

Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.680	2401.648	2402.328	0.5	PASS
		2440	0.672	2439.656	2440.328	0.5	PASS
		2480	0.668	2479.656	2480.324	0.5	PASS

Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.99739	2401.508	2402.505	---	---
		2440	1.0149	2439.505	2440.520	---	---
		2480	1.0035	2479.514	2480.518	---	---

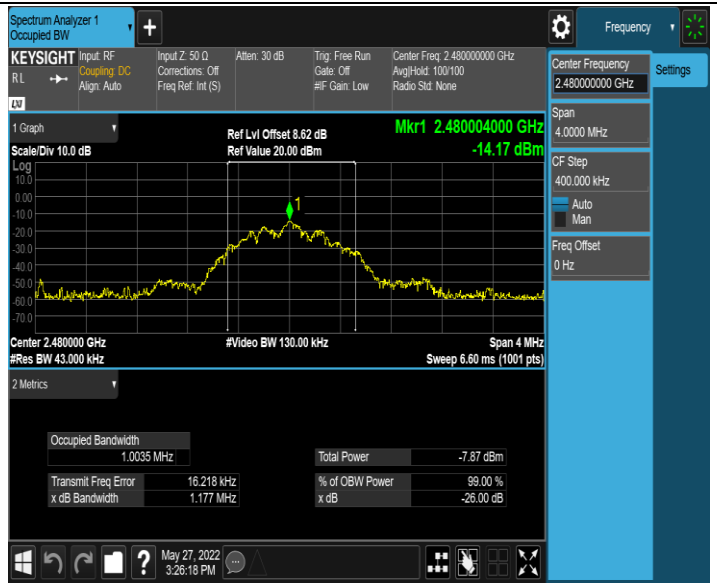
Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



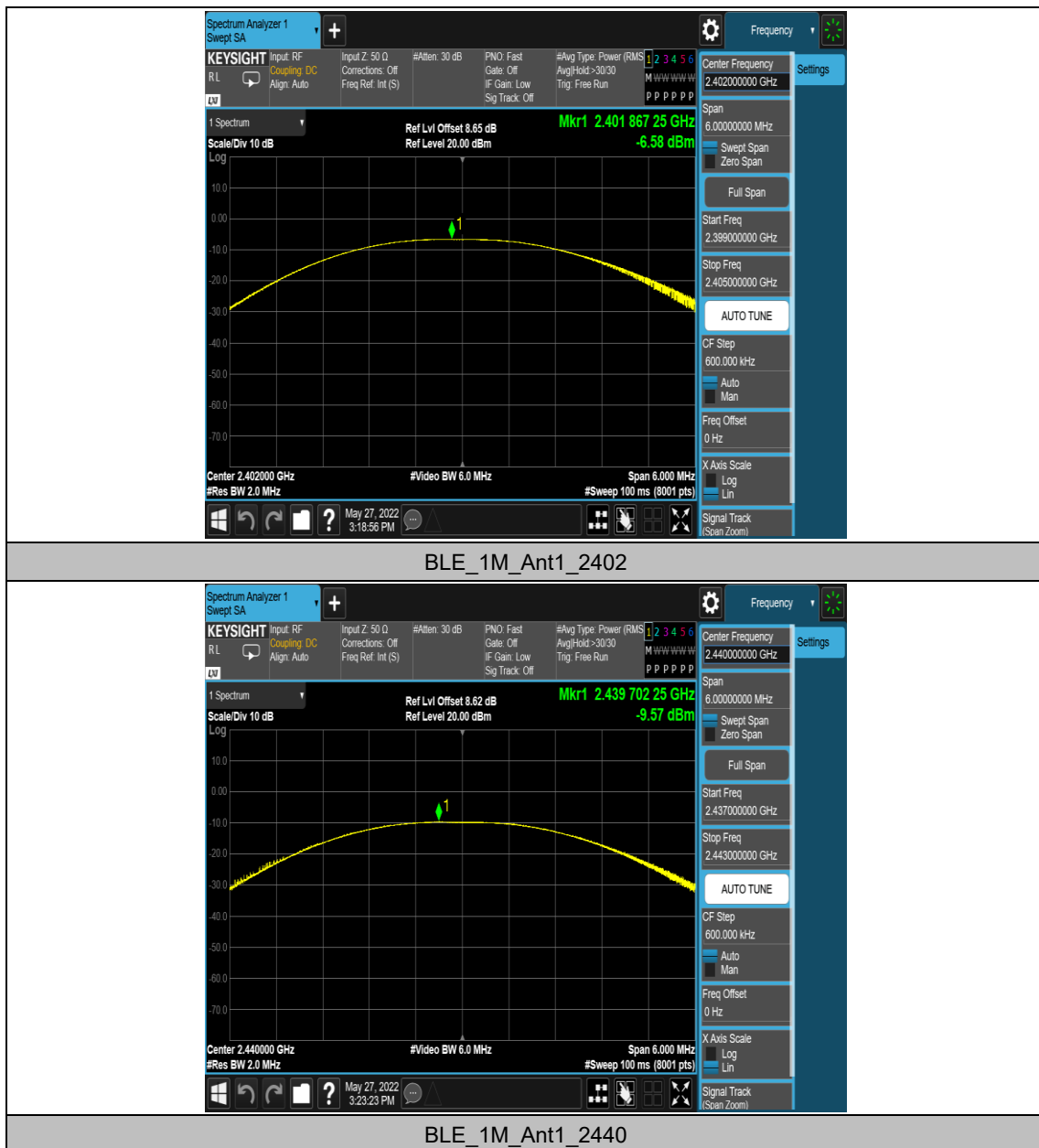
BLE_1M_Ant1_2480

Appendix C: Maximum conducted output power

Test Result Peak

TestMode	Antenna	Frequency[MHz]	Conducted Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-6.58	≤30	PASS
		2440	-9.57	≤30	PASS
		2480	-13.36	≤30	PASS

Test Graphs Peak





BLE_1M_Ant1_2480

Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-20.87	≤8.00	PASS
		2440	-24.07	≤8.00	PASS
		2480	-28.19	≤8.00	PASS

Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



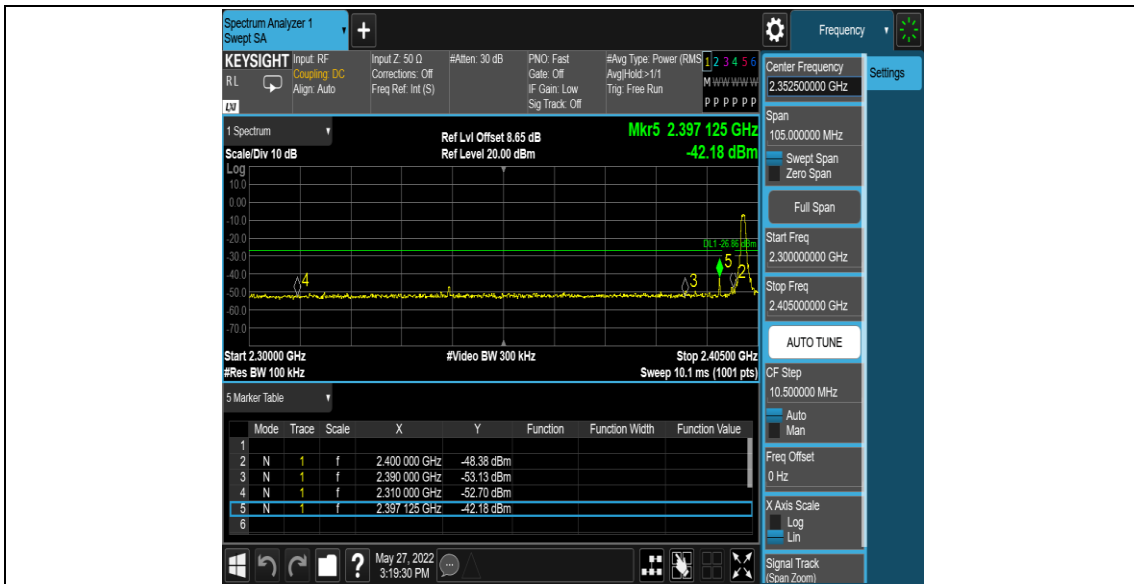
BLE_1M_Ant1_2480

Appendix E: Band edge measurements

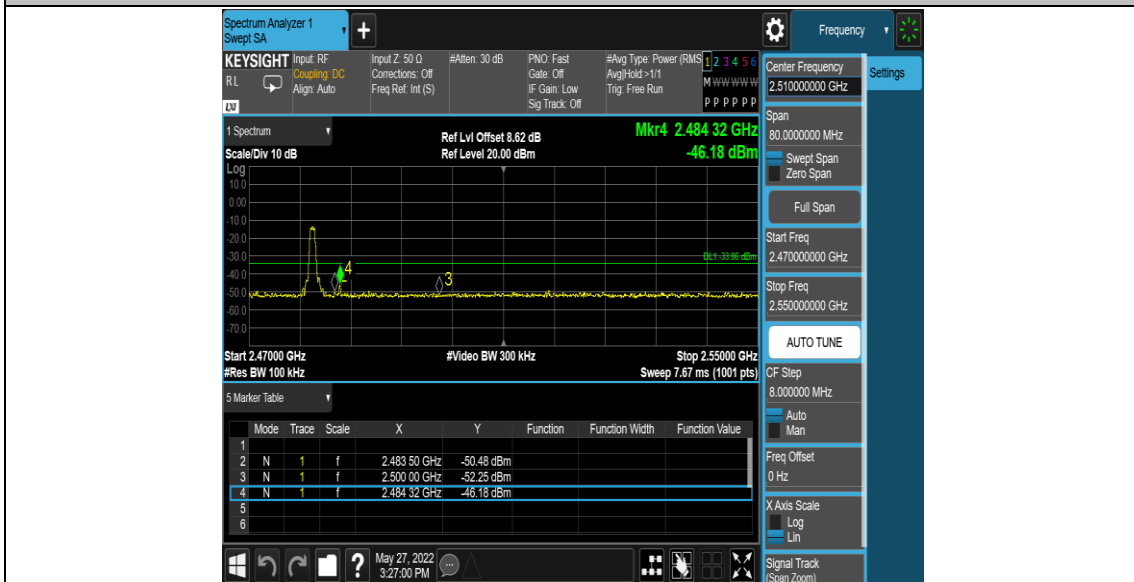
Test Result

TestMode	Antenna	Channel	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-6.86	-42.18	≤-26.86	PASS
		High	2480	-13.86	-46.18	≤-33.86	PASS

Test Graphs



BLE_1M_Ant1_Low_2402



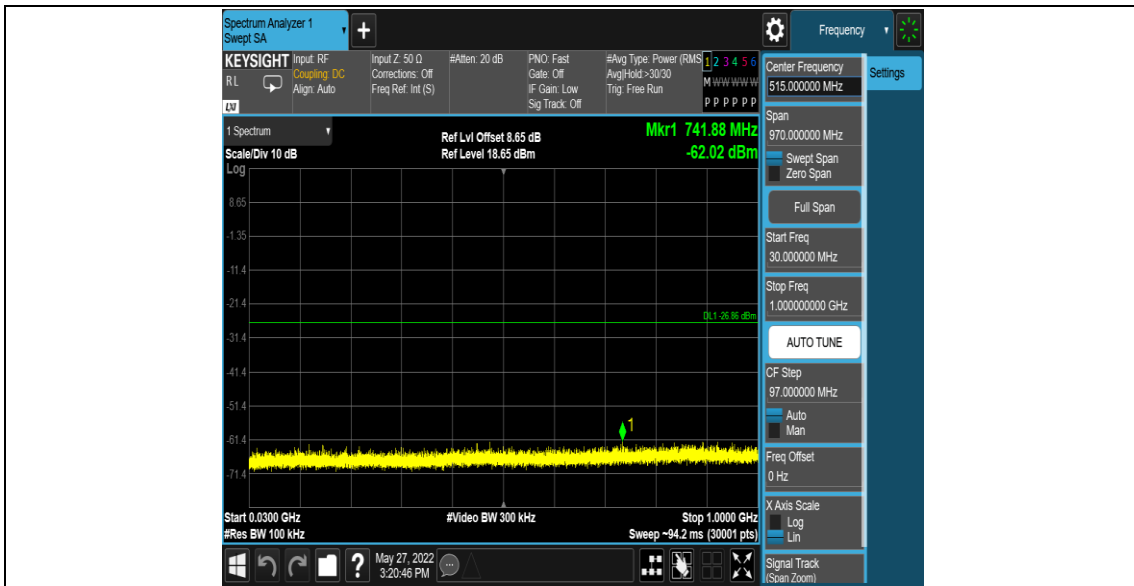
BLE_1M_Ant1_High_2480

Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	30~1000	-6.86	-62.02	≤-26.86	PASS
			1000~26500	-6.86	-43.89	≤-26.86	PASS
		2440	30~1000	-10.02	-61.05	≤-30.02	PASS
			1000~26500	-10.02	-47.01	≤-30.02	PASS
		2480	30~1000	-13.86	-61.43	≤-33.86	PASS
			1000~26500	-13.86	-48.52	≤-33.86	PASS

