Appendix B: Test Results of Radiated Spurious Emissions

<EUT Standalone>

Worst Mode 30MHz ~ 1000MHz

LTE Band 13 + Bluetooth LE											
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor	Cable Factor	Pre-Amplifier	Correction Factor (dB/m)
Low	Horizontal										
	34	-59.14	-13	-46.14	200	226	45.69	19.09	0.46	26.97	-102.68
	165	-74.9	-13	-61.9	100	6	28.18	19.8	0.97	26.44	-100.93
	362	-72.8	-13	-59.8	202	360	28.12	21.45	1.47	26.43	-98.77
	515	-69.04	-13	-56.04	300	348	29.6	24.4	1.78	27.41	-96.49
	704	-66.19	-13	-53.19	100	183	28.96	27.68	2.07	27.49	-93
	845	-62.35	-13	-49.35	300	202	30.96	29.08	2.28	27.26	-91.16
	Vertical										
	34	-64.36	-13	-51.36	104	201	40.47	19.09	0.46	26.97	-102.68
	147	-74.15	-13	-61.15	100	354	29.51	19.36	0.92	26.53	-101.51
	282	-74.19	-13	-61.19	200	341	28.36	19.59	1.29	26.02	-100.4
	441	-69.37	-13	-56.37	200	274	29.96	23.43	1.63	26.98	-97.18
	600	-66.81	-13	-53.81	300	360	30.14	26.09	1.94	27.57	-94.8
	920	-62.72	-13	-49.72	104	334	29.51	29.91	2.37	27.1	-90.08

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m) – 2.15
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre Amp(dB) + 20log(D) – 104.8
3. Margin value = ERP – Limit
4. The other ERP levels were very low against the limit.

1GHz ~ 26.5GHz

LTE Band 13 + Bluetooth LE											
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor	Cable Factor	Pre-Amplifier	Correction Factor (dB/m)
Low	Horizontal										
	1563	-60.25	-40	-20.25	100	75	55.68	28.15	4.24	50.91	-113.78
	2344	-51.02	-13	-38.02	300	117	59.71	32.56	5.21	51.09	-108.58
	3126	-56.38	-13	-43.38	200	184	52.94	33.2	6.03	51.14	-107.17
	3908	-56.52	-13	-43.52	300	256	51.36	33.97	6.74	51.18	-105.73
	Vertical										
	1563	-60.97	-40	-20.97	110	61	54.96	28.15	4.24	50.91	-113.78
	2344	-53.93	-13	-40.93	311	360	56.8	32.56	5.21	51.09	-108.58
	3126	-55.13	-13	-42.13	200	348	54.19	33.2	6.03	51.14	-107.17
	3908	-54.08	-13	-41.08	100	1	53.8	33.97	6.74	51.18	-105.73

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m) – 2.15
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre Amp(dB) + 20log(D) – 104.8
3. Margin value = ERP – Limit
4. The other ERP levels were very low against the limit.

<EUT with Charging Cradle>

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

Bluetooth LE Ch19 + Bluetooth LE Ch39

Open 9kHz~150kHz

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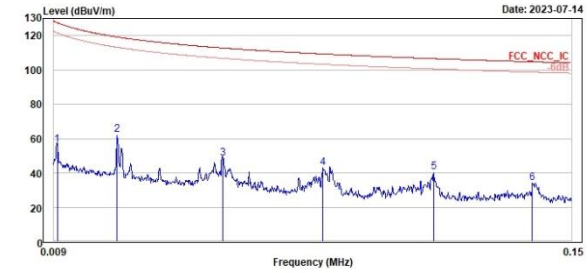

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	0.01	56.56	38.84	17.72	127.60	-71.04	100	215	Peak	Open	
2	0.03	62.07	43.13	18.94	119.18	-57.11	100	139	Peak	Open	
3	0.05	48.47	29.47	19.00	112.79	-64.32	100	271	Peak	Open	
4	0.08	42.90	24.56	18.34	109.29	-66.39	100	286	Peak	Open	
5	0.11	40.36	22.39	17.97	106.57	-66.21	100	334	Peak	Open	
6	0.14	33.90	15.82	18.08	104.72	-70.82	100	246	Peak	Open	

Open 150kHz~30MHz

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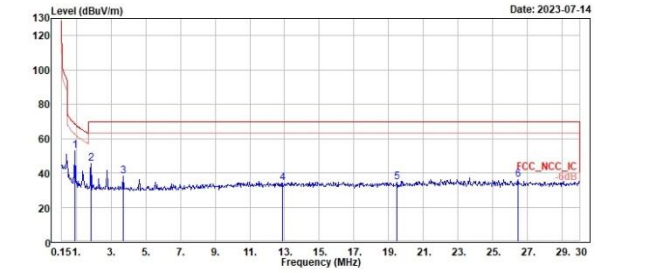

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	0.93	53.00	33.97	19.03	68.27	-15.27	100	138	Peak	Open	
2	1.85	45.70	26.40	19.30	69.50	-23.80	100	138	Peak	Open	
3	3.70	38.19	18.64	19.55	69.50	-31.31	100	134	Peak	Open	
4	12.90	34.26	12.58	21.68	69.50	-35.24	100	51	Peak	Open	
5	19.46	34.44	12.30	22.14	69.50	-35.06	100	301	Peak	Open	
6	26.45	35.88	13.67	22.21	69.50	-33.62	100	263	Peak	Open	

