

Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.632	2401.676	2402.308	0.5	PASS
		2440	0.652	2439.660	2440.312	0.5	PASS
		2480	0.644	2479.664	2480.308	0.5	PASS

Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



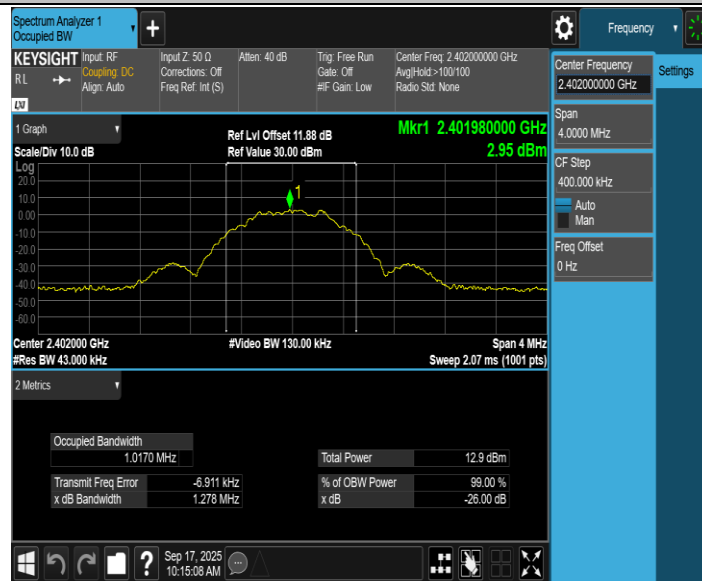
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0170	2401.4846	2402.5016	---	---
		2440	1.0107	2439.4864	2440.4971	---	---
		2480	1.0153	2479.4842	2480.4995	---	---

Test Graphs

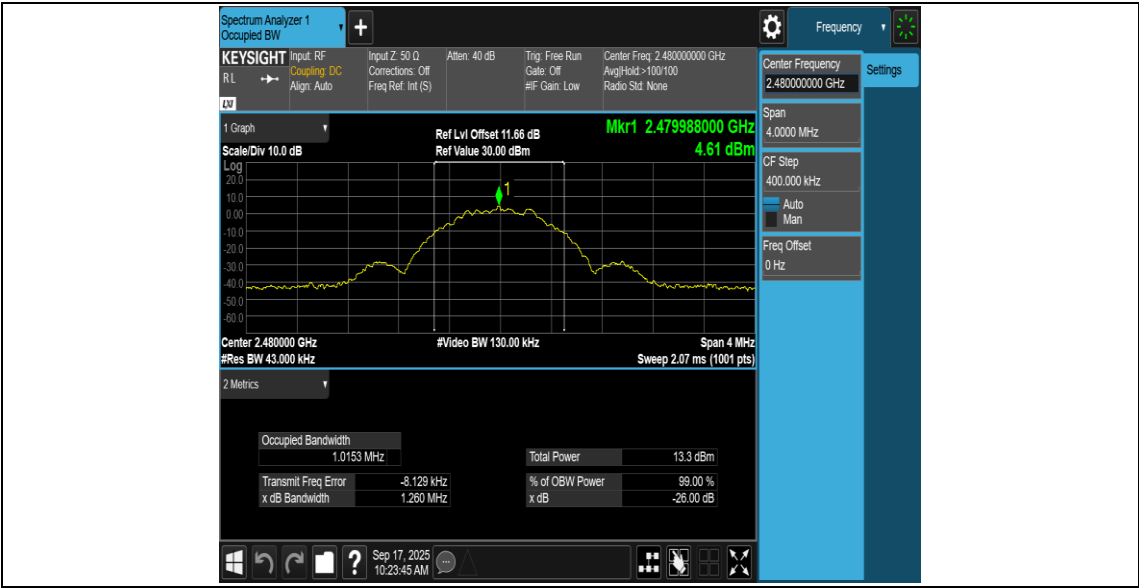
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



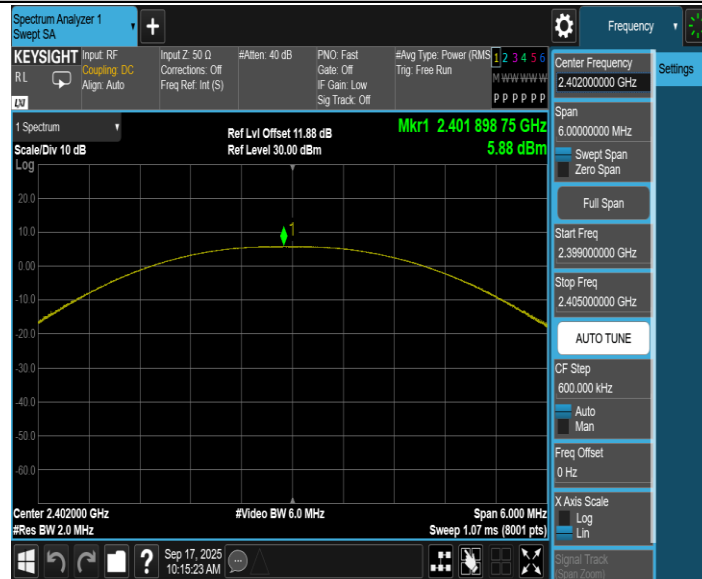
Appendix C: Maximum conducted output power