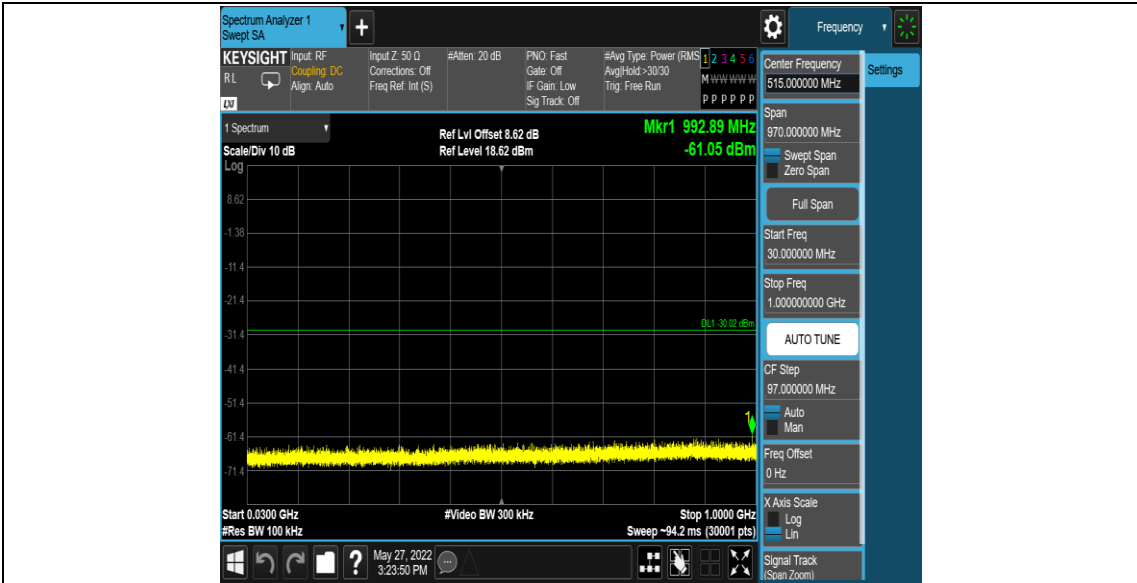
Test Graphs



BLE_1M_Ant1_2402_30~1000



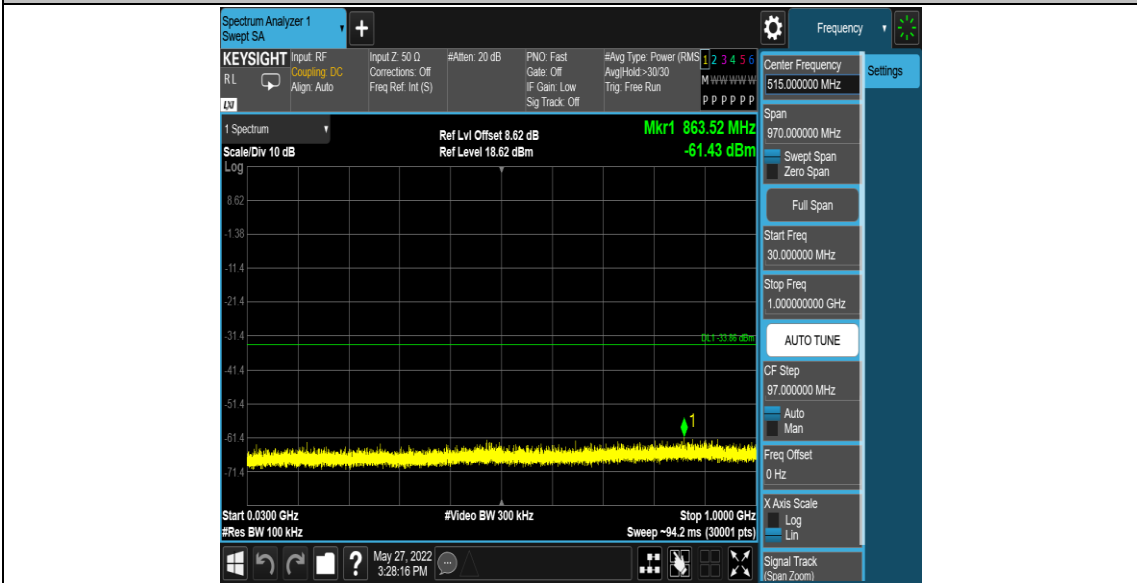
BLE_1M_Ant1_2402_1000~26500



BLE_1M_Ant1_2440_30~100



BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500

Appendix G: Duty Cycle

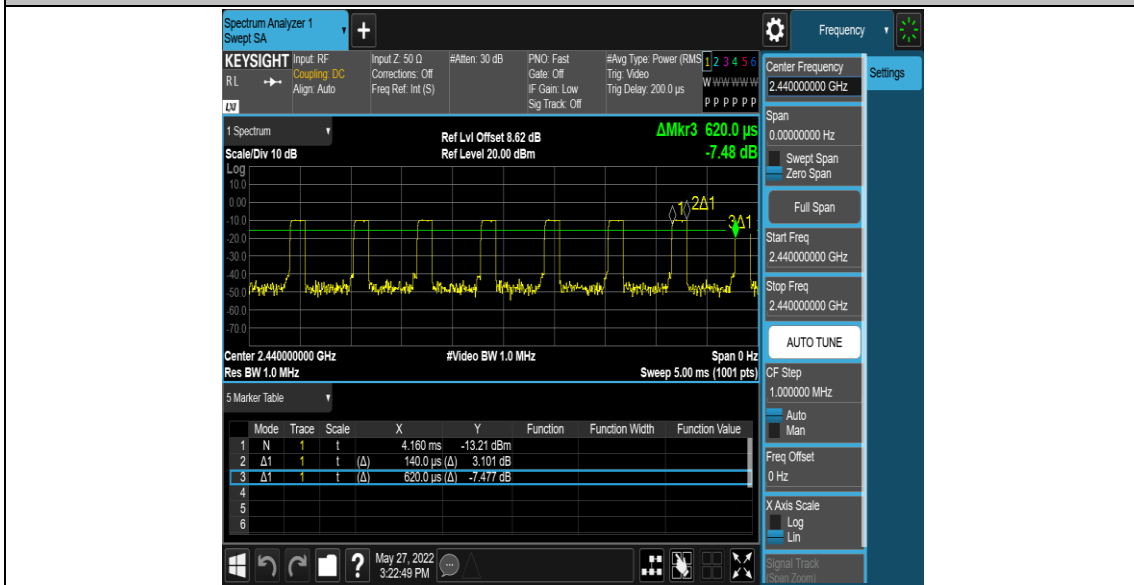
Test Result

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	0.15	0.62	24.19	6.16
		2440	0.14	0.62	22.58	6.46
		2480	0.14	0.62	22.58	6.46

Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

Appendix H: Emissions in Restricted Bands

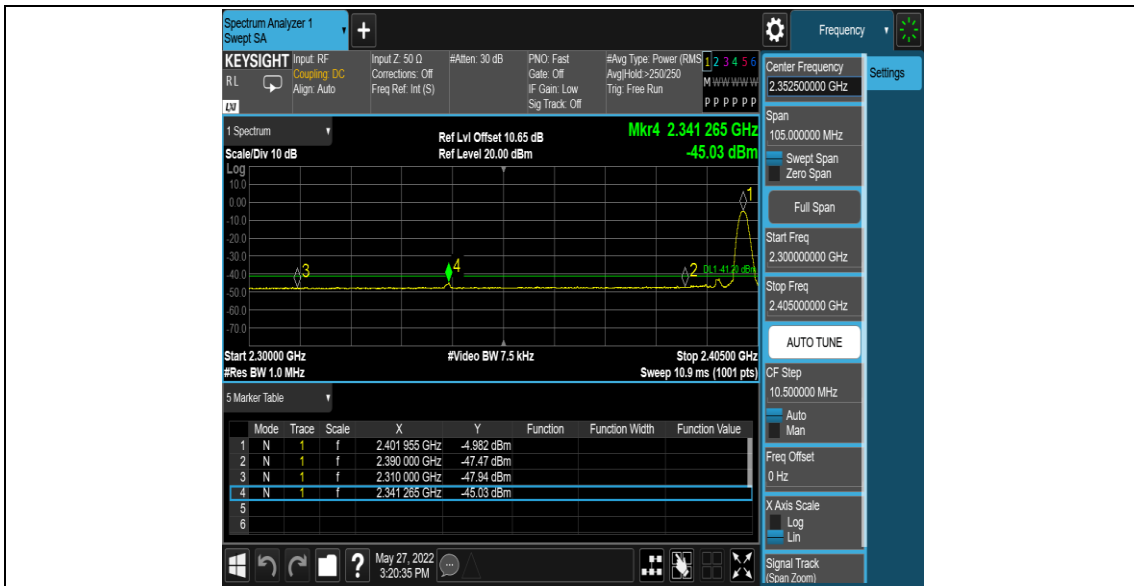
Test Result

TestMode	Antenna	ChName	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-47.94	≤-41.20	47.26	≤54	PASS
				AV	2341.265	-45.03	≤-41.20	50.17	≤54	PASS
				AV	2390.000	-47.47	≤-41.20	47.73	≤54	PASS
				Peak	2310.000	-40.68	≤-21.20	54.52	≤74	PASS
				Peak	2341.160	-36.53	≤-21.20	58.67	≤74	PASS
				Peak	2390.000	-39.25	≤-21.20	55.95	≤74	PASS
		High	2480	AV	2483.500	-47.01	≤-41.20	48.19	≤54	PASS
				AV	2484.080	-44.54	≤-41.20	50.66	≤54	PASS
				AV	2500.000	-47.14	≤-41.20	48.06	≤54	PASS
				Peak	2483.500	-39.49	≤-21.20	55.71	≤74	PASS
				Peak	2489.040	-37.62	≤-21.20	57.58	≤74	PASS
				Peak	2500.000	-39.81	≤-21.20	55.39	≤74	PASS

