	100	251	QP	Vertical
4	75.59	36.48	46.06	-9.58	40.00	-3.52	100	261	QP	Vertical
5	166.77	26.38	32.39	-6.01	43.50	-17.12	100	287	QP	Vertical
6	349.13	34.83	38.74	-3.91	46.00	-11.17	100	161	QP	Vertical

Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

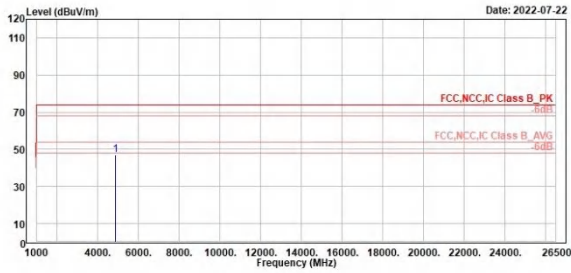
BLE_1M

CH19 (Horizontal)

CH19 (Vertical)



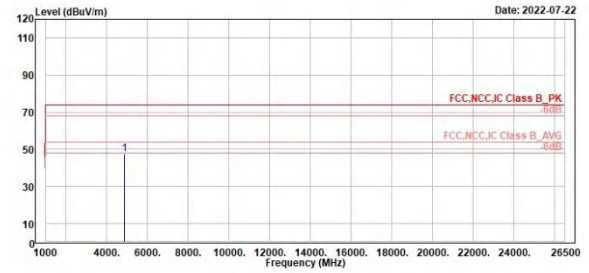
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Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note		
Freq	Level	Level	Factor	Line	Limit				
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	4880.00	47.02	56.81	-9.79	74.00	-26.98	200	168 Peak	Horizontal



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Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note		
Freq	Level	Level	Factor	Line	Limit				
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	4880.00	47.44	57.23	-9.79	74.00	-26.56	300	62 Peak	Vertical

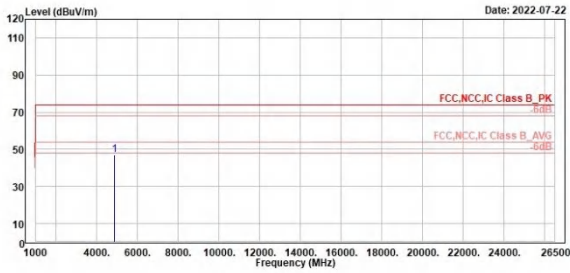
BLE_2M

CH19 (Horizontal)

CH19 (Vertical)



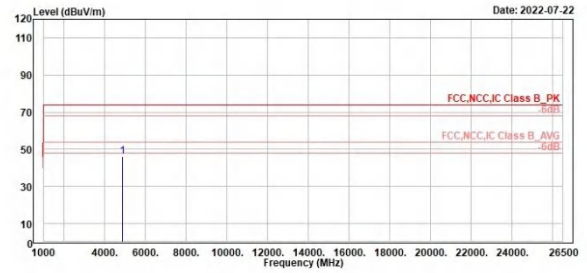
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Read	Level	Level Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
Freq	Level	Factor	Line	Limit					
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	4880.00	46.92	56.71	-9.79	74.00	-27.08	200	175 Peak	Horizontal



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Read	Level	Level Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
Freq	Level	Factor	Line	Limit					
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	4880.00	46.19	55.98	-9.79	74.00	-27.81	200	248 Peak	Vertical

Test Results of Radiated Spurious Emissions by PCB Antenna

(ECC)_2nd Source Buck PWM Mode

Band Edges, 2.31GHz ~ 2.9GHz

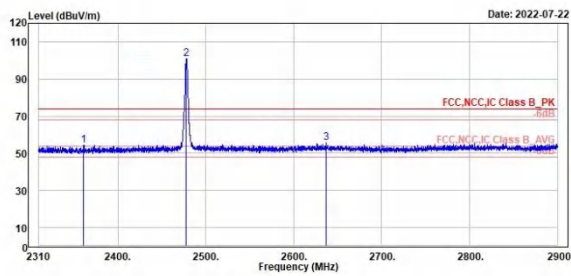
BLE_2M

CH38 (Horizontal) Peak

CH38 (Vertical) Peak



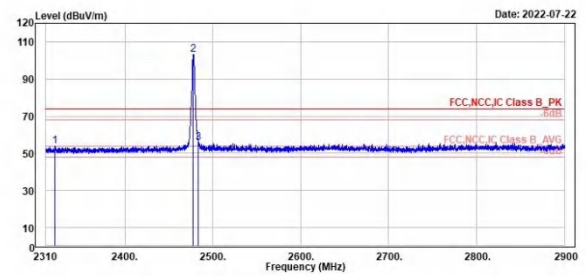
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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Level Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	2351.33	54.18	16.74	37.44	74.00	-19.82	212	205	Peak	Horizontal	
2 *	2478.00	100.99	63.21	37.78	74.00	26.99	212	205	Peak	Horizontal	
3	2637.10	55.77	17.76	38.01	74.00	-18.23	212	205	Peak	Horizontal	



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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Level Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	2320.15	54.00	16.72	37.28	74.00	-20.00	400	183	Peak	Vertical	
2 *	2478.00	102.99	65.21	37.78	74.00	28.99	400	183	Peak	Vertical	
3	2483.58	55.61	17.81	37.80	74.00	-18.39	400	183	Peak	Vertical	

