

Appendix A: Test Results of Bluetooth Low Energy

APPENDIX A: TEST RESULTS OF BLUETOOTH LOW ENERGY	1
APPENDIX A.1: TEST RESULTS OF 6dB BANDWIDTH	2
Test Result.....	2
Test Graphs.....	3
APPENDIX A.2: TEST RESULTS OF 99% BANDWIDTH.....	6
Test Result.....	6
Test Graphs.....	7
APPENDIX A.3: TEST RESULTS OF CONDUCTED POWER SPECTRAL DENSITY	10
Test Result.....	10
Test Graphs.....	11
APPENDIX A.4: TEST RESULTS OF BAND EDGE MEASUREMENTS	14
Test Result.....	14
Test Graphs.....	15
APPENDIX A.5: TEST RESULTS OF CONDUCTED SPURIOUS EMISSION.....	17
Test Result.....	17
Test Graphs.....	18
APPENDIX A.6: TEST RESULTS OF RADIATED SPURIOUS EMISSIONS	25
30 MHz - 1GHz	25
1GHz - 18GHz.....	27
APPENDIX A.7: TEST RESULTS OF RADIATED EMISSIONS IN RESTRICTED BANDS.....	39
APPENDIX A.8: TEST RESULTS OF CONDUCTED EMISSION ON AC MAINS.....	47

Appendix A.1: Test Results of 6dB Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.692	2401.660	2402.352	0.5	PASS
		2440	0.704	2439.652	2440.356	0.5	PASS
		2480	0.736	2479.640	2480.376	0.5	PASS
BLE_2M	Ant1	2402	1.356	2401.296	2402.652	0.5	PASS
		2440	1.424	2439.292	2440.716	0.5	PASS
		2480	1.304	2479.352	2480.656	0.5	PASS

Test Graphs







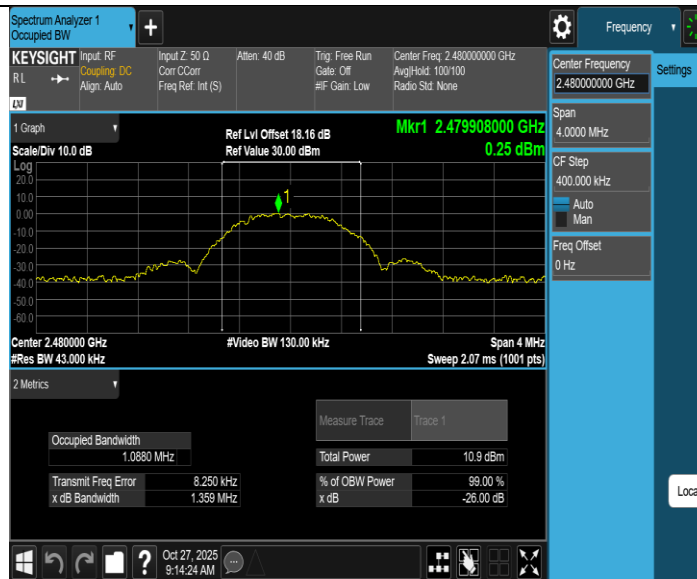
Appendix A.2: Test Results of 99% Bandwidth