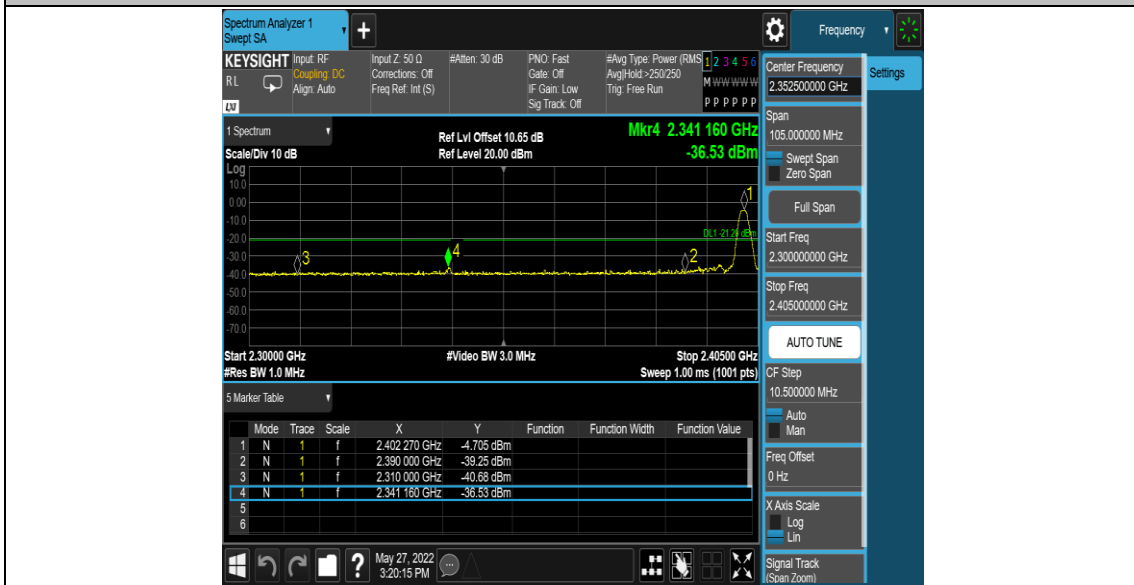
Note:

1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

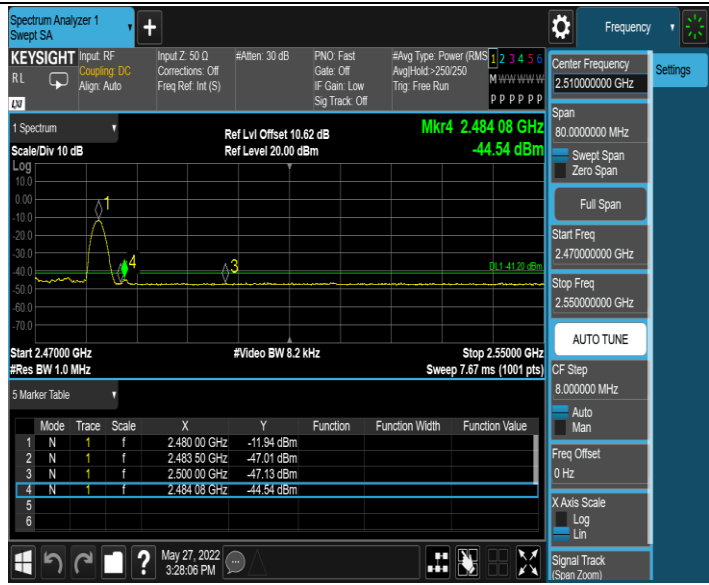
Test Graphs



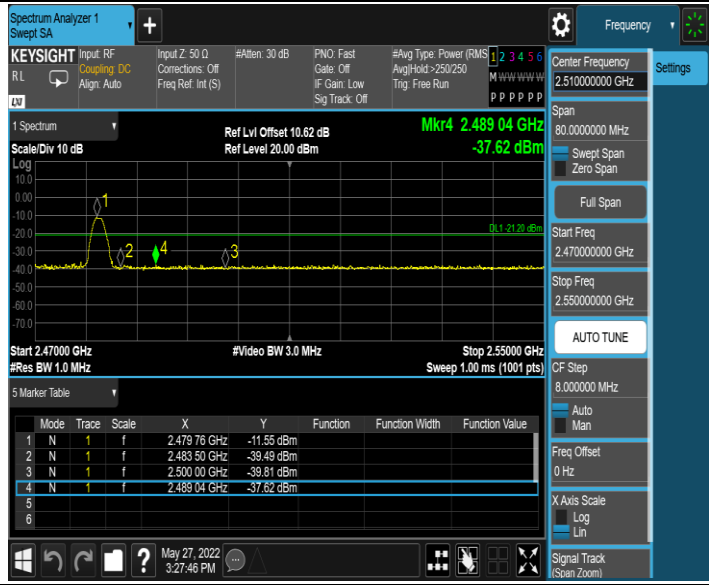
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

Radiated emission measurements

Mode:	2402
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PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dB μ V/m]	Factor [dB/m]	PK Value [dB μ V/m]	PK Limit [dB μ V/m]	PK Margin [dB]	Polarity	Verdict
1	2310.0000	61.42	-19.79	41.63	74.00	32.37	Vertical	PASS
2	2331.7818	64.02	-19.75	44.27	74.00	29.73	Vertical	PASS
3	2356.6867	62.18	-19.36	42.82	74.00	31.18	Vertical	PASS
4	2372.3824	63.22	-18.52	44.70	74.00	29.30	Vertical	PASS
5	2386.0761	67.34	-17.78	49.56	74.00	24.44	Vertical	PASS
6	2390.0000	61.43	-17.57	43.86	74.00	30.14	Vertical	PASS

AV Final Data List								
NO.	Freq. [MHz]	AV Reading [dB μ V/m]	Factor [dB/m]	AV Value [dB μ V/m]	AV Limit [dB μ V/m]	AV Margin [dB]	Polarity	Verdict
1	2310.0000	58.17	-19.79	38.38	54.00	15.62	Vertical	PASS
2	2331.7818	60.55	-19.75	40.80	54.00	13.20	Vertical	PASS
3	2356.6867	59.74	-19.36	40.38	54.00	13.62	Vertical	PASS
4	2372.3824	58.24	-18.52	39.72	54.00	14.28	Vertical	PASS
5	2386.0761	62.62	-17.78	44.84	54.00	9.16	Vertical	PASS
6	2390.0000	57.45	-17.57	39.88	54.00	14.12	Vertical	PASS

