

Appendix B: Test Results of Radiated Spurious Emissions & Mains

Conducted Emission Test

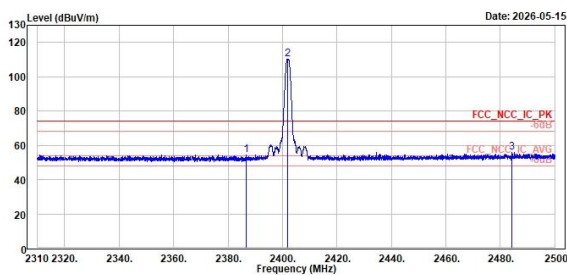
Band Edges, 2.31GHz ~ 2.5GHz

BLE_1M

Low Channel (Horizontal) Peak



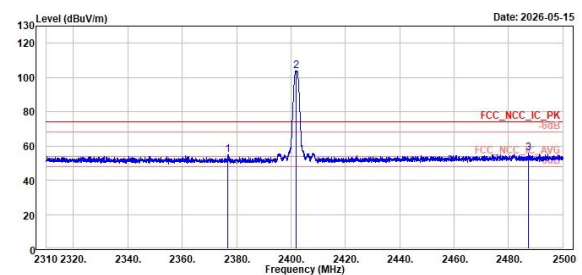
TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Peak	Freq	Level	Read Level	Factor	Limit	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2386.65	54.38	16.72	37.66	74.00	-19.62	240		359 Peak	Horizontal	
2 *	2402.00	110.15	72.50	37.65	74.00	36.15	240		359 Peak	Horizontal	
3	2484.27	55.95	17.61	38.34	74.00	-18.05	240		359 Peak	Horizontal	



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



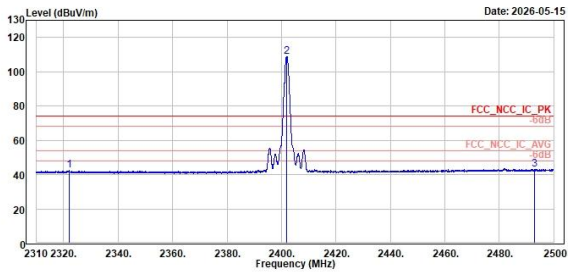
Peak	Freq	Level	Read Level	Factor	Limit	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2376.88	54.73	17.04	37.69	74.00	-19.27	198		301 Peak	Vertical	
2 *	2402.00	103.63	65.98	37.65	74.00	29.63	198		301 Peak	Vertical	
3	2487.46	55.73	17.38	38.35	74.00	-18.27	198		301 Peak	Vertical	

BLE_1M

Low Channel (Horizontal) Average



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322

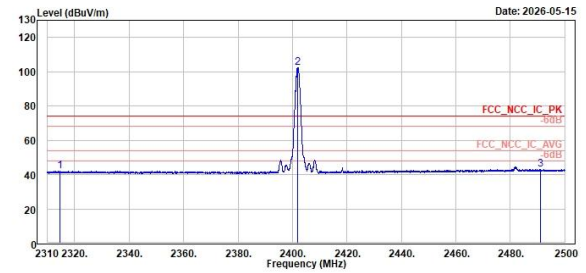


	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	Level Factor	Line	Limit	dB	cm	deg		
1	2322.12	42.29	4.56	37.73	54.00	-11.71	240	359 Average	Horizontal	
2 *	2402.00	100.91	71.26	37.65	54.00	54.91	240	359 Average	Horizontal	
3	2492.89	43.20	4.80	38.40	54.00	-10.80	240	359 Average	Horizontal	

Low Channel (Vertical) Average



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



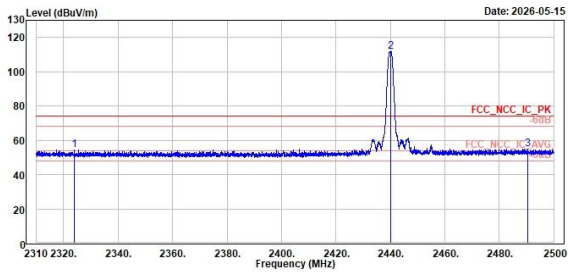
	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	Level Factor	Line	Limit	dB	cm	deg		
1	2314.71	42.20	4.48	37.72	54.00	-11.80	198	301 Average	Vertical	
2 *	2402.00	102.48	64.83	37.65	54.00	48.48	198	301 Average	Vertical	
3	2491.15	43.17	4.79	38.38	54.00	-10.83	198	301 Average	Vertical	