Test Result Peak

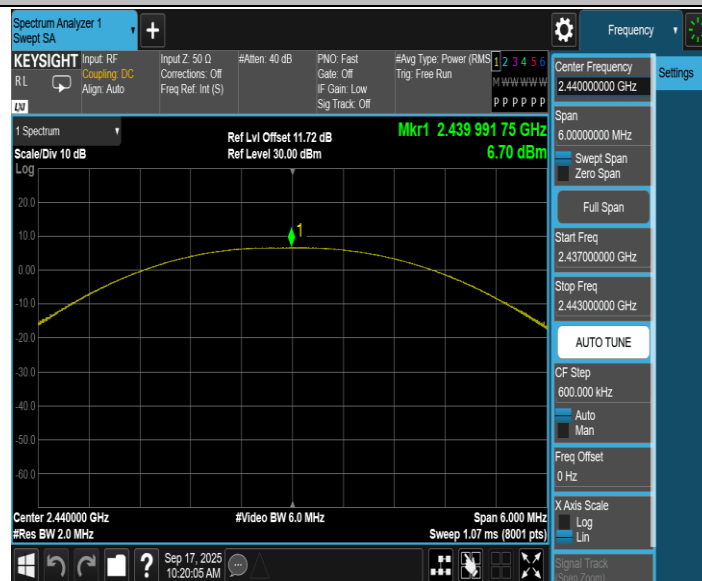
TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
BLE_1M	Ant1	2402	5.88	≤30	8.01	≤36	PASS
		2440	6.70	≤30	8.83	≤36	PASS
		2480	6.16	≤30	8.29	≤36	PASS

Test Graphs Peak

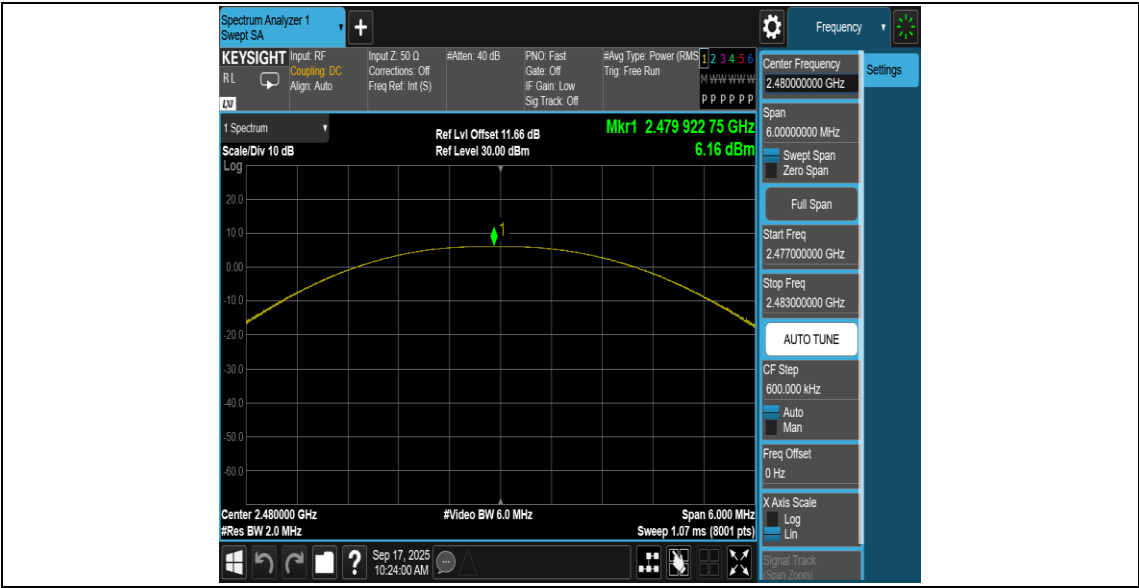
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



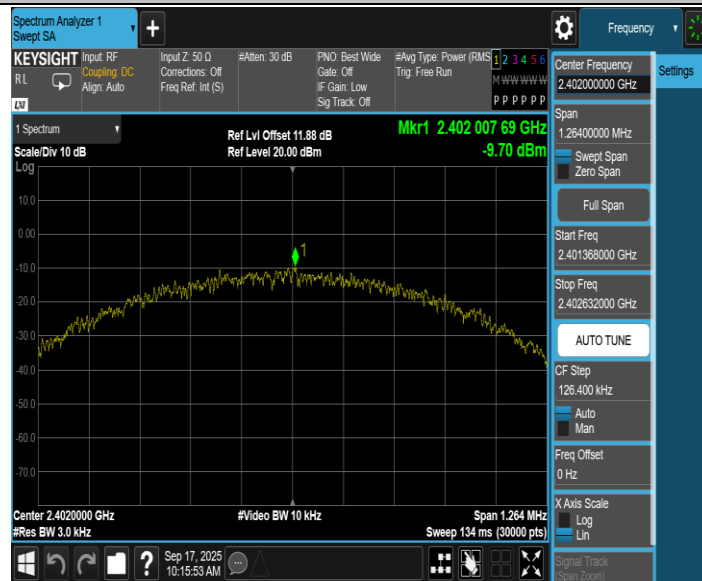
Appendix D: Maximum power spectral density