Test Result

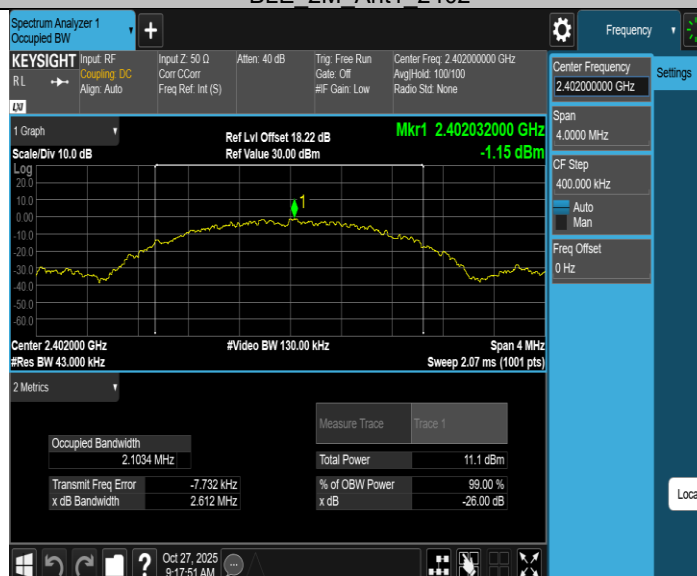
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0748	2401.4613	2402.5361	---	PASS
		2440	1.0737	2439.4564	2440.5301	---	PASS
		2480	1.0880	2479.4643	2480.5523	---	PASS
BLE_2M	Ant1	2402	2.1034	2400.9406	2403.0440	---	PASS
		2440	2.1005	2438.9510	2441.0515	---	PASS
		2480	2.0973	2478.9538	2481.0511	---	PASS