BLE_1M

Middle Channel (Horizontal) Peak



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322

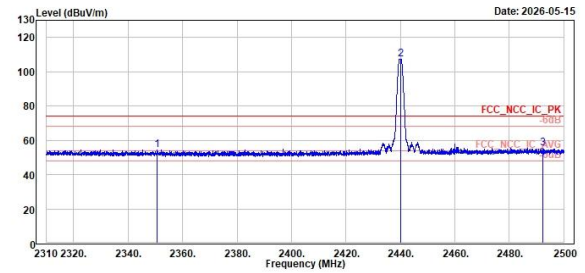


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2323.95	54.38	16.65	37.73	74.00	-19.62	229	355	Peak	Horizontal	
2 *	2440.00	111.57	73.58	37.99	74.00	37.57	229	355	Peak	Horizontal	
3	2490.35	55.06	16.69	38.37	74.00	-18.94	229	355	Peak	Horizontal	

Middle Channel (Vertical) Peak



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



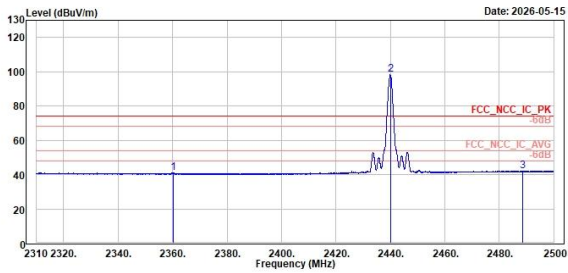
	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2350.70	54.51	16.75	37.76	74.00	-19.49	198	302	Peak	Vertical	
2 *	2440.00	107.33	69.34	37.99	74.00	33.33	198	302	Peak	Vertical	
3	2492.44	55.36	16.97	38.39	74.00	-18.64	198	302	Peak	Vertical	

BLE_1M

Middle Channel (Horizontal) Average



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322

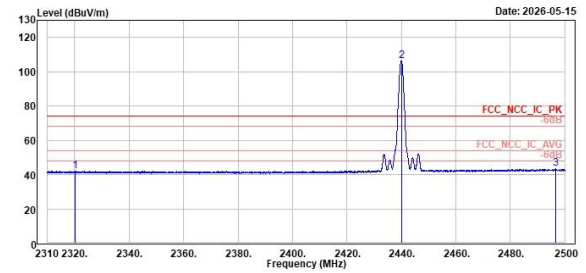


	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2360.16	40.95	3.21	37.74	54.00	-13.05		229	355	Average	Horizontal	
2 *	2440.00	98.15	60.16	37.99	54.00	44.15		229	355	Average	Horizontal	
3	2488.64	42.03	3.67	38.36	54.00	-11.97		229	355	Average	Horizontal	

Middle Channel (Vertical) Average



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



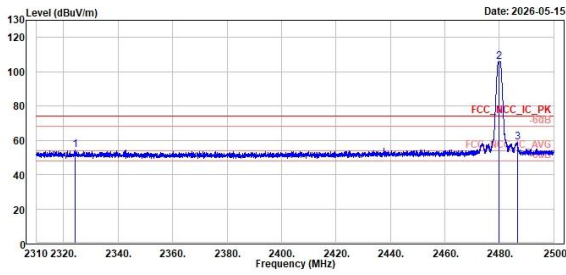
	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2320.34	42.12	4.39	37.73	54.00	-11.88		198	302	Average	Vertical	
2 *	2440.00	106.29	66.30	37.99	54.00	52.29		198	302	Average	Vertical	
3	2496.73	43.29	4.87	38.42	54.00	-10.71		198	302	Average	Vertical	

BLE_1M

High Channel (Horizontal) Peak



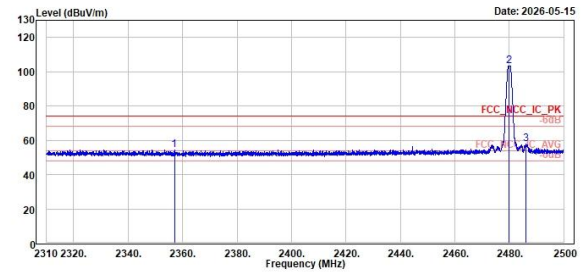
TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