Test Result

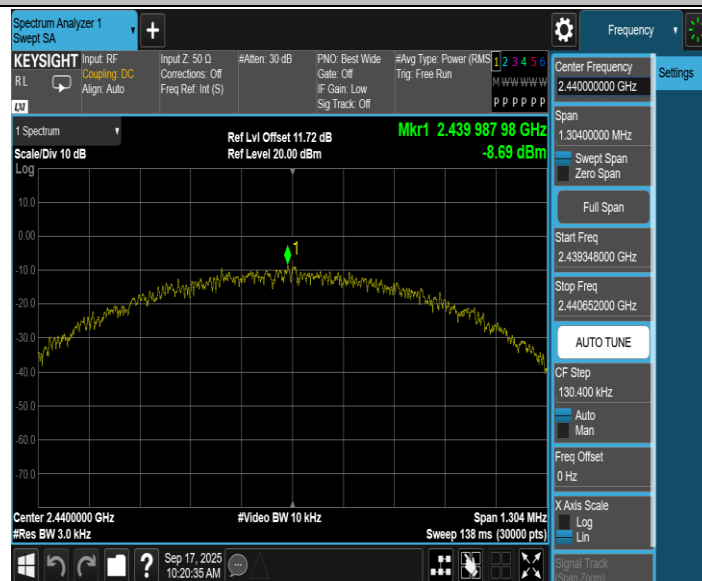
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-9.70	≤8.00	PASS
		2440	-8.69	≤8.00	PASS
		2480	-9.05	≤8.00	PASS

Test Graphs

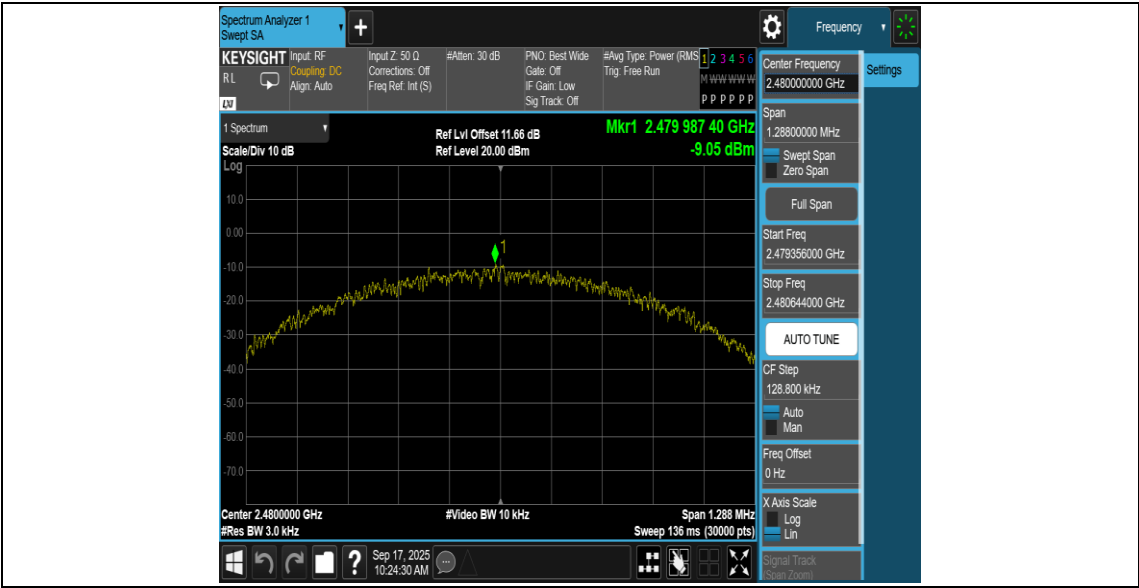
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency [MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	5.42	-45.72	≤-14.58	PASS
		High	2480	5.56	-46.54	≤-14.44	PASS