Mode:	2402
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PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dB μ V/m]	Factor [dB/m]	PK Value [dB μ V/m]	PK Limit [dB μ V/m]	PK Margin [dB]	Polarity	Verdict
1	2310.0000	61.15	-19.79	41.36	74.00	32.64	Horizontal	PASS
2	2329.4595	62.13	-19.76	42.37	74.00	31.63	Horizontal	PASS
3	2339.3093	63.13	-19.74	43.39	74.00	30.61	Horizontal	PASS
4	2355.2452	62.82	-19.44	43.38	74.00	30.62	Horizontal	PASS
5	2373.6637	62.49	-18.45	44.04	74.00	29.96	Horizontal	PASS
6	2390.0000	61.17	-17.57	43.60	74.00	30.40	Horizontal	PASS

AV Final Data List								
NO.	Freq. [MHz]	AV Reading [dB μ V/m]	Factor [dB/m]	AV Value [dB μ V/m]	AV Limit [dB μ V/m]	AV Margin [dB]	Polarity	Verdict
1	2310.0000	56.72	-19.79	36.93	54.00	17.07	Horizontal	PASS
2	2329.4595	57.33	-19.76	37.57	54.00	16.43	Horizontal	PASS
3	2339.3093	57.73	-19.74	37.99	54.00	16.01	Horizontal	PASS
4	2355.2452	57.74	-19.44	38.30	54.00	15.70	Horizontal	PASS
5	2373.6637	58.28	-18.45	39.83	54.00	14.17	Horizontal	PASS
6	2390.0000	57.62	-17.57	40.05	54.00	13.95	Horizontal	PASS

Mode:	2480
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PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dB μ V/m]	Factor [dB/m]	PK Value [dB μ V/m]	PK Limit [dB μ V/m]	PK Margin [dB]	Polarity	Verdict
1	2483.5000	60.91	-18.02	42.89	74.00	31.11	Horizontal	PASS
2	2486.2178	62.91	-18.54	44.37	74.00	29.63	Horizontal	PASS
3	2492.6931	62.98	-18.95	44.03	74.00	29.97	Horizontal	PASS
4	2493.9208	63.54	-18.93	44.61	74.00	29.39	Horizontal	PASS
5	2497.9604	63.44	-18.88	44.56	74.00	29.44	Horizontal	PASS
6	2500.0000	59.69	-18.85	40.84	74.00	33.16	Horizontal	PASS

AV Final Data List								
NO.	Freq. [MHz]	AV Reading [dB μ V/m]	Factor [dB/m]	AV Value [dB μ V/m]	AV Limit [dB μ V/m]	AV Margin [dB]	Polarity	Verdict
1	2483.5000	60.45	-18.02	42.43	54.00	11.57	Horizontal	PASS
2	2486.2178	62.83	-18.54	44.29	54.00	9.71	Horizontal	PASS
3	2492.6931	62.27	-18.95	43.32	54.00	10.68	Horizontal	PASS
4	2493.9208	63.18	-18.93	44.25	54.00	9.75	Horizontal	PASS
5	2497.9604	63.19	-18.88	44.31	54.00	9.69	Horizontal	PASS
6	2500.0000	59.61	-18.85	40.76	54.00	13.24	Horizontal	PASS

Mode:	2480
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PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dB μ V/m]	Factor [dB/m]	PK Value [dB μ V/m]	PK Limit [dB μ V/m]	PK Margin [dB]	Polarity	Verdict
1	2486.6023	76.66	-18.59	58.07	74.00	15.93	Vertical	PASS
2	2488.1584	66.48	-18.76	47.72	74.00	26.28	Vertical	PASS
3	2489.8911	66.29	-18.96	47.33	74.00	26.67	Vertical	PASS
4	2493.0660	64.71	-18.94	45.77	74.00	28.23	Vertical	PASS
5	2497.2063	65.3	-18.89	46.41	74.00	27.59	Vertical	PASS
6	2499.7079	68.93	-18.85	50.08	74.00	23.92	Vertical	PASS

AV Final Data List								
NO.	Freq. [MHz]	AV Reading [dB μ V/m]	Factor [dB/m]	AV Value [dB μ V/m]	AV Limit [dB μ V/m]	AV Margin [dB]	Polarity	Verdict
1	2486.6023	62.19	-18.59	43.60	54.00	10.40	Vertical	PASS
2	2488.1584	66.42	-18.76	47.66	54.00	6.34	Vertical	PASS
3	2489.8911	65.12	-18.96	46.16	54.00	7.84	Vertical	PASS
4	2493.0660	64.71	-18.94	45.77	54.00	8.23	Vertical	PASS
5	2497.2063	64.85	-18.89	45.96	54.00	8.04	Vertical	PASS
6	2499.7079	68.68	-18.85	49.83	54.00	4.17	Vertical	PASS

Appendix I: Spurious emissions

Note:

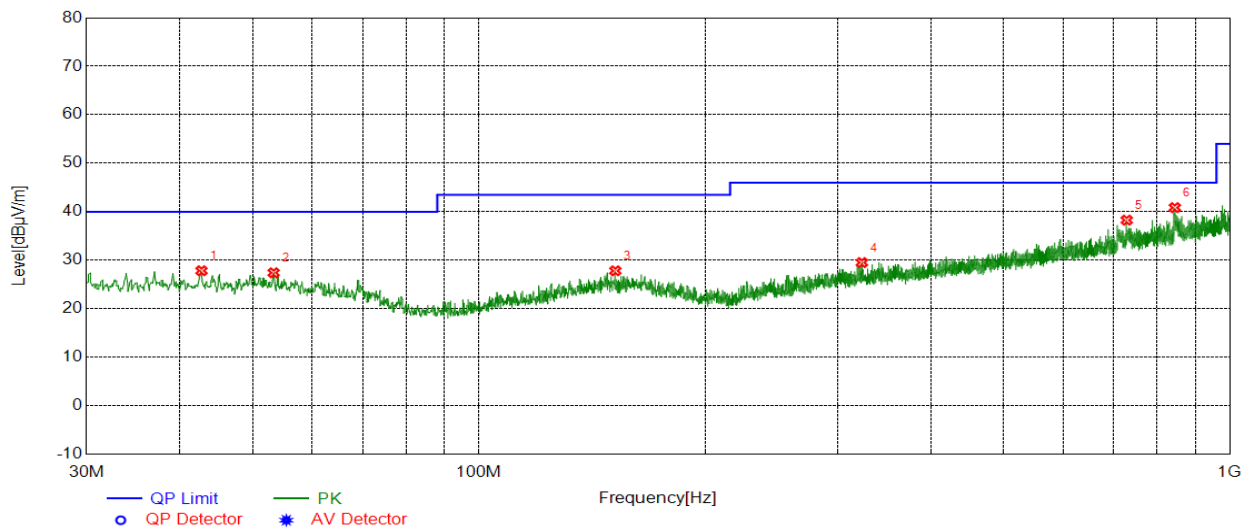
The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Above 1GHz, The emission level with margin less than 20db is recorded.