	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	2324.10	54.14	16.41	37.73	74.00	-19.86		226	354	Peak	Horizontal	
2 *	2480.00	105.95	67.65	38.30	74.00	31.95		226	354	Peak	Horizontal	
3	2486.66	58.58	20.23	38.35	74.00	-15.42		226	354	Peak	Horizontal	



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



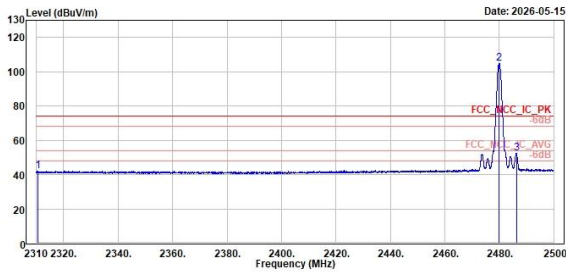
	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2357.01	54.60	16.86	37.74	74.00	-19.40		198	302	Peak	Vertical	
2 *	2480.00	103.36	65.06	38.30	74.00	29.36		198	302	Peak	Vertical	
3	2486.02	57.72	19.37	38.35	74.00	-16.28		198	302	Peak	Vertical	

BLE_1M

High Channel (Horizontal) Average



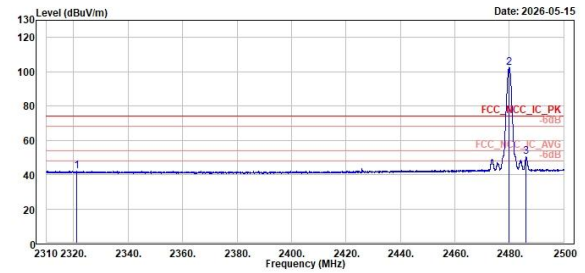
TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



	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	2310.57	42.26	4.54	37.72	54.00	-11.74		226	354	Average	Horizontal	
2 *	2480.00	104.88	66.58	38.30	54.00	50.88		226	354	Average	Horizontal	
3 !	2486.28	52.52	14.17	38.35	54.00	-1.48		226	354	Average	Horizontal	



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



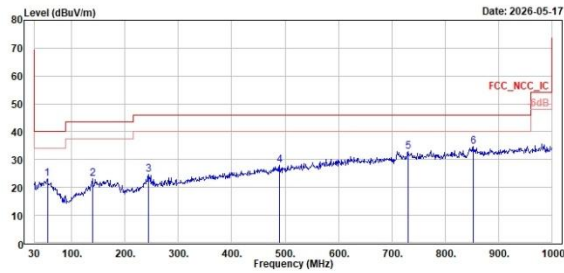
	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2321.17	42.03	4.30	37.73	54.00	-11.97		198	302	Average	Vertical	
2 *	2480.00	102.27	63.97	38.30	54.00	48.27		198	302	Average	Vertical	
3 !	2486.24	50.19	11.84	38.35	54.00	-3.81		198	302	Average	Vertical	

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

Horizontal



TÜV Rheinland Taiwan Ltd.
No. 428-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322

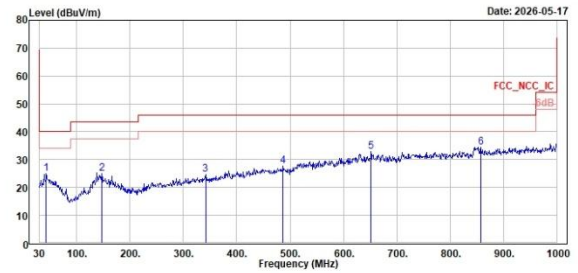


	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	54.25	23.26	29.13	-5.87	40.00	-16.74	100	194	Peak	Horizontal		
2	138.64	23.06	29.97	-6.91	43.50	-20.44	200	57	Peak	Horizontal		
3	243.40	24.56	31.48	-6.92	46.00	-21.44	100	74	Peak	Horizontal		
4	489.78	27.83	29.47	-1.64	46.00	-18.17	200	68	Peak	Horizontal		
5	730.34	32.83	30.13	2.70	46.00	-13.17	200	164	Peak	Horizontal		
6	853.53	34.78	30.50	4.28	46.00	-11.22	200	221	Peak	Horizontal		

Vertical



TÜV Rheinland Taiwan Ltd.
No. 428-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