Test Graphs



Appendix F: Conducted Spurious Emission

Test Result

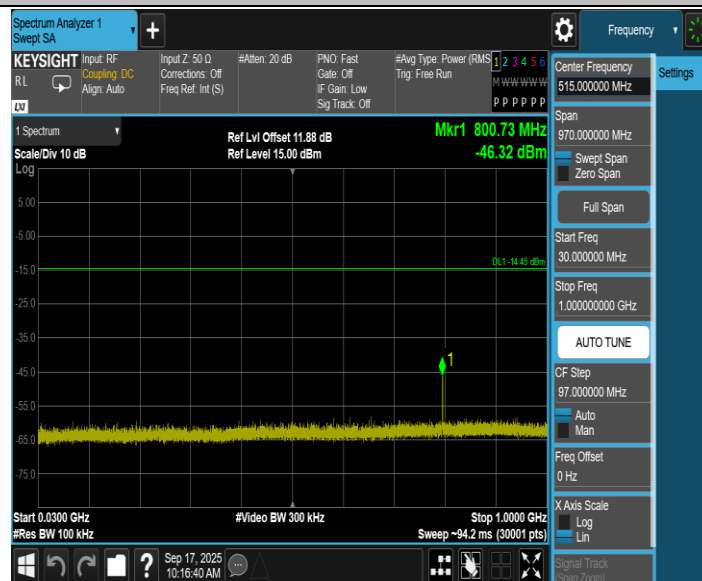
TestMode	Antenna	Frequency [MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	5.55	5.55	---	PASS
			30~1000	5.55	-46.32	≤-14.45	PASS
			1000~26500	5.55	-34.12	≤-14.45	PASS
		2440	Reference	6.43	6.43	---	PASS
			30~1000	6.43	-45.72	≤-13.57	PASS
			1000~26500	6.43	-35.95	≤-13.57	PASS
		2480	Reference	5.83	5.83	---	PASS
			30~1000	5.83	-46.14	≤-14.17	PASS
			1000~26500	5.83	-36.56	≤-14.17	PASS