Mode:	BLE-2402
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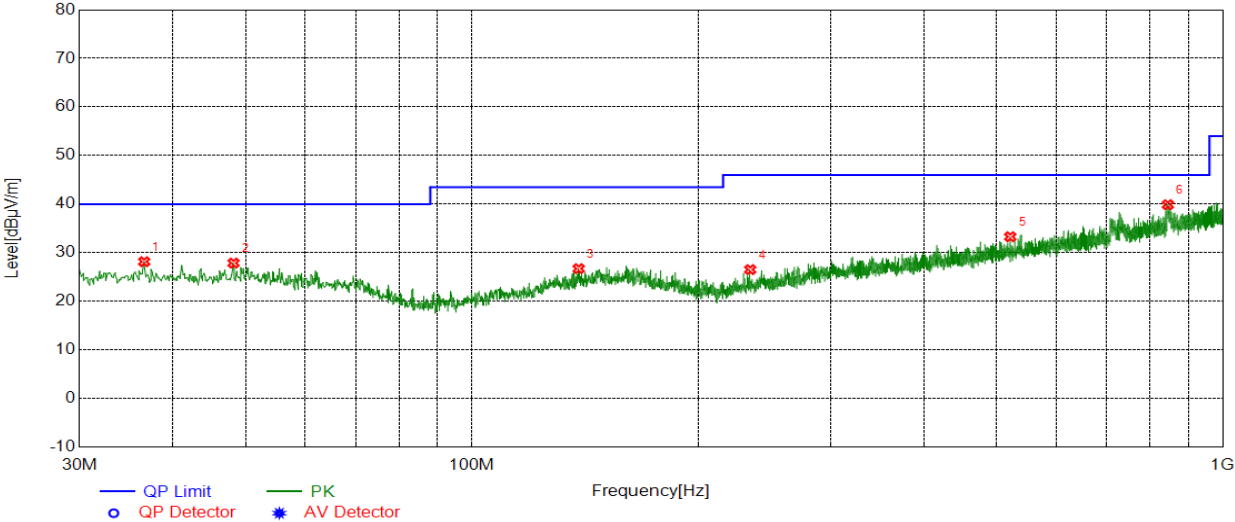
Test Graph



Suspected Data List							
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Verdict
1	42.7083	27.83	-15.74	40.00	12.17	Horizontal	PASS
2	53.2823	27.42	-15.91	40.00	12.58	Horizontal	PASS
3	151.941	27.82	-15.95	43.50	15.68	Horizontal	PASS
4	323.648	29.52	-15.23	46.00	16.48	Horizontal	PASS
5	729.148	38.27	-7.94	46.00	7.73	Horizontal	PASS
6	844.978	40.85	-6.43	46.00	5.15	Horizontal	PASS

Mode:	BLE-2402
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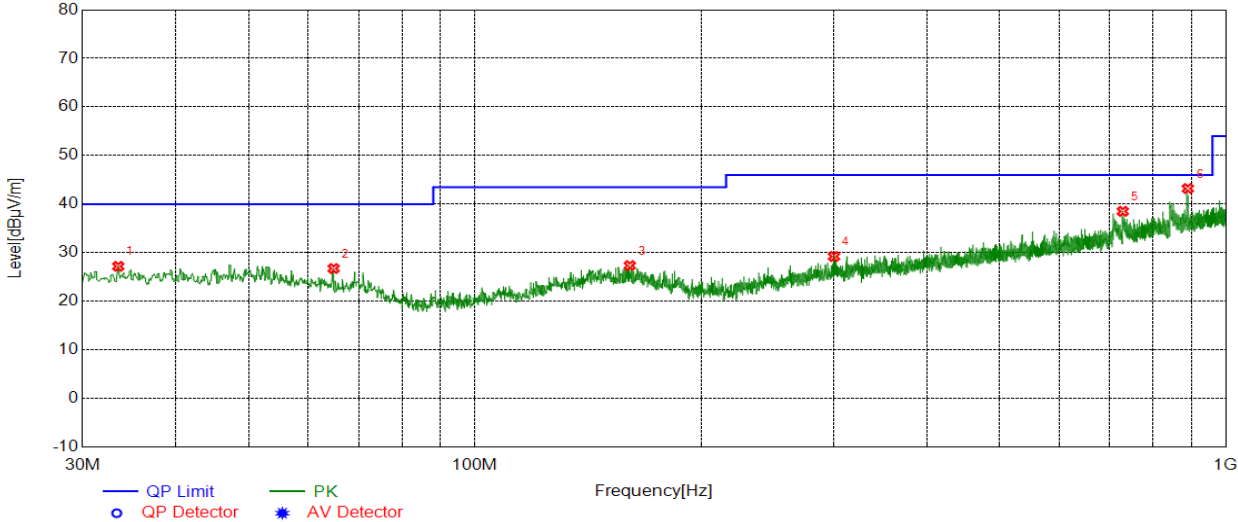
Test Graph



Suspected Data List							
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Verdict
1	36.5967	28.15	-16.27	40.00	11.85	Vertical	PASS
2	48.1408	27.87	-15.66	40.00	12.13	Vertical	PASS
3	138.747	26.72	-16.34	43.50	16.78	Vertical	PASS
4	234.787	26.52	-18.00	46.00	19.48	Vertical	PASS
5	521.160	33.29	-11.38	46.00	12.71	Vertical	PASS
6	845.172	39.88	-6.43	46.00	6.12	Vertical	PASS

Mode: BLE-2440

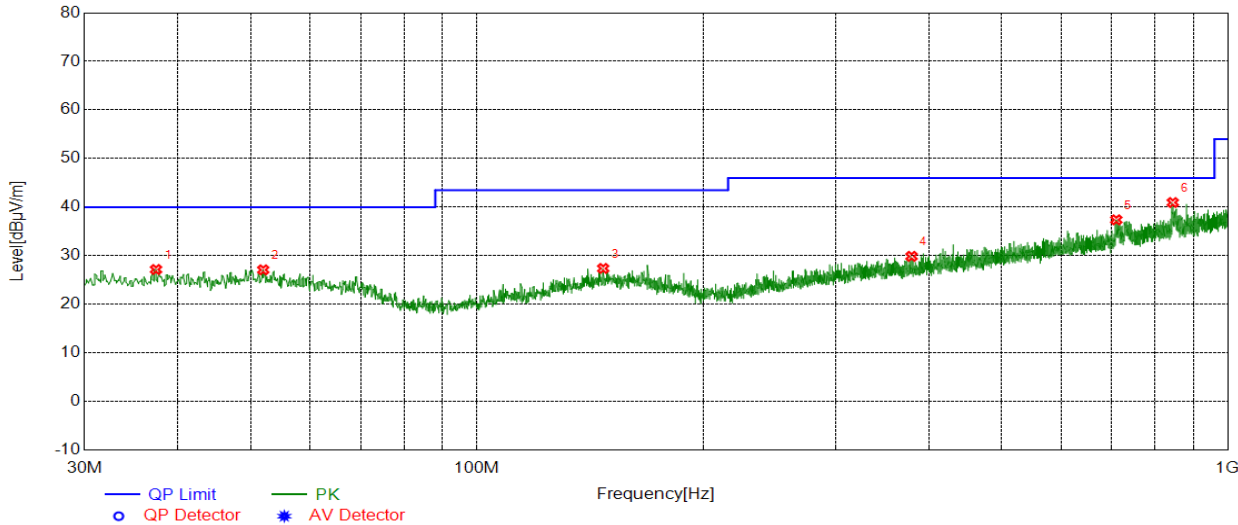
Test Graph



Suspected Data List							
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Verdict
1	33.4923	27.20	-16.72	40.00	12.80	Horizontal	PASS
2	64.8265	26.75	-17.42	40.00	13.25	Horizontal	PASS
3	160.769	27.35	-15.78	43.50	16.15	Horizontal	PASS
4	300.754	29.22	-15.73	46.00	16.78	Horizontal	PASS
5	729.245	38.52	-7.94	46.00	7.48	Horizontal	PASS
6	890.185	43.21	-5.85	46.00	2.79	Horizontal	PASS