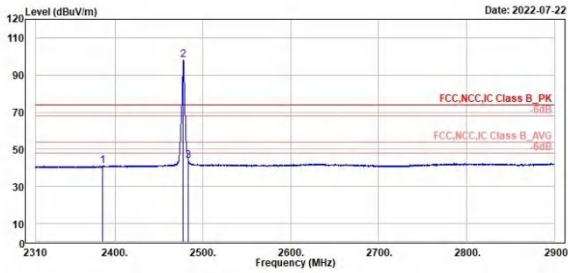
BLE_2M

CH38 (Horizontal) Average

CH38 (Vertical) Average



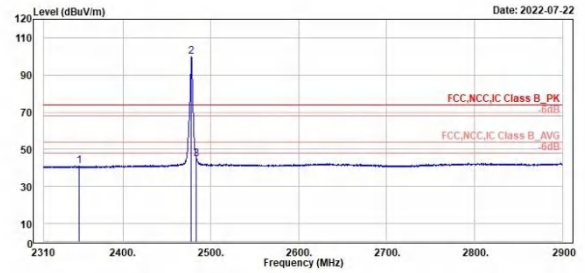
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Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2385.76	48.93	3.37	37.56	54.00	-13.07	212	205	Average	Horizontal	
2 *	2478.00	98.12	60.34	37.78	54.00	44.12	212	205	Average	Horizontal	
3	2483.46	44.02	6.22	37.80	54.00	-9.98	212	205	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	dB	cm	deg			
1	2350.36	41.03	3.66	37.37	54.00	-12.97	400	183	Average	Vertical	
2 *	2478.00	100.12	62.34	37.78	54.00	46.12	400	183	Average	Vertical	
3	2483.58	44.04	7.04	37.80	54.00	-9.16	400	183	Average	Vertical	

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

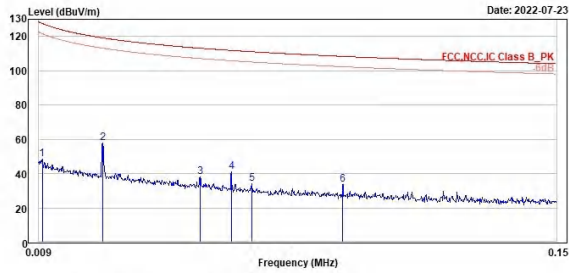
BLE_2M

CH38 (Horizontal)

CH38 (Vertical)



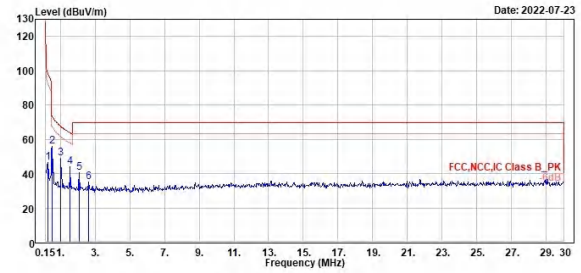
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Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	0.01	48.37	30.66	17.71	127.60	-79.23	100	291	QP	Open	
2	0.03	57.82	38.63	19.19	119.13	-61.31	100	258	QP	Open	
3	0.05	37.90	18.66	19.24	113.11	-75.21	100	334	QP	Open	
4	0.06	40.93	21.87	19.06	111.82	-70.89	100	103	QP	Open	
5	0.07	34.22	15.28	18.94	111.08	-76.86	100	168	QP	Open	
6	0.09	33.75	15.36	18.39	106.34	-74.59	100	174	QP	Open	



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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	0.20	46.43	27.54	18.89	98.51	-52.00	100	203	QP	Open	
2	0.52	55.67	36.71	18.96	73.20	-17.53	100	155	QP	Open	
3	1.03	48.74	29.47	19.27	67.31	-18.57	100	158	QP	Open	
4	1.57	43.76	24.41	19.35	63.66	-19.90	100	166	QP	Open	
5	2.00	40.31	20.89	19.42	69.50	-29.19	100	148	QP	Open	
6	2.62	35.07	15.59	19.48	69.50	-34.43	100	335	QP	Open	

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

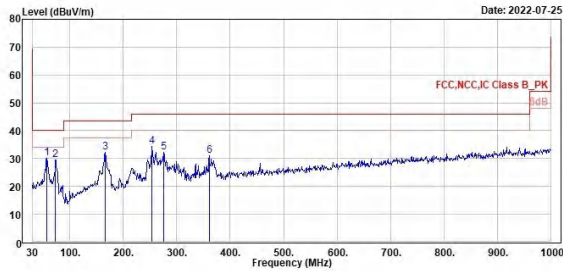
BLE_2M

CH38 (Horizontal)

CH38 (Vertical)



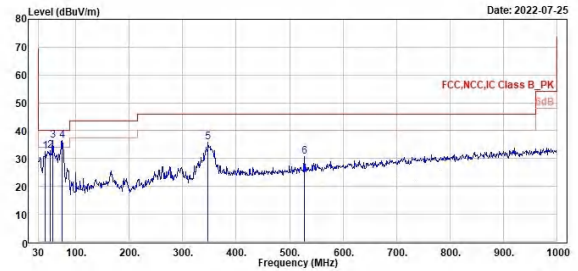
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Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	56.19	30.12	36.00	-6.68	40.00	-9.88	100	124 QP	Horizontal
2	72.68	29.59	38.61	-9.02	40.00	-10.41	200	298 QP	Horizontal
3	166.77	32.29	38.30	-6.01	43.50	-11.21	200	269 QP	Horizontal
4	254.07	34.47	40.85	-6.38	46.00	-11.53	100	270 QP	Horizontal
5	275.41	32.28	37.71	-5.43	46.00	-13.72	100	238 QP	Horizontal
6	308.77	31.12	34.83	-3.71	46.00	-14.88	100	80 QP	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	42.61	32.43	38.50	-6.07	40.00	-7.57	100	353 QP	Vertical
2	51.34	32.96	39.14	-6.18	40.00	-7.04	100	145 QP	Vertical
3	56.19	36.44	43.12	-6.68	40.00	-3.56	100	145 QP	Vertical
4	73.65	36.58	45.88	-9.30	40.00	-3.42	100	258 QP	Vertical
5	347.19	36.02	39.95	-3.93	46.00	-9.98	100	65 QP	Vertical
6	527.61	30.84	31.96	-1.12	46.00	-15.16	100	56 QP	Vertical

Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

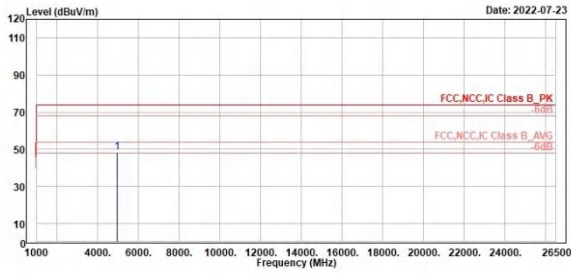
BLE_2M

CH38 (Horizontal)