Test Graphs

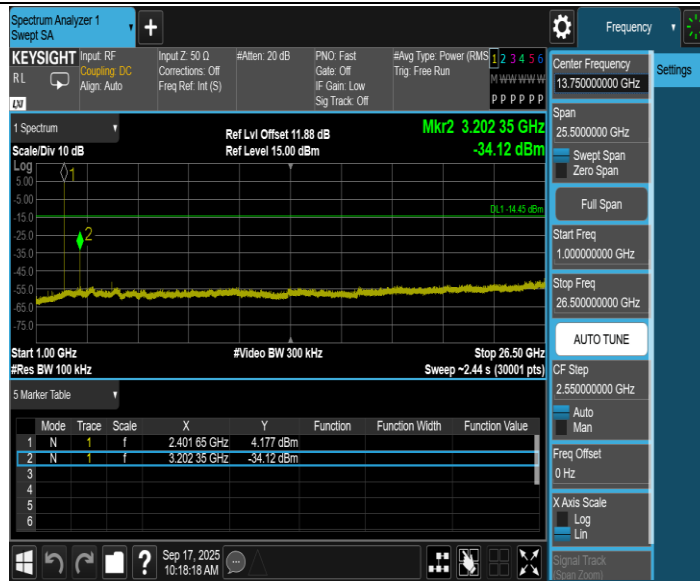
BLE_1M_Ant1_2402_0~Reference



BLE_1M_Ant1_2402_30~1000



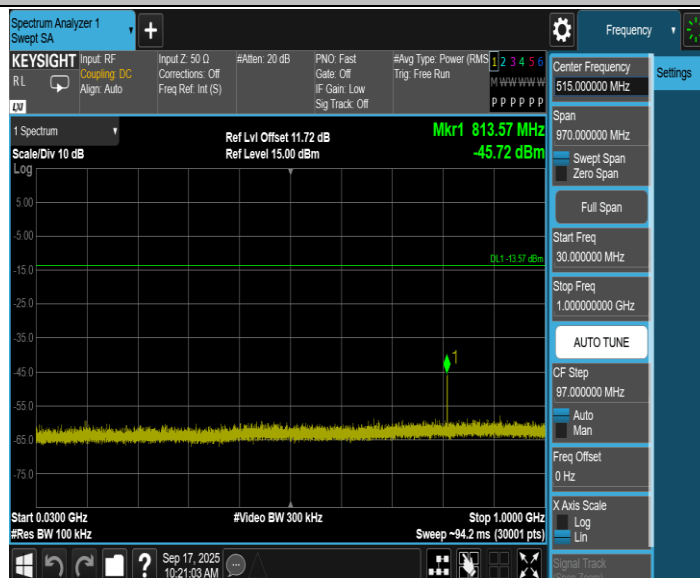
BLE_1M_Ant1_2402_1000~26500



BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



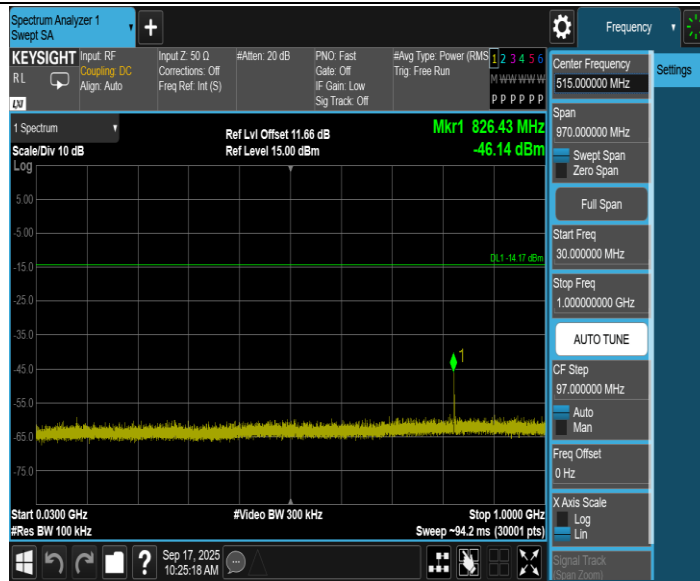
BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



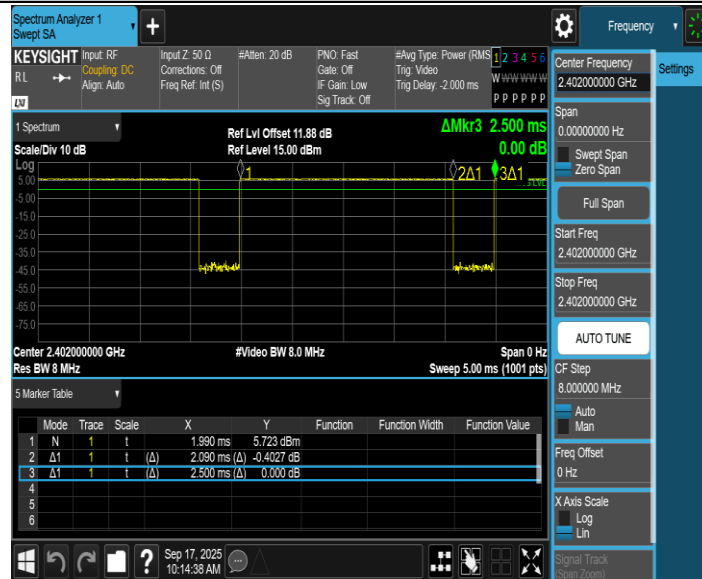
Appendix G: Duty Cycle

Test Result

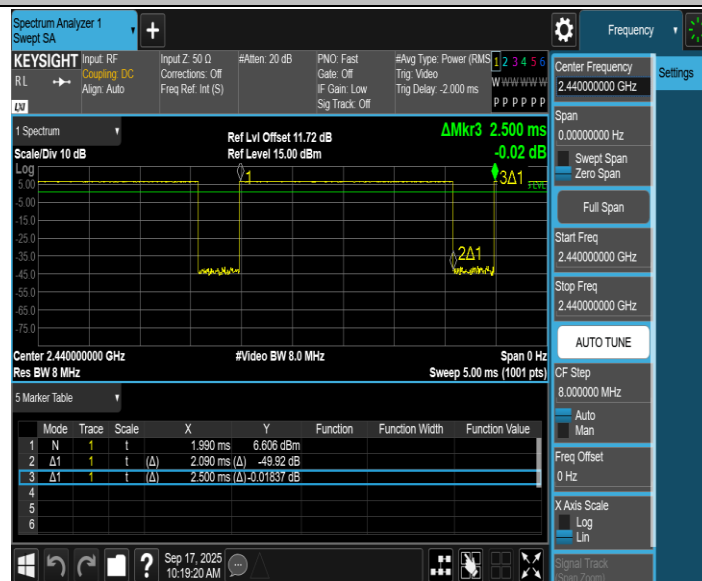
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]
BLE_1M	Ant1	2402	2.09	2.50	83.60
		2440	2.09	2.50	83.60
		2480	2.09	2.50	83.60

Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



Appendix H: Emissions in Restricted Bands

Test Result

Mode:	1M-2402
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PK Final Data List								
NO.	Freq. [MHz]	Factor [dB/m]	PK Value [dB μ V/m]	PK Limit [dB μ V/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2310	6.96	47.87	74.00	26.13	150	202	Horizontal
2	2323.44	7.16	47.93	74.00	26.07	150	13	Horizontal
3	2339.2	7.14	48.18	74.00	25.82	150	50	Horizontal
4	2356.08	7.34	48.70	74.00	25.30	150	136	Horizontal
5	2373.68	7.79	48.70	74.00	25.30	150	88	Horizontal
6	2390	8.28	47.86	74.00	26.14	150	158	Horizontal

PK Final Data List								
NO.	Freq. [MHz]	Factor [dB/m]	PK Value [dB μ V/m]	PK Limit [dB μ V/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2310	6.96	47.30	74.00	26.70	150	315	Vertical
2	2325.44	7.15	49.59	74.00	24.41	150	62	Vertical
3	2348.96	7.36	48.41	74.00	25.59	150	269	Vertical
4	2361.2	7.39	49.07	74.00	24.93	150	356	Vertical
5	2370.56	7.60	48.42	74.00	25.58	150	138	Vertical
6	2390	8.28	48.42	74.00	25.58	150	120	Vertical