	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	42.61	24.88	31.07	-6.19	40.00	-15.12	100	210	Peak	Vertical		
2	146.40	24.96	31.12	-6.16	43.50	-18.54	100	327	Peak	Vertical		
3	341.37	24.51	28.88	-4.37	46.00	-21.49	200	92	Peak	Vertical		
4	489.87	27.67	29.37	-1.70	46.00	-18.33	100	91	Peak	Vertical		
5	651.77	32.78	31.33	1.45	46.00	-13.22	175	360	Peak	Vertical		
6	857.41	34.47	30.10	4.37	46.00	-11.53	200	51	Peak	Vertical		

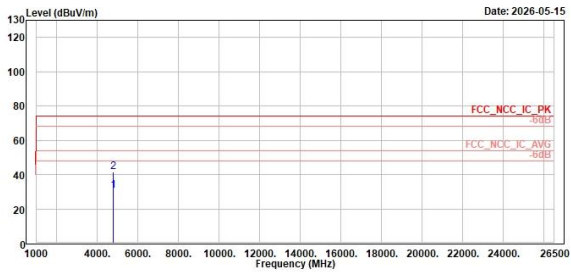
Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

BLE_1M

Low Channel (Horizontal)



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322

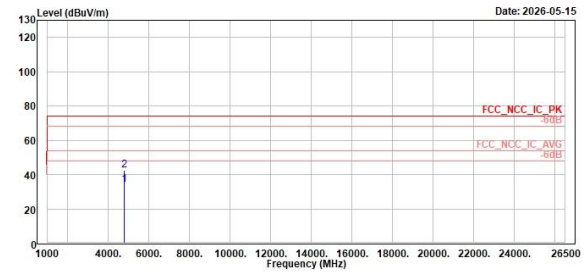


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4804.00	30.80	38.95	-8.15	54.00	-23.20	130	360	Average	Horizontal	
2	4804.00	41.48	49.63	-8.15	74.00	-32.52	130	360	Peak	Horizontal	

Low Channel (Vertical)



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



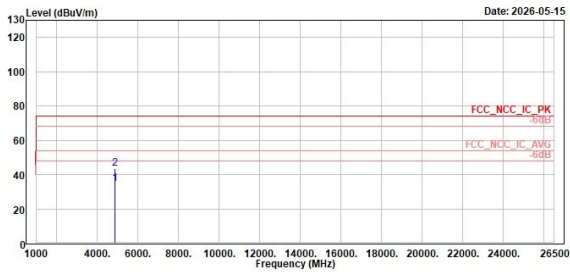
	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4804.00	34.23	42.38	-8.15	54.00	-19.77	100	130	Average	Vertical	
2	4804.00	42.68	50.83	-8.15	74.00	-31.32	100	130	Peak	Vertical	

BLE_1M

Middle Channel (Horizontal)



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322

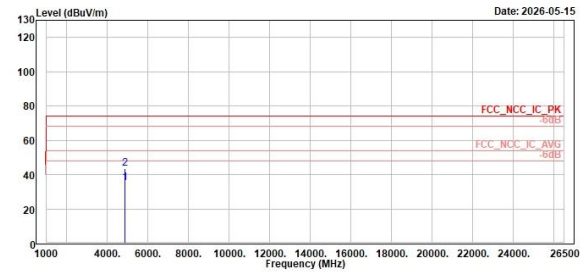


	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	4880.00	34.59	42.74	-8.15	54.00	-19.41	300	360 Average	Horizontal	
2	4880.00	43.42	51.57	-8.15	74.00	-30.58	300	360 Peak	Horizontal	

Middle Channel (Vertical)



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



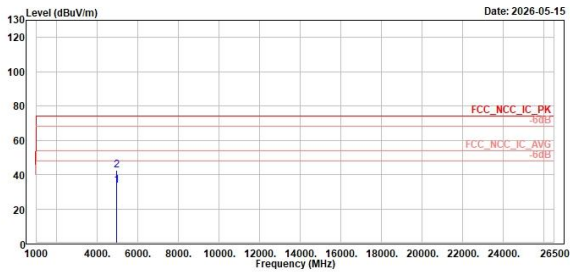
	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	4880.00	35.05	43.20	-8.15	54.00	-18.95	300	140 Average	Vertical	
2	4880.00	43.61	51.76	-8.15	74.00	-30.39	300	140 Peak	Vertical	

BLE_1M

High Channel (Horizontal)