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

Bluetooth LE Ch19 + Bluetooth LE Ch39

Horizontal

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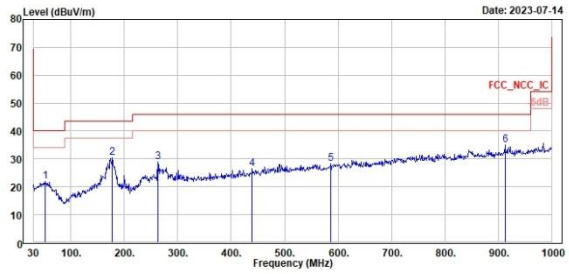

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	52.31	22.05	27.72	-5.67	40.00	-17.95	400	276	Peak	Horizontal	
2	177.44	30.32	36.83	-6.51	43.50	-13.18	300	141	Peak	Horizontal	
3	262.80	28.84	34.87	-6.03	46.00	-17.16	200	199	Peak	Horizontal	
4	439.34	26.35	28.33	-1.98	46.00	-19.65	100	29	Peak	Horizontal	
5	586.78	28.34	28.20	0.14	46.00	-17.66	200	103	Peak	Horizontal	
6	912.70	34.88	29.88	5.00	46.00	-11.12	200	291	Peak	Horizontal	

Vertical

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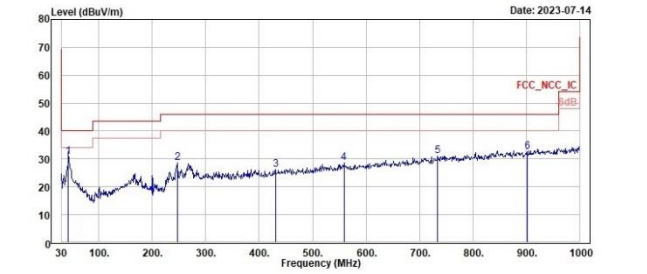

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	42.61	30.58	36.91	-6.33	40.00	-9.42	100	248	Peak	Vertical	
2	246.31	28.51	35.01	-6.50	46.00	-17.49	100	88	Peak	Vertical	
3	430.61	26.24	28.70	-2.46	46.00	-19.76	100	176	Peak	Vertical	
4	558.65	28.55	28.65	-0.10	46.00	-17.45	390	270	Peak	Vertical	
5	734.22	30.95	28.61	2.34	46.00	-15.05	200	308	Peak	Vertical	
6	902.03	32.41	27.71	4.70	46.00	-13.59	400	319	Peak	Vertical	

Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

Bluetooth LE Ch19 + Bluetooth LE Ch39

Horizontal

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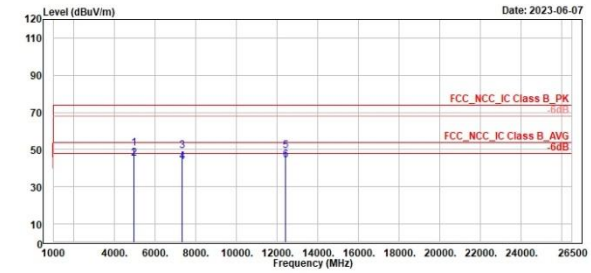

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4960.00	50.49	58.14	-7.65	74.00	-23.51	400	323	Peak	Horizontal	
2	4960.00	45.34	52.99	-7.65	54.00	-8.66	400	323	Average	Horizontal	
3	7320.00	49.33	54.89	-5.56	74.00	-24.67	100	264	Peak	Horizontal	
4	7320.00	43.57	49.13	-5.56	54.00	-10.43	100	264	Average	Horizontal	
5	12400.00	49.39	47.08	2.31	74.00	-24.61	100	270	Peak	Horizontal	
6	12400.00	44.27	41.96	2.31	54.00	-9.73	100	270	Average	Horizontal	

Vertical

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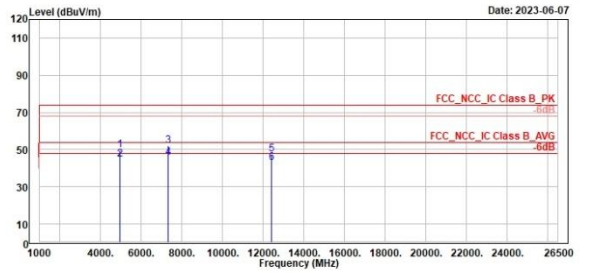

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4960.00	49.94	57.59	-7.65	74.00	-24.06	100	203	Peak	Vertical	
2	4960.00	44.93	52.58	-7.65	54.00	-9.07	100	203	Average	Vertical	
3	7320.00	52.22	57.78	-5.56	74.00	-21.78	400	245	Peak	Vertical	
4	7320.00	45.41	50.97	-5.56	54.00	-8.59	400	245	Average	Vertical	
5	12400.00	47.54	45.23	2.31	74.00	-26.46	113	360	Peak	Vertical	
6	12400.00	42.81	40.50	2.31	54.00	-11.19	113	360	Average	Vertical	