CH38 (Vertical)



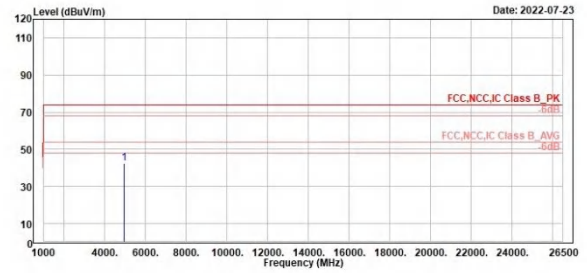
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Freq	Level	Read Level	Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1 4956.00	48.53	58.08	-9.55	74.00	-25.47	100	66	Peak	Horizontal	



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Freq	Level	Read Level	Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1 4956.00	42.66	52.21	-9.55	74.00	-31.34	200	142	Peak	Vertical	

Mains Conducted Emission, 150kHz ~ 30MHz

Worst Band (ECC)

(Line)

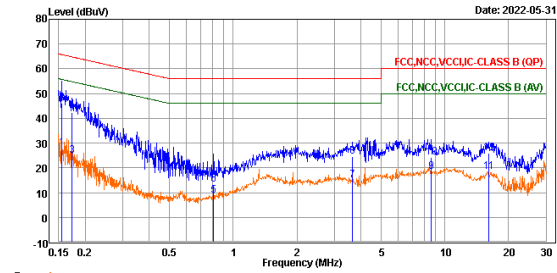
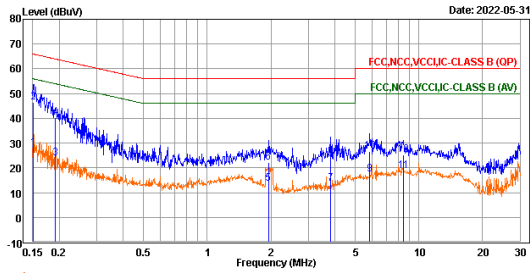
(Neutral)



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Trace: 1

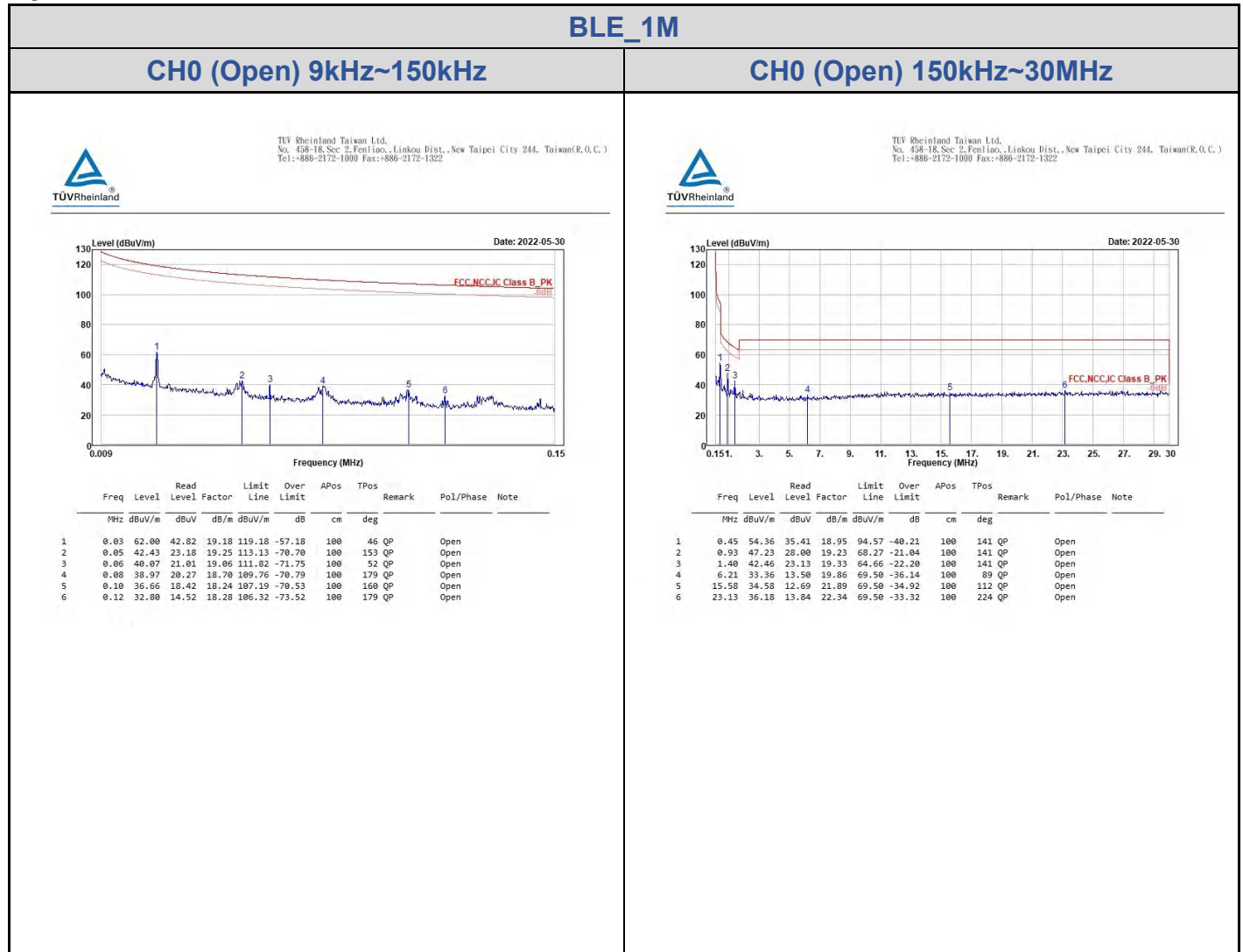
Line	Freq (MHz)	Level (dBuV)	Read Level (dBuV)	Factor (dB)	Limit Line (dB)	Over Limit (dB)	Remark	Pol/Phase	Note
1	0.15	27.98	18.37	9.61	55.96	-27.98	Average	line1	
2	0.15	46.63	37.02	9.61	65.96	-19.33	QP	line1	
3	0.19	23.81	14.20	9.61	53.97	-30.16	Average	line1	
4	0.19	40.39	30.78	9.61	63.97	-23.58	QP	line1	
5	1.94	13.45	3.80	9.65	46.00	-32.55	Average	line1	
6	1.94	22.22	12.57	9.65	56.00	-33.78	QP	line1	
7	3.83	13.69	4.02	9.67	46.00	-32.31	Average	line1	
8	3.83	23.58	13.91	9.67	56.00	-32.42	QP	line1	
9	5.85	17.21	7.52	9.69	50.00	-32.79	Average	line1	
10	5.85	26.71	17.02	9.69	60.00	-33.29	QP	line1	
11	8.42	18.64	8.93	9.71	50.00	-31.36	Average	line1	
12	8.42	25.29	15.58	9.71	60.00	-34.71	QP	line1	