Mode:	1M-2480
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PK Final Data List								
NO.	Freq. [MHz]	Factor [dB/m]	PK Value [dB μ V/m]	PK Limit [dB μ V/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.5	7.53	54.43	74.00	19.57	150	265	Horizontal
2	2485.66	7.56	56.56	74.00	17.44	150	78	Horizontal
3	2488.94	7.64	55.77	74.00	18.23	150	8	Horizontal
4	2491.88	7.65	56.57	74.00	17.43	150	193	Horizontal
5	2494.48	7.67	56.19	74.00	17.81	150	30	Horizontal
6	2500	7.60	55.88	74.00	18.12	150	216	Horizontal

AV Final Data List								
NO.	Freq. [MHz]	Factor [dB/m]	AV Value [dB μ V/m]	AV Limit [dB μ V/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.5	7.53	41.76	54.00	12.24	150	265	Horizontal
2	2485.66	7.56	47.94	54.00	6.06	150	78	Horizontal
3	2488.94	7.64	47.73	54.00	6.27	150	8	Horizontal
4	2491.88	7.65	48.48	54.00	5.52	150	193	Horizontal
5	2494.48	7.67	47.04	54.00	6.96	150	30	Horizontal
6	2500	7.60	42.32	54.00	11.68	150	216	Horizontal

Mode:	1M-2480
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PK Final Data List								
NO.	Freq. [MHz]	Factor [dB/m]	PK Value [dBμV/m]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.5	7.53	54.25	74.00	19.75	150	341	Vertical
2	2485.08	7.60	56.55	74.00	17.45	150	64	Vertical
3	2489.29	7.64	55.81	74.00	18.19	150	161	Vertical
4	2491.23	7.63	55.62	74.00	18.38	150	334	Vertical
5	2494.01	7.68	55.84	74.00	18.16	150	311	Vertical
6	2500	7.60	54.23	74.00	19.77	150	0	Vertical

AV Final Data List								
NO.	Freq. [MHz]	Factor [dB/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2483.5	7.53	42.08	54.00	11.92	150	341	Vertical
2	2485.08	7.60	48.31	54.00	5.69	150	64	Vertical
3	2489.29	7.64	47.69	54.00	6.31	150	161	Vertical
4	2491.23	7.63	46.85	54.00	7.15	150	334	Vertical
5	2494.01	7.68	48.02	54.00	5.98	150	311	Vertical
6	2500	7.60	41.66	54.00	12.34	150	0	Vertical

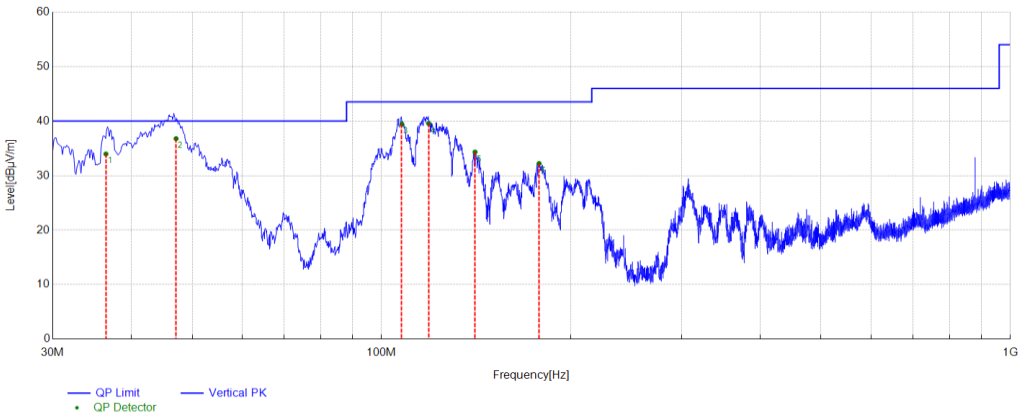
Appendix I: Spurious emissions

Test Result

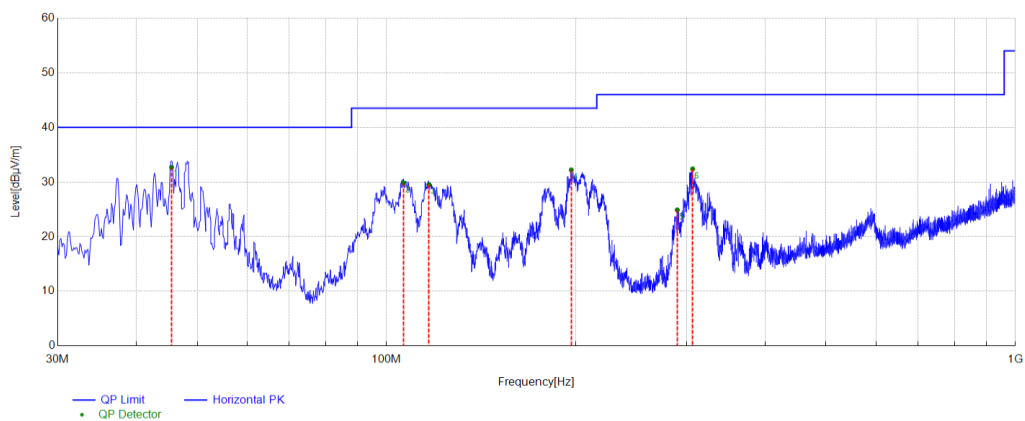
Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the Emissions in the frequency band 9K-30MHz and 18GHz-26.5GHz are more than 20dB below the limit are not reported.