Mode:	BLE-2440
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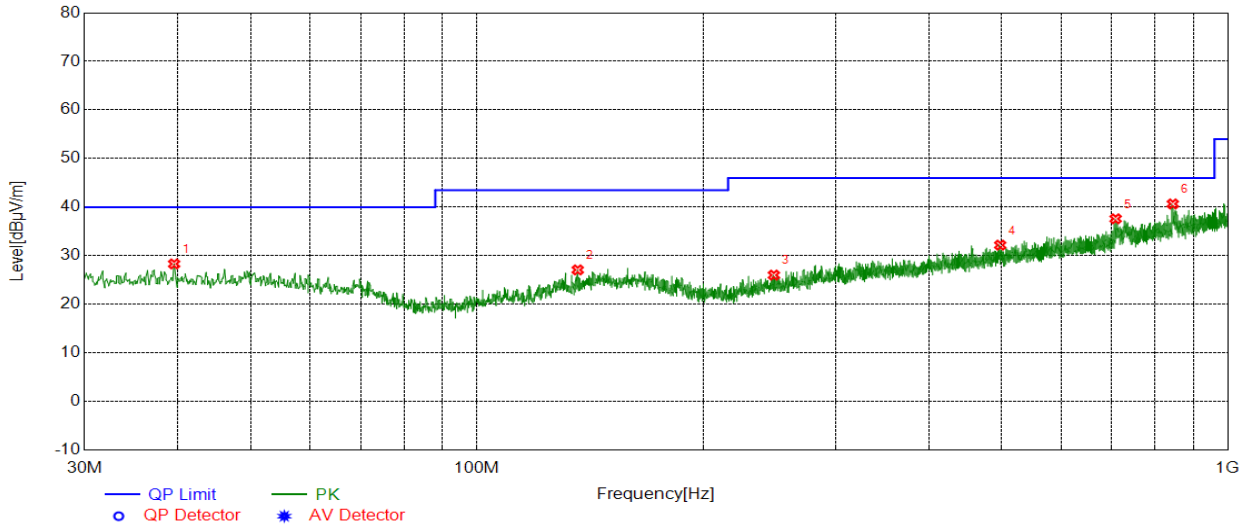
Test Graph



Suspected Data List							
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Verdict
1	37.3727	27.16	-16.16	40.00	12.84	Vertical	PASS
2	51.9242	27.09	-15.79	40.00	12.91	Vertical	PASS
3	147.284	27.38	-16.05	43.50	16.12	Vertical	PASS
4	379.234	29.87	-14.37	46.00	16.13	Vertical	PASS
5	710.523	37.39	-8.29	46.00	8.61	Vertical	PASS
6	844.881	40.95	-6.43	46.00	5.05	Vertical	PASS

Mode:	BLE-2480
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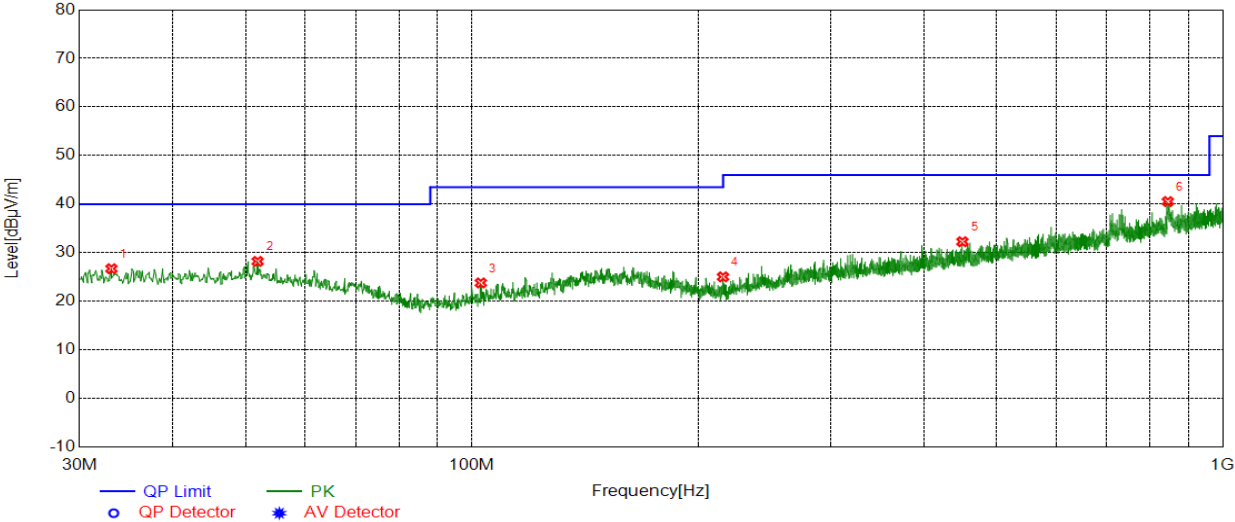
Test Graph



Suspected Data List							
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Verdict
1	39.5070	28.31	-15.85	40.00	11.69	Horizontal	PASS
2	136.225	27.08	-16.64	43.50	16.42	Horizontal	PASS
3	248.562	26.01	-17.47	46.00	19.99	Horizontal	PASS
4	497.683	32.18	-11.71	46.00	13.82	Horizontal	PASS
5	709.067	37.60	-8.32	46.00	8.40	Horizontal	PASS
6	844.978	40.66	-6.43	46.00	5.34	Horizontal	PASS

Mode:	BLE-2480
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Test Graph



Suspected Data List							
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Verdict
1	33.1043	26.71	-16.78	40.00	13.29	Vertical	PASS
2	51.8272	28.21	-15.78	40.00	11.79	Vertical	PASS
3	102.757	23.78	-20.03	43.50	19.72	Vertical	PASS
4	215.967	25.03	-19.20	43.50	18.47	Vertical	PASS
5	450.052	32.27	-12.82	46.00	13.73	Vertical	PASS
6	845.075	40.53	-6.43	46.00	5.47	Vertical	PASS

Mode:	2402
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PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dB μ V/m]	Level [dB μ V/m]	Factor [dB/m]	Limit [dB μ V/m]	Margin [dB]	Polarity	Verdict
1	1370.874	65.55	40.45	-25.10	74.00	33.55	Horizontal	PASS
2	1784.957	65.99	43.64	-22.35	74.00	30.36	Horizontal	PASS
3	4951.695	63.85	47.40	-16.45	74.00	26.60	Horizontal	PASS
4	5824.782	62.68	47.81	-14.87	74.00	26.19	Horizontal	PASS
5	9057.605	60.68	50.06	-10.62	74.00	23.94	Horizontal	PASS

PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dB μ V/m]	Level [dB μ V/m]	Factor [dB/m]	Limit [dB μ V/m]	Margin [dB]	Polarity	Verdict
1	1330.066	66.11	40.91	-25.20	74.00	33.09	Vertical	PASS
2	1721.344	65.99	43.16	-22.83	74.00	30.84	Vertical	PASS
3	4804.680	65.34	48.87	-16.47	74.00	25.13	Vertical	PASS
4	6480.348	61.49	48.35	-13.14	74.00	25.65	Vertical	PASS
5	8963.096	61.52	50.47	-11.05	74.00	23.53	Vertical	PASS