Trace: 1

Line	Freq (MHz)	Level (dBuV)	Read Level (dBuV)	Factor (dB)	Limit Line (dB)	Over Limit (dB)	Remark	Pol/Phase	Note
1	0.15	27.97	18.38	9.59	55.75	-27.78	Average	neutral	
2	0.15	45.97	36.38	9.59	65.75	-19.78	QP	neutral	
3	0.17	24.90	15.31	9.59	54.84	-29.94	Average	neutral	
4	0.17	42.24	32.65	9.59	64.84	-22.60	QP	neutral	
5	0.81	8.75	-0.85	9.60	46.00	-37.25	Average	neutral	
6	0.81	13.42	3.82	9.60	56.00	-42.58	QP	neutral	
7	3.66	14.93	5.27	9.66	46.00	-31.07	Average	neutral	
8	3.66	24.65	14.99	9.66	56.00	-31.35	QP	neutral	
9	8.59	18.30	8.58	9.72	50.00	-31.70	Average	neutral	
10	8.59	24.10	14.38	9.72	60.00	-35.90	QP	neutral	
11	16.09	18.34	8.56	9.78	50.00	-31.66	Average	neutral	
12	16.09	25.93	16.15	9.78	60.00	-34.07	QP	neutral	

Test Results of Radiated Spurious Emissions by PCB Antenna (Non-ECC)

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz



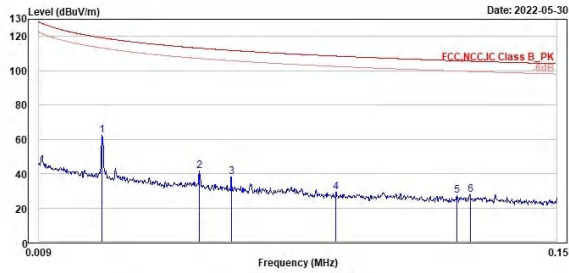
BLE_1M

CH0 (Close) 9kHz~150kHz

CH0 (Close) 150kHz~30MHz



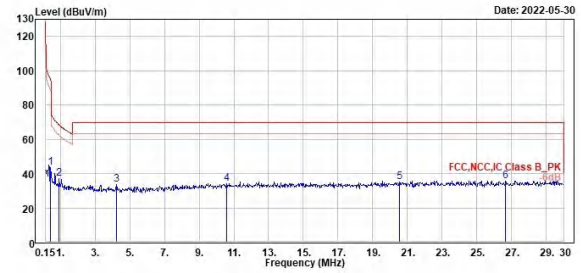
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Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	0.03	62.04	42.86	19.18	119.18	-57.14	100	52 QP	Close
2	0.05	41.53	22.28	19.25	113.13	-71.60	100	126 QP	Close
3	0.06	38.18	19.12	19.06	111.82	-73.64	100	325 QP	Close
4	0.09	29.18	18.75	18.43	108.52	-79.34	100	214 QP	Close
5	0.12	27.40	9.10	18.30	105.80	-78.40	100	328 QP	Close
6	0.13	27.83	9.52	18.31	105.56	-77.73	100	222 QP	Close



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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	0.45	43.66	24.71	18.95	94.57	-50.91	100	205 QP	Close
2	0.93	37.12	17.69	19.23	68.27	-31.15	100	229 QP	Close
3	4.24	33.46	14.83	19.43	69.50	-36.04	100	100 QP	Close
4	10.60	33.98	12.43	21.55	69.50	-35.52	100	323 QP	Close
5	20.54	34.87	12.64	22.23	69.50	-34.63	100	99 QP	Close
6	26.66	35.56	13.06	22.50	69.50	-33.94	100	333 QP	Close

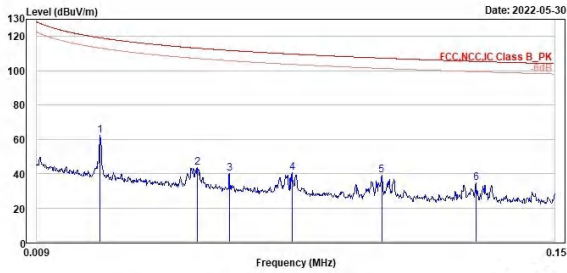
BLE_2M

CH1 (Open) 9kHz~150kHz

CH1 (Open) 150kHz~30MHz



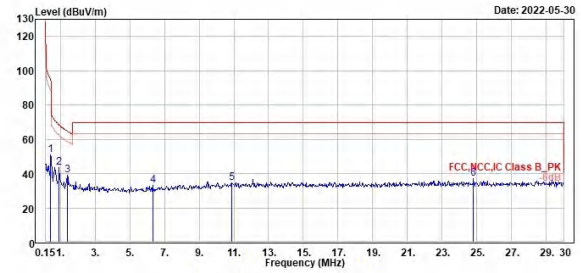
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Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note	
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	0.03	62.51	43.33	19.18	119.18	-56.67	100	147	QP	Open
2	0.05	43.54	24.29	19.25	113.13	-69.59	100	190	QP	Open
3	0.06	40.07	21.01	19.06	111.82	-71.75	100	169	QP	Open
4	0.08	40.73	22.05	18.68	109.70	-68.97	100	169	QP	Open
5	0.10	39.11	20.88	18.23	107.35	-68.24	100	165	QP	Open
6	0.13	34.44	16.12	18.32	105.41	-70.97	100	171	QP	Open