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels, the test data of the worst-case condition was recorded in this report.

Mode:	1M-2402
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QP Final Data List									
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	36.4520	-16.32	33.97	40.00	6.03	100	302	Vertical	PASS
2	47.1308	-16.23	36.78	40.00	3.22	100	62	Vertical	PASS
3	107.7212	-19.13	39.45	43.50	4.05	100	255	Vertical	PASS
4	118.8762	-17.95	39.53	43.50	3.97	100	243	Vertical	PASS
5	140.8225	-16.68	34.33	43.50	9.17	100	30	Vertical	PASS
6	178.0462	-17.62	32.23	43.50	11.27	100	216	Vertical	PASS



QP Final Data List									
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	45.5200	-16.16	32.70	40.00	7.30	200	10	Horizontal	PASS
2	106.3875	-19.25	29.87	43.50	13.63	200	237	Horizontal	PASS
3	116.8150	-18.28	29.54	43.50	13.96	200	268	Horizontal	PASS
4	196.7188	-19.19	32.22	43.50	11.28	200	242	Horizontal	PASS
5	289.9600	-16.64	24.90	46.00	21.10	100	229	Horizontal	PASS
6	306.6925	-15.66	32.40	46.00	13.60	100	234	Horizontal	PASS

Mode:	1M-2402
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NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1246	42.66	2.50	74.00	31.34	150	327	Horizontal
2	1806.4	44.53	5.34	74.00	29.47	150	131	Horizontal
3	4045.5	42.59	-15.60	74.00	31.41	150	59	Horizontal
4	6663	44.98	-11.14	74.00	29.02	150	0	Horizontal
5	9261.75	46.76	-6.74	74.00	27.24	150	219	Horizontal
6	11166	48.78	-3.74	74.00	25.22	150	248	Horizontal

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1427.6	42.58	2.35	74.00	31.42	150	14	Vertical
2	2035.2	45.59	6.39	74.00	28.41	150	360	Vertical
3	3903	43.09	-16.53	74.00	30.91	150	283	Vertical
4	5260.5	46.34	-12.73	74.00	27.66	150	138	Vertical
5	7653.75	45.35	-9.90	74.00	28.65	150	62	Vertical
6	11200.5	48.98	-3.90	74.00	25.02	150	166	Vertical

Mode:	1M-2440
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Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1348	41.04	0.15	74.00	32.96	150	105	Horizontal
2	1878	44.93	5.91	74.00	29.07	150	194	Horizontal
3	4452	42.92	-14.84	74.00	31.08	150	75	Horizontal
4	6489	44.80	-10.64	74.00	29.20	150	38	Horizontal
5	11952	48.82	-2.48	74.00	25.18	150	272	Horizontal
6	14310	49.80	0.75	74.00	24.20	150	12	Horizontal

Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1314	40.31	0.06	74.00	33.69	150	360	Vertical
2	1900	45.15	6.40	74.00	28.85	150	110	Vertical
3	4104	42.80	-15.81	74.00	31.20	150	162	Vertical
4	6534	44.94	-10.66	74.00	29.06	150	224	Vertical
5	9864	46.59	-6.14	74.00	27.41	150	144	Vertical
6	11919	49.00	-2.41	74.00	25.00	150	327	Vertical

Mode:	1M-2480
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NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1271.6	42.05	2.64	74.00	31.95	150	321	Horizontal
2	1846.4	43.81	5.99	74.00	30.19	150	332	Horizontal
3	4104	40.19	-16.00	74.00	33.81	150	316	Horizontal
4	4815	41.04	-14.12	74.00	32.96	150	316	Horizontal
5	7260.75	41.20	-10.69	74.00	32.80	150	351	Horizontal
6	11220.7	45.73	-3.32	74.00	28.27	150	351	Horizontal