Test Graphs





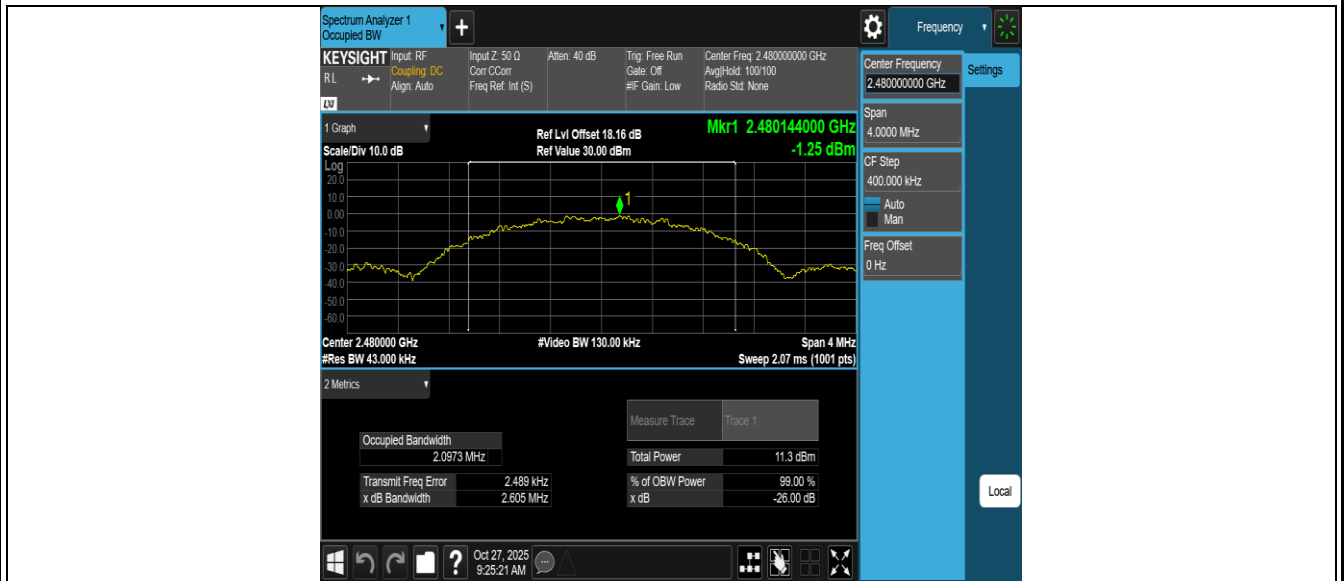
BLE 2M Ant1 2402



BLE 2M Ant1 2440



BLE 2M Ant1 2480

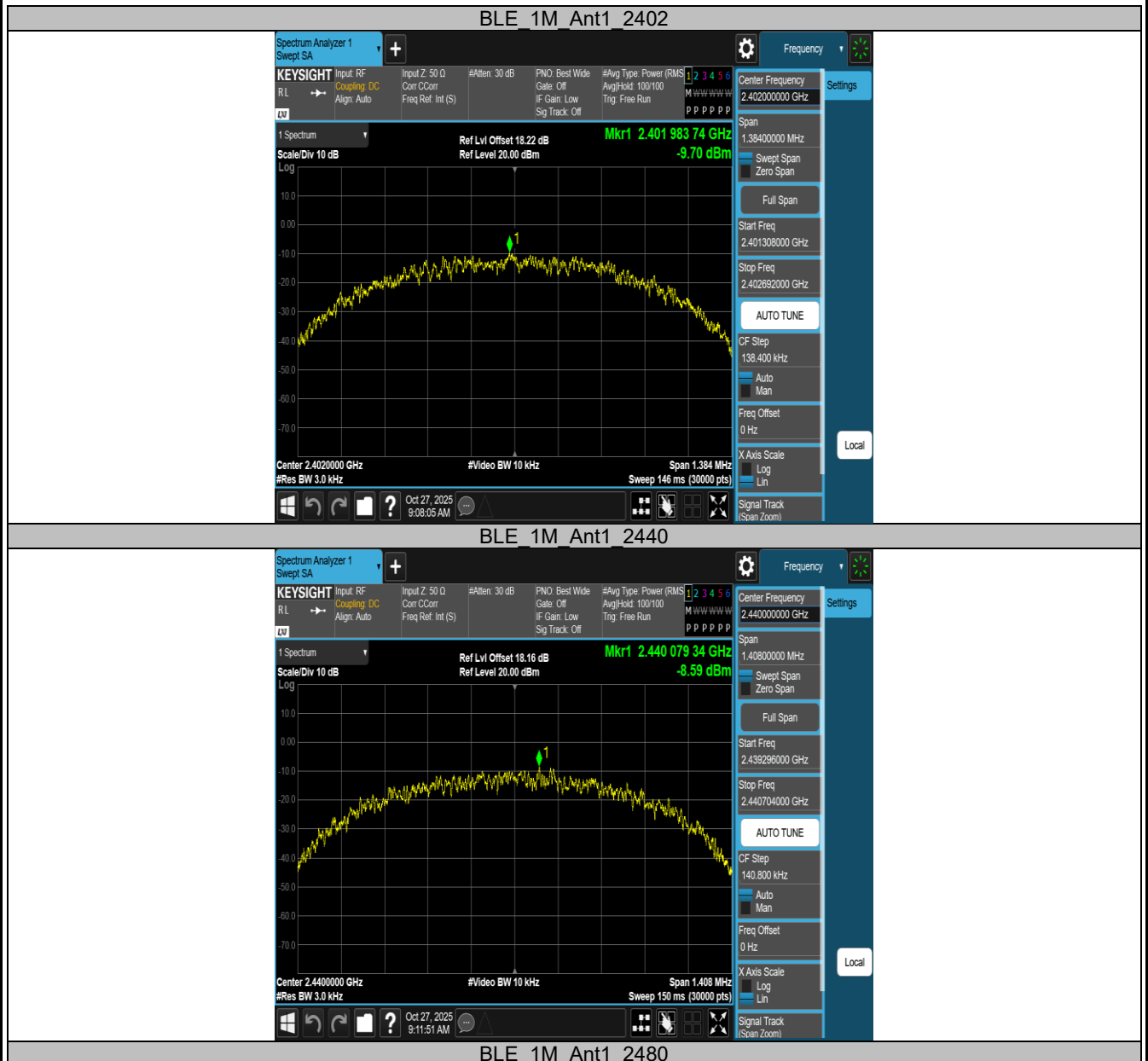


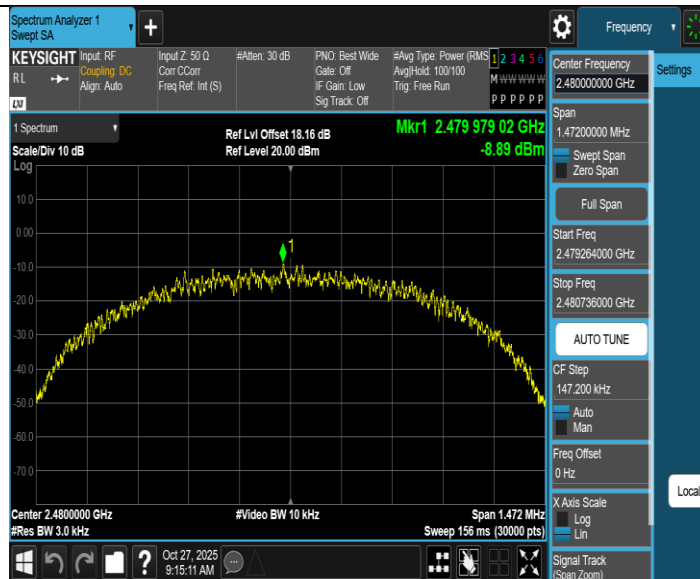
Appendix A.3: Test Results of Conducted Power Spectral Density

Test Result