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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	0.45	50.80	31.85	18.95	94.57	-43.77	100	181	QP	Open
2	0.93	43.49	24.26	19.23	68.27	-24.78	100	181	QP	Open
3	1.40	38.88	19.55	19.33	64.66	-25.78	100	181	QP	Open
4	6.33	32.94	13.03	19.91	69.50	-36.56	100	262	QP	Open
5	10.87	34.50	12.94	21.56	69.50	-35.00	100	2	QP	Open
6	24.81	36.97	14.56	22.41	69.50	-32.53	100	231	QP	Open

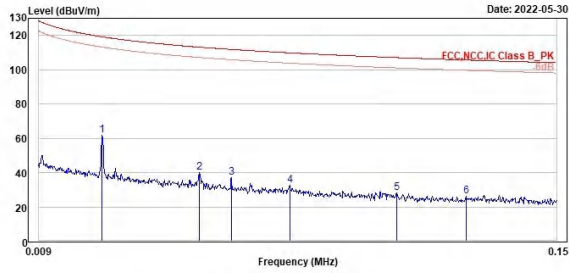
BLE_2M

CH1 (Close) 9kHz~150kHz

CH1 (Close) 150kHz~30MHz



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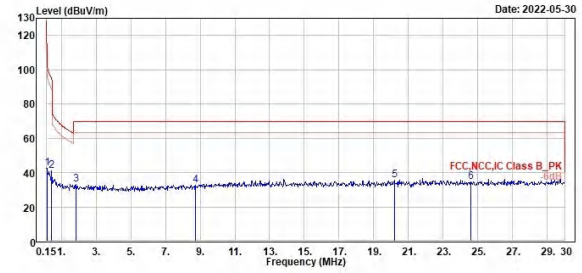


Date: 2022-05-30

Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	0.03	62.01	42.83	19.18	119.18	-57.17	100	46	QP	Close	
2	0.05	40.23	20.98	19.25	113.13	-72.90	100	202	QP	Close	
3	0.06	37.05	17.99	19.06	111.82	-74.77	100	322	QP	Close	
4	0.08	32.38	13.67	18.71	109.82	-77.44	100	135	QP	Close	
5	0.11	28.36	10.12	18.24	107.04	-78.68	100	36	QP	Close	
6	0.13	26.29	7.90	18.31	105.63	-79.34	100	14	QP	Close	



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Tel: +886-2172-1000 Fax: +886-2172-1322



Date: 2022-05-30

Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	0.18	42.39	23.89	18.50	102.50	-60.11	100	112	QP	Close	
2	0.45	41.11	22.16	18.95	94.57	-53.46	100	13	QP	Close	
3	1.85	33.01	13.62	19.39	69.50	-36.49	100	176	QP	Close	
4	8.72	32.82	11.92	20.90	69.50	-36.68	100	320	QP	Close	
5	20.18	35.51	13.30	22.21	69.50	-33.99	100	245	QP	Close	
6	24.60	34.56	12.15	22.41	69.50	-34.94	100	273	QP	Close	

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

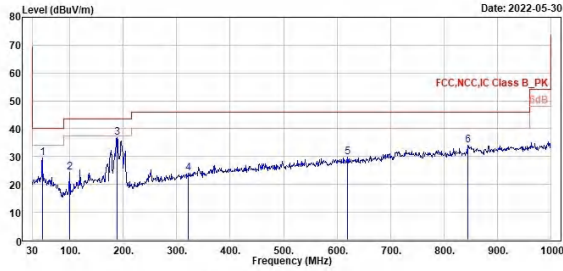
BLE_1M

CH0 (Horizontal)

CH0 (Vertical)



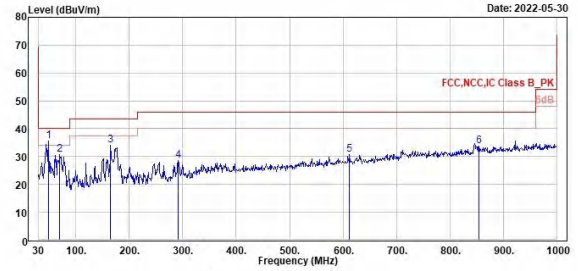
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Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	48.43	29.41	35.50	-6.09	40.00	-10.59	100	20 QP	Horizontal
2	99.84	24.24	35.54	-11.30	43.50	-19.26	300	268 QP	Horizontal
3	188.11	36.78	45.02	-8.24	43.50	-6.72	200	306 QP	Horizontal
4	321.97	23.95	28.27	-4.32	46.00	-22.05	300	152 QP	Horizontal
5	619.76	29.83	29.29	0.54	46.00	-16.17	300	111 QP	Horizontal
6	844.00	34.19	30.46	3.73	46.00	-11.81	100	93 QP	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	48.43	35.69	41.78	-6.09	40.00	-4.31	200	80 QP	Vertical
2	69.77	30.85	39.41	-8.56	40.00	-9.15	200	66 QP	Vertical
3	164.83	34.00	39.92	-5.92	43.50	-9.50	100	7 QP	Vertical
4	290.93	28.64	33.67	-5.03	46.00	-17.36	113	2 QP	Vertical
5	612.00	30.73	30.36	0.37	46.00	-15.27	200	114 QP	Vertical
6	854.50	33.70	29.04	3.86	46.00	-12.30	100	336 QP	Vertical

BLE_2M

CH1 (Horizontal)