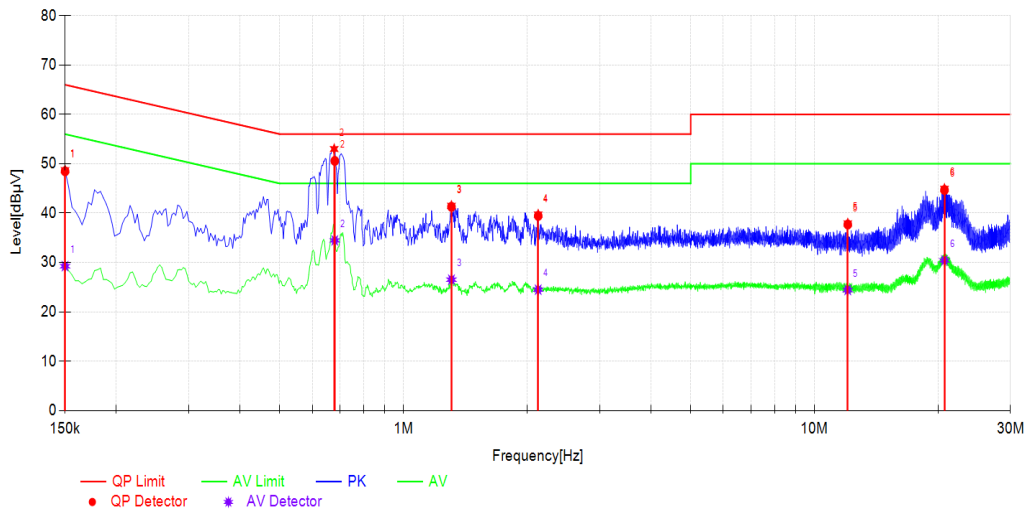
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1258.8	41.73	2.62	74.00	32.27	150	323	Vertical
2	1620	42.02	2.94	74.00	31.98	150	290	Vertical
3	4448.25	40.80	-15.00	74.00	33.20	150	351	Vertical
4	5476.5	42.09	-12.92	74.00	31.91	150	351	Vertical
5	7003.5	43.81	-10.34	74.00	30.19	150	351	Vertical
6	11193	45.94	-3.84	74.00	28.06	150	316	Vertical

Appendix J: Conducted emission AC power port

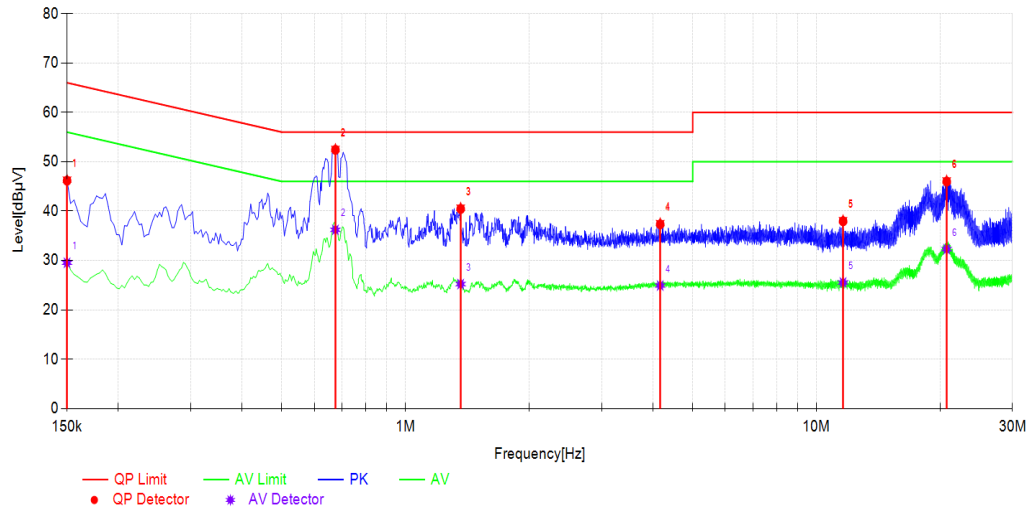
Test Result

During the test, the Conducted Emission was performed in all modes with all channels. The test data of the worst-case condition was recorded in this report.

Mode:	1M-2402
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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	0.15	10.25	48.47	66.00	17.53	29.26	56.00	26.74	L1	PASS
2	0.6801	10.26	50.58	56.00	5.42	34.48	46.00	11.52	L1	PASS
3	1.308	10.34	41.28	56.00	14.72	26.53	46.00	19.47	L1	PASS
4	2.127	10.28	39.44	56.00	16.56	24.50	46.00	21.50	L1	PASS
5	12.058	10.49	37.70	60.00	22.30	24.44	50.00	25.56	L1	PASS
6	20.731	10.69	44.69	60.00	15.31	30.42	50.00	19.58	L1	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	0.15	10.35	46.17	66.00	19.83	29.54	56.00	26.46	N	PASS
2	0.675	10.26	52.42	56.00	3.58	36.22	46.00	9.78	N	PASS
3	1.362	10.30	40.44	56.00	15.56	25.23	46.00	20.77	N	PASS
4	4.167	10.40	37.32	56.00	18.68	24.93	46.00	21.07	N	PASS
5	11.611	10.51	37.95	60.00	22.05	25.55	50.00	24.45	N	PASS
6	20.755	10.69	45.99	60.00	14.01	32.31	50.00	17.69	N	PASS