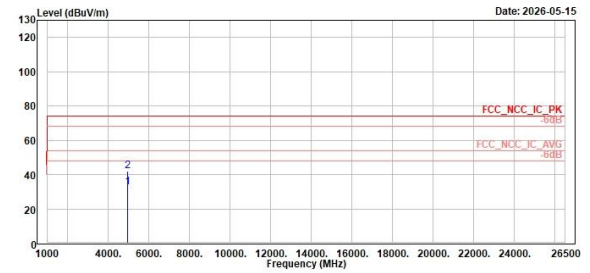
TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



	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	4960.00	33.69	41.55	-7.86	54.00	-20.31	300	177	Average	Horizontal		
2	4960.00	42.50	50.36	-7.86	74.00	-31.50	300	177	Peak	Horizontal		



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



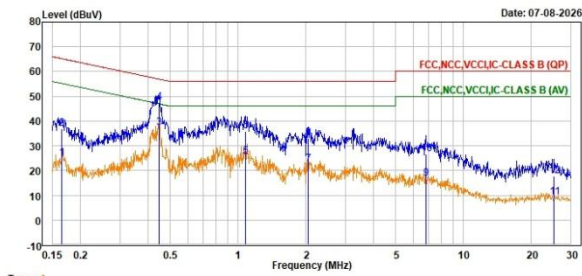
	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	4960.00	32.58	40.44	-7.86	54.00	-21.42	300	46	Average	Vertical		
2	4960.00	42.16	50.02	-7.86	74.00	-31.84	300	46	Peak	Vertical		

Mains Conducted Emission, TX 150kHz ~ 30MHz

(Line)



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



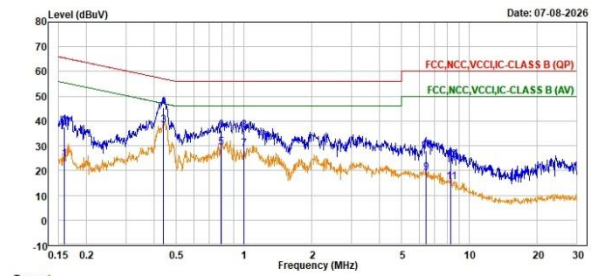
Trace: 1

	Freq	Level	Read	Factor	Limit	Over	Remark	Pol/Phase	Note
	MHz	dBuV	dBuV	dB	dBuV	dB			
1	0.16	25.07	15.04	10.03	55.25	-30.18	Average	line1	
2	0.16	37.03	27.00	10.03	65.25	-28.22	QP	line1	
3	0.45	37.15	27.10	10.05	46.93	-9.78	Average	line1	
4	0.45	47.52	37.47	10.05	56.93	-9.41	QP	line1	
5	1.08	25.68	15.56	10.12	46.00	-20.32	Average	line1	
6	1.08	35.90	25.78	10.12	56.00	-20.10	QP	line1	
7	2.05	22.45	12.10	10.27	46.00	-23.55	Average	line1	
8	2.05	33.01	22.74	10.27	56.00	-22.99	QP	line1	
9	6.83	16.68	5.88	10.80	50.00	-33.32	Average	line1	
10	6.83	26.59	15.79	10.80	60.00	-33.41	QP	line1	
11	25.32	9.04	-2.15	11.19	50.00	-40.96	Average	line1	
12	25.32	17.64	6.45	11.19	60.00	-42.36	QP	line1	

(Neutral)



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Trace: 1

	Freq	Level	Read	Factor	Limit	Over	Remark	Pol/Phase	Note
	MHz	dBuV	dBuV	dB	dBuV	dB			
1	0.16	24.57	14.55	10.02	55.50	-30.93	Average	neutral	
2	0.16	37.48	27.46	10.02	65.50	-28.02	QP	neutral	
3	0.44	38.36	28.32	10.04	47.10	-8.74	Average	neutral	
4	0.44	45.54	35.50	10.04	57.10	-11.56	QP	neutral	
5	0.79	29.23	19.14	10.09	46.00	-16.77	Average	neutral	
6	0.79	36.04	25.95	10.09	56.00	-19.96	QP	neutral	
7	1.00	28.62	18.55	10.07	46.00	-17.38	Average	neutral	
8	1.00	36.10	26.03	10.07	56.00	-19.90	QP	neutral	
9	6.43	18.96	8.46	10.50	50.00	-31.04	Average	neutral	
10	6.43	27.89	17.39	10.50	60.00	-32.11	QP	neutral	
11	8.29	15.43	4.81	10.62	50.00	-34.57	Average	neutral	
12	8.29	24.08	13.46	10.62	60.00	-35.92	QP	neutral	