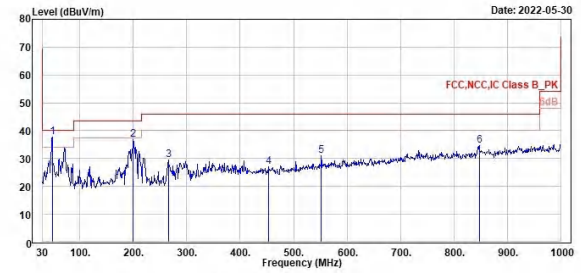
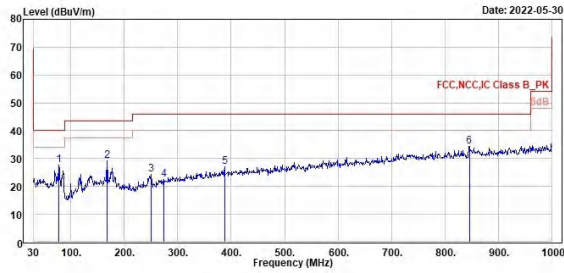
CH1 (Vertical)



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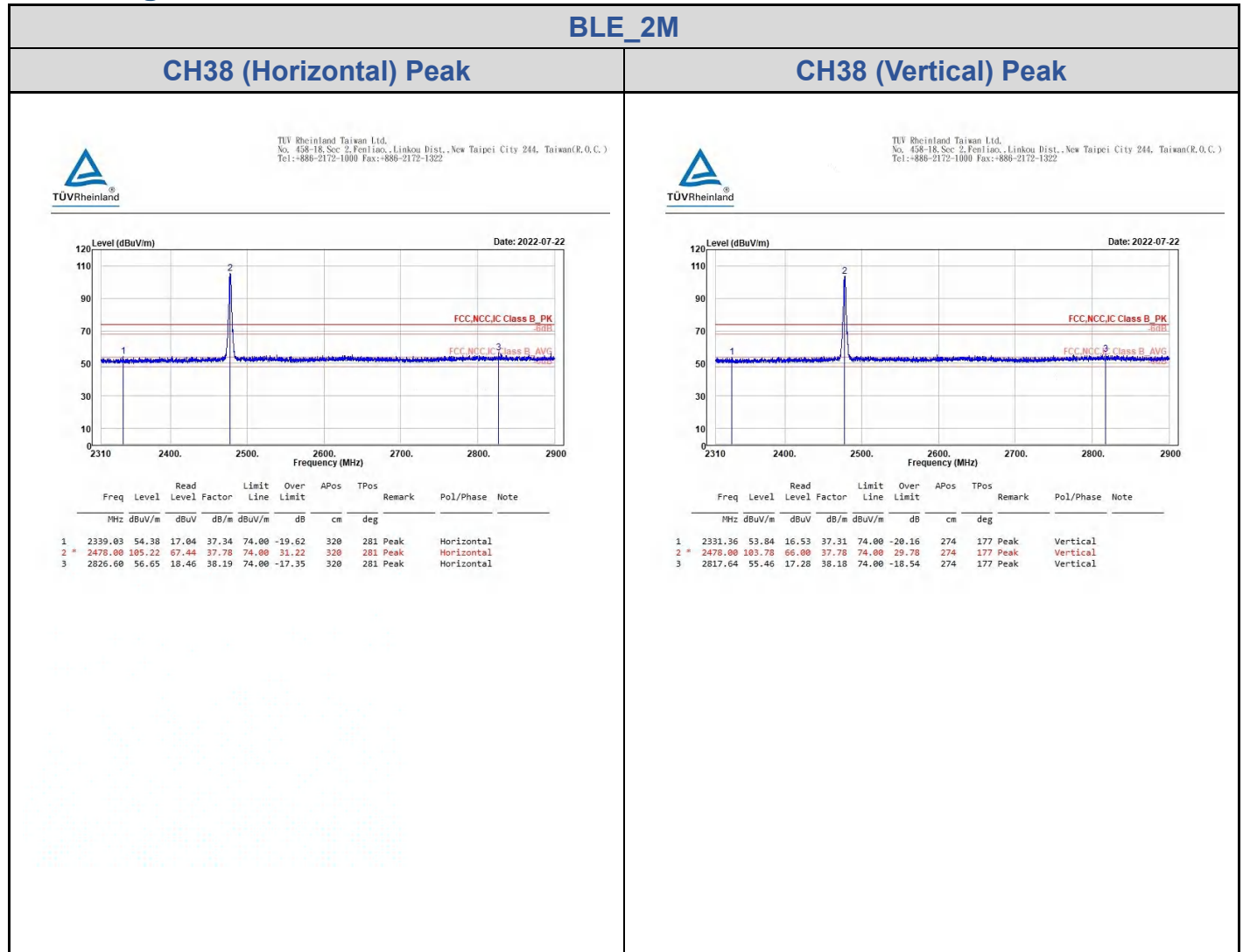
1	2	3	4	5	6				
Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
77.53	27.68	37.64	-9.96	48.00	-12.32	200	294 QP	Horizontal	
167.74	29.06	35.05	-5.99	43.50	-14.44	200	296 QP	Horizontal	
258.19	24.34	38.81	-6.47	46.00	-21.66	100	68 QP	Horizontal	
274.44	22.59	28.07	-5.48	46.00	-23.41	200	48 QP	Horizontal	
387.93	26.97	36.10	-3.13	46.00	-19.03	100	332 QP	Horizontal	
645.77	34.44	36.71	3.73	46.00	-11.56	200	176 QP	Horizontal	

1	2	3	4	5	6				
Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
48.43	37.64	43.73	-6.09	48.00	-2.36	200	330 QP	Vertical	
199.75	36.95	45.40	-8.45	43.50	-6.55	100	18 QP	Vertical	
265.71	29.56	35.61	-6.05	46.00	-16.44	110	15 QP	Vertical	
453.89	27.04	29.19	-2.15	46.00	-18.96	200	350 QP	Vertical	
551.86	31.00	31.78	-0.78	46.00	-15.00	100	160 QP	Vertical	
647.71	34.65	30.90	3.75	46.00	-11.35	100	173 QP	Vertical	