Mode:	2440
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Test Graph

PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dBµV/m]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Verdict
1	1254.851	66.55	41.01	-25.54	74.00	32.99	Horizontal	PASS
2	1847.769	65.24	43.56	-21.68	74.00	30.44	Horizontal	PASS
3	3876.087	63.08	44.99	-18.09	74.00	29.01	Horizontal	PASS
4	5038.703	62.04	46.24	-15.80	74.00	27.76	Horizontal	PASS
5	7339.934	62.92	50.16	-12.76	74.00	23.84	Horizontal	PASS
6	9936.693	60.43	51.47	-8.96	74.00	22.53	Horizontal	PASS

PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dBµV/m]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Verdict
1	1307.661	65.88	40.53	-25.35	74.00	33.47	Vertical	PASS
2	1818.963	65.64	43.63	-22.01	74.00	30.37	Vertical	PASS
3	4879.688	66.91	50.59	-16.32	74.00	23.41	Vertical	PASS
4	5791.779	62.40	47.40	-15.00	74.00	26.60	Vertical	PASS
5	7735.973	62.18	50.24	-11.94	74.00	23.76	Vertical	PASS
6	10040.20	60.48	51.57	-8.91	74.00	22.43	Vertical	PASS

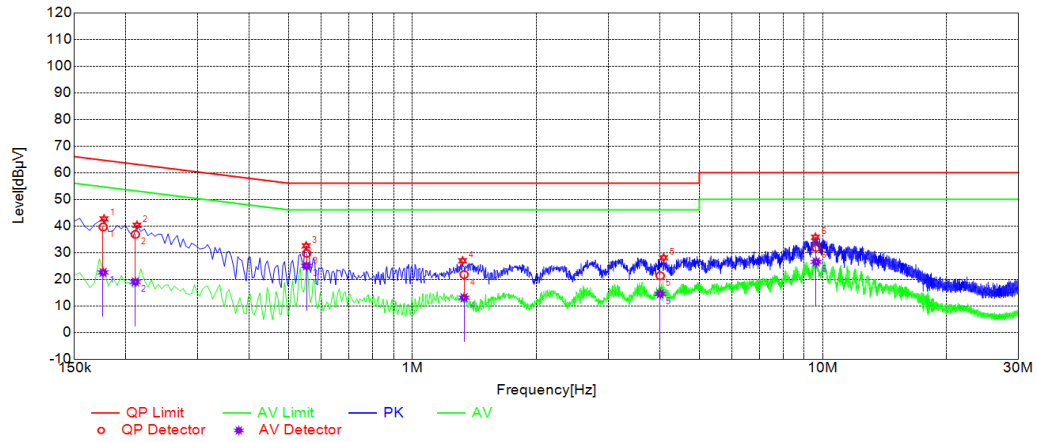
Mode:	2480
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Test Graph

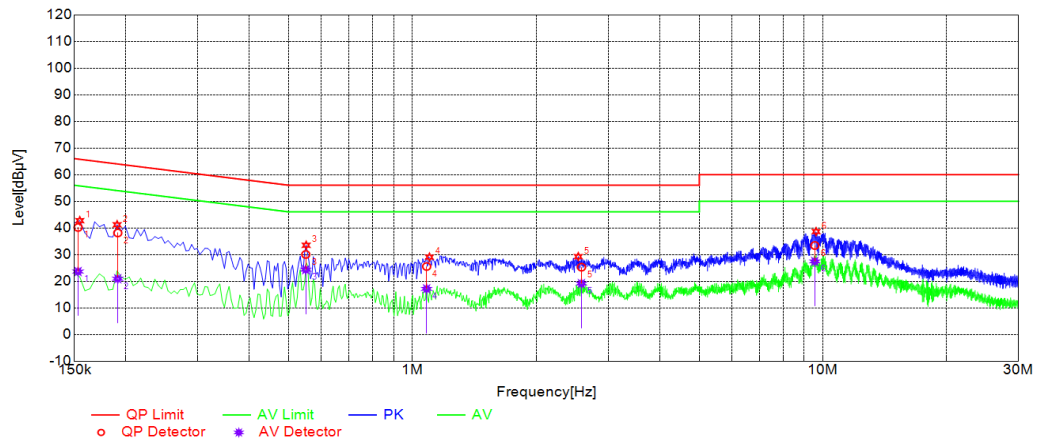
PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dB μ V/m]	Level [dB μ V/m]	Factor [dB/m]	Limit [dB μ V/m]	Margin [dB]	Polarity	Verdict
1	1274.454	66.26	40.78	-25.48	74.00	33.22	Horizontal	PASS
2	2052.210	66.47	46.13	-20.34	74.00	27.87	Horizontal	PASS
3	4239.123	63.81	46.56	-17.25	74.00	27.44	Horizontal	PASS
4	5608.760	61.64	46.54	-15.10	74.00	27.46	Horizontal	PASS
5	8085.508	61.21	49.70	-11.51	74.00	24.30	Horizontal	PASS
6	11486.34	59.64	52.78	-6.86	74.00	21.22	Horizontal	PASS

PK Final Data List								
NO.	Freq. [MHz]	PK Reading [dB μ V/m]	Level [dB μ V/m]	Factor [dB/m]	Limit [dB μ V/m]	Margin [dB]	Polarity	Verdict
1	1338.467	66.27	41.12	-25.15	74.00	32.88	Vertical	PASS
2	1962.592	66.00	45.17	-20.83	74.00	28.83	Vertical	PASS
3	4960.696	67.73	51.39	-16.34	74.00	22.61	Vertical	PASS
4	7258.925	61.64	48.88	-12.76	74.00	25.12	Vertical	PASS
5	8888.088	61.15	49.94	-11.21	74.00	24.06	Vertical	PASS
6	11664.86	59.61	53.36	-6.25	74.00	20.64	Vertical	PASS

Appendix J: Conducted emission AC power port



Final Data List										
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Type	Verdict
1	0.1761	10.24	39.61	64.67	25.06	22.54	54.67	32.13	L	PASS
2	0.2110	10.24	36.82	63.17	26.35	18.99	53.17	34.18	L	PASS
3	0.5518	10.27	29.72	56.00	26.28	25.00	46.00	21.00	L	PASS
4	1.3353	10.31	21.74	56.00	34.26	13.07	46.00	32.93	L	PASS
5	4.0156	10.40	21.31	56.00	34.69	14.49	46.00	31.51	L	PASS
6	9.6344	10.52	31.90	60.00	28.10	26.51	50.00	23.49	L	PASS



Final Data List										
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Type	Verdict
1	0.1530	10.24	40.18	65.84	25.66	23.63	55.84	32.21	N	PASS
2	0.1912	10.24	38.13	63.98	25.85	20.92	53.98	33.06	N	PASS
3	0.5491	10.27	30.03	56.00	25.97	24.32	46.00	21.68	N	PASS
4	1.0822	10.28	25.52	56.00	30.48	17.14	46.00	28.86	N	PASS
5	2.5807	10.32	25.26	56.00	30.74	19.11	46.00	26.89	N	PASS
6	9.5611	10.47	33.41	60.00	26.59	27.43	50.00	22.57	N	PASS