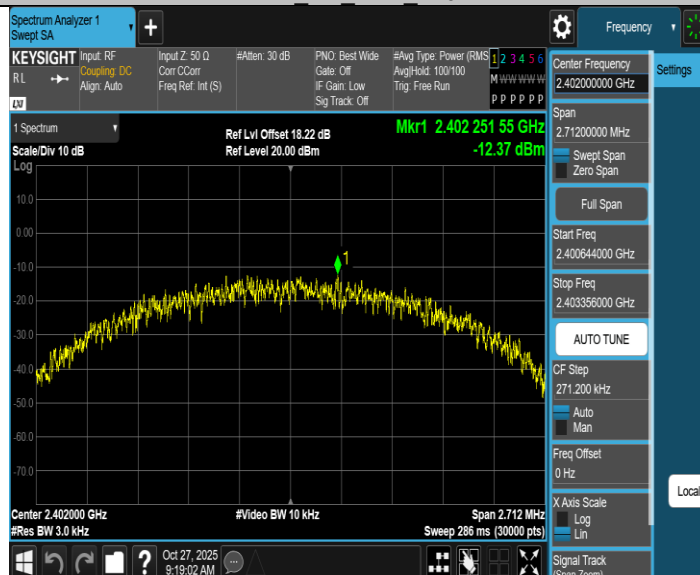
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-9.70	≤8.00	PASS
		2440	-8.59	≤8.00	PASS
		2480	-8.89	≤8.00	PASS
BLE_2M	Ant1	2402	-12.37	≤8.00	PASS
		2440	-11.52	≤8.00	PASS
		2480	-10.98	≤8.00	PASS

Test Graphs

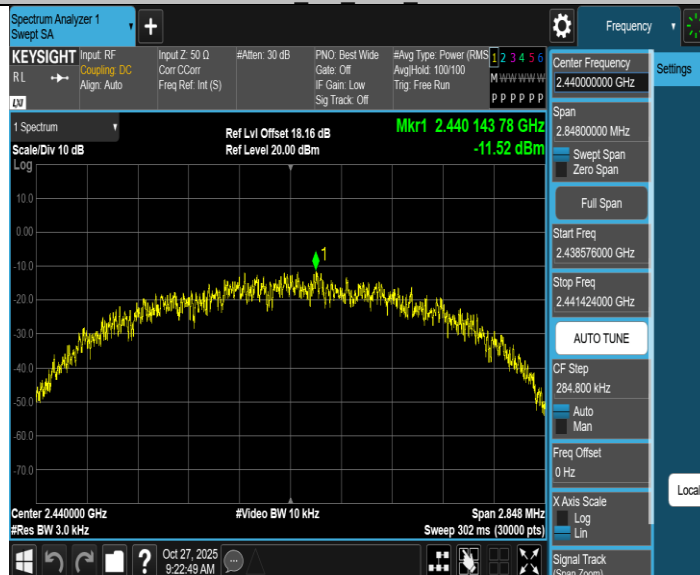