Test Results of Radiated Spurious Emissions by PCB Antenna

(Non-ECC)_2nd Source

Band Edges, 2.31GHz ~ 2.9GHz



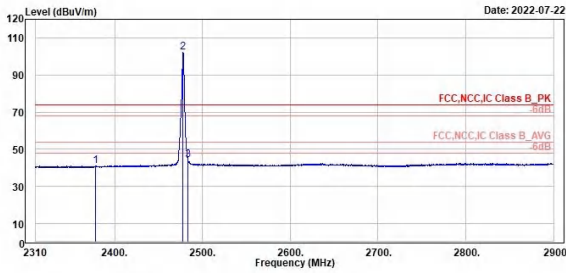
BLE_2M

CH38 (Horizontal) Average

CH38 (Vertical) Average



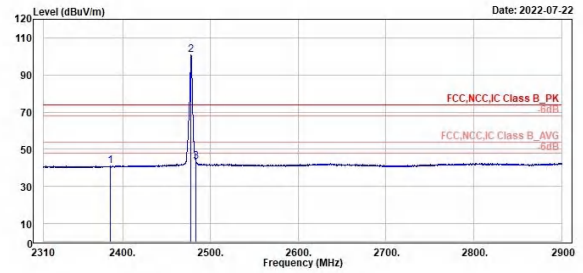
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1	2	3								
MHz	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
2377.85	41.00	3.48	37.52	54.00	-13.00	320	281	Average	Horizontal	
2478.00	102.35	64.57	37.78	54.00	48.35	320	281	Average	Horizontal	
2483.46	44.20	6.40	37.80	54.00	-9.80	320	281	Average	Horizontal	



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1	2	3								
MHz	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
2386.35	41.00	3.51	37.57	54.00	-12.92	274	177	Average	Vertical	
2478.00	100.79	63.01	37.78	54.00	46.79	274	177	Average	Vertical	
2483.46	43.38	5.58	37.80	54.00	-10.62	274	177	Average	Vertical	

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

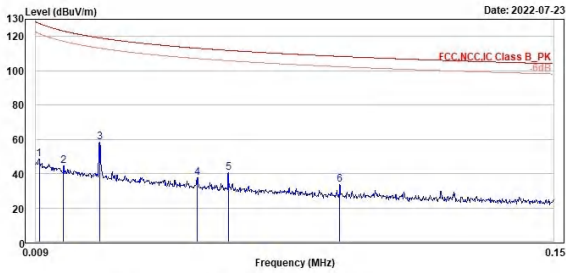
BLE_2M

CH38 (Open) 9kHz~150kHz

CH38 (Open) 150kHz~30MHz



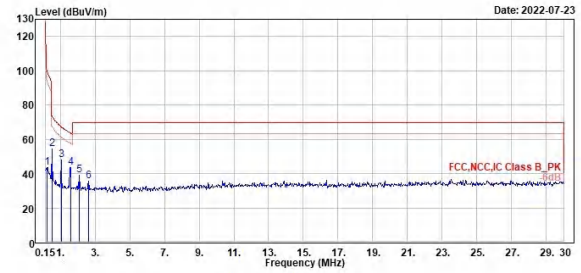
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Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note	
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	0.01	48.26	30.55	17.71	127.60	-79.34	100	160	QP	Open
2	0.02	44.71	26.40	18.31	123.18	-76.47	100	270	QP	Open
3	0.03	58.13	38.94	19.19	119.13	-61.00	100	152	QP	Open
4	0.05	37.78	18.54	19.24	113.11	-75.33	100	294	QP	Open
5	0.06	40.42	21.36	19.06	111.82	-71.40	100	144	QP	Open
6	0.09	33.40	15.01	18.39	106.34	-74.94	100	183	QP	Open



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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	0.24	43.73	25.01	18.72	100.01	-56.28	100	200	QP	Open
2	0.51	54.28	35.33	18.95	73.48	-19.20	100	174	QP	Open
3	1.05	48.13	28.86	19.27	67.22	-19.09	100	125	QP	Open
4	1.58	43.47	24.12	19.35	63.62	-20.15	100	174	QP	Open
5	2.09	38.83	19.41	19.42	69.50	-30.67	100	140	QP	Open
6	2.63	35.45	15.97	19.48	69.50	-34.05	100	336	QP	Open

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

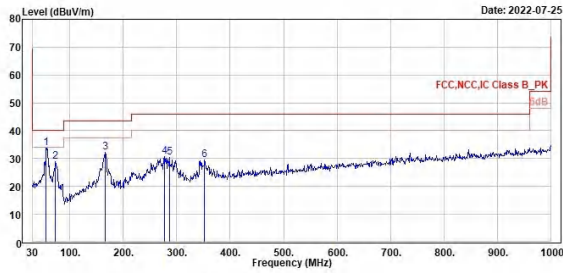
BLE_2M

CH38 (Horizontal) Peak

CH38 (Vertical) Peak



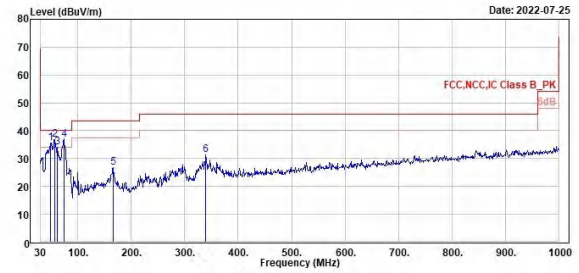
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Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	55.22	33.98	48.42	-6.52	48.00	-6.18	200	79	QP	Horizontal	
2	72.68	28.98	38.00	-9.02	48.00	-11.02	200	241	QP	Horizontal	
3	166.77	32.35	38.36	-6.01	43.50	-11.15	200	253	QP	Horizontal	
4	276.38	30.73	36.14	-5.41	46.00	-15.27	200	189	QP	Horizontal	
5	286.08	30.35	35.52	-5.17	46.00	-15.65	100	272	QP	Horizontal	
6	352.04	29.64	33.50	-3.86	46.00	-16.36	100	310	QP	Horizontal	



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Tel: +886-2172-1000 Fax: +886-2172-1322



Peak	Freq (MHz)	Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	APos (cm)	TPos (deg)	Remark	Pol/Phase	Note
1	49.40	35.54	41.63	-6.09	48.00	-4.46	100	170	QP	Vertical	
2	57.16	36.83	43.54	-6.71	48.00	-3.17	100	170	QP	Vertical	
3	62.01	34.02	41.48	-7.46	48.00	-5.98	200	119	QP	Vertical	
4	73.65	36.96	46.26	-9.30	48.00	-3.04	100	89	QP	Vertical	
5	165.80	26.66	32.65	-5.99	43.50	-16.84	100	274	QP	Vertical	
6	339.43	31.46	35.40	-3.94	46.00	-14.54	100	116	QP	Vertical	

Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

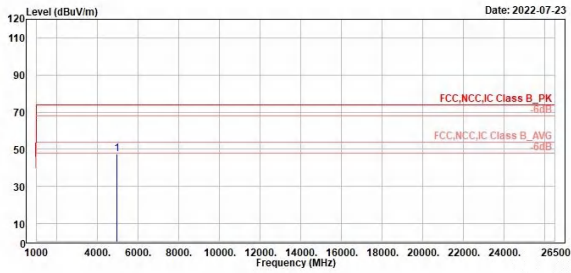
BLE_2M

CH38 (Horizontal)

CH38 (Vertical)



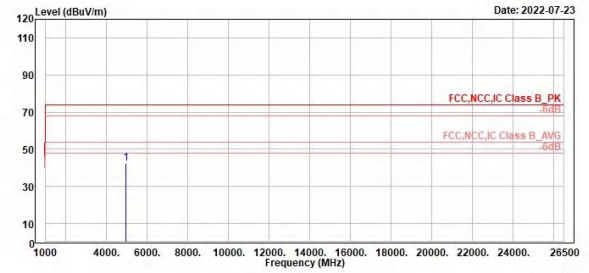
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Line	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4956.00	47.40	56.95	-9.55	74.00	-26.60	100	7	Peak	Horizontal	



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Line	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4956.00	42.36	51.91	-9.55	74.00	-31.64	400	236	Peak	Vertical	

Mains Conducted Emission, 150kHz ~ 30MHz

Worst Band (Non-ECC)

(Line)

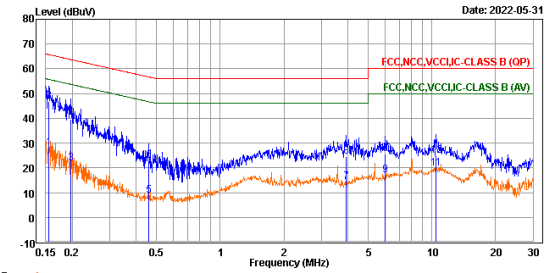
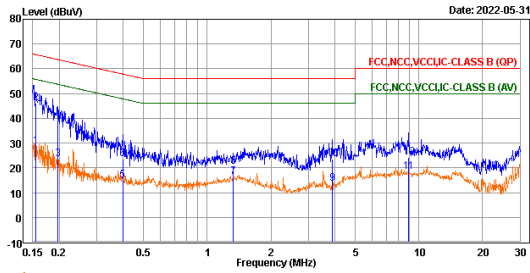
(Neutral)



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No. 458-18, Sec. 2, Fenhiao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2112-1000 Fax: +886-2112-1322



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No. 458-18, Sec. 2, Fenhiao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
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Trace: 1

Line	Freq	Level	Read Level	Factor	Limit	Over	Remark	Pol/Phase	Note
	MHz	dBuV	dBuV	dB	dBuV	dB			
1	0.15	28.69	19.08	9.61	55.75	-27.06	Average	line1	
2	0.15	45.97	36.36	9.61	65.75	-19.78	QP	line1	
3	0.20	23.67	14.06	9.61	53.72	-30.05	Average	line1	
4	0.20	39.23	29.62	9.61	63.72	-24.49	QP	line1	
5	0.40	15.07	5.45	9.62	47.89	-32.82	Average	line1	
6	0.40	23.56	13.94	9.62	57.89	-34.33	QP	line1	
7	1.33	16.28	6.64	9.64	46.00	-29.72	Average	line1	
8	1.33	20.40	10.76	9.64	56.00	-35.60	QP	line1	
9	3.89	13.62	3.95	9.67	46.00	-32.38	Average	line1	
10	3.89	23.52	13.85	9.67	56.00	-32.48	QP	line1	
11	8.94	18.53	8.80	9.73	50.00	-31.47	Average	line1	
12	8.94	24.21	14.48	9.73	60.00	-35.79	QP	line1	

Trace: 1

Line	Freq	Level	Read Level	Factor	Limit	Over	Remark	Pol/Phase	Note
	MHz	dBuV	dBuV	dB	dBuV	dB			
1	0.16	27.90	18.31	9.59	55.71	-27.81	Average	neutral	
2	0.16	46.72	37.13	9.59	65.71	-18.99	QP	neutral	
3	0.20	21.89	12.30	9.59	53.72	-31.83	Average	neutral	
4	0.20	39.67	30.08	9.59	63.72	-24.05	QP	neutral	
5	0.46	8.87	-0.73	9.60	46.73	-37.86	Average	neutral	
6	0.46	22.72	13.12	9.60	56.73	-34.01	QP	neutral	
7	3.95	14.37	4.71	9.66	46.00	-31.63	Average	neutral	
8	3.95	24.62	14.96	9.66	56.00	-31.38	QP	neutral	
9	6.03	17.19	7.50	9.69	50.00	-32.81	Average	neutral	
10	6.03	25.47	15.78	9.69	60.00	-34.53	QP	neutral	
11	10.43	19.70	9.96	9.74	50.00	-30.30	Average	neutral	
12	10.43	25.06	15.22	9.74	60.00	-34.94	QP	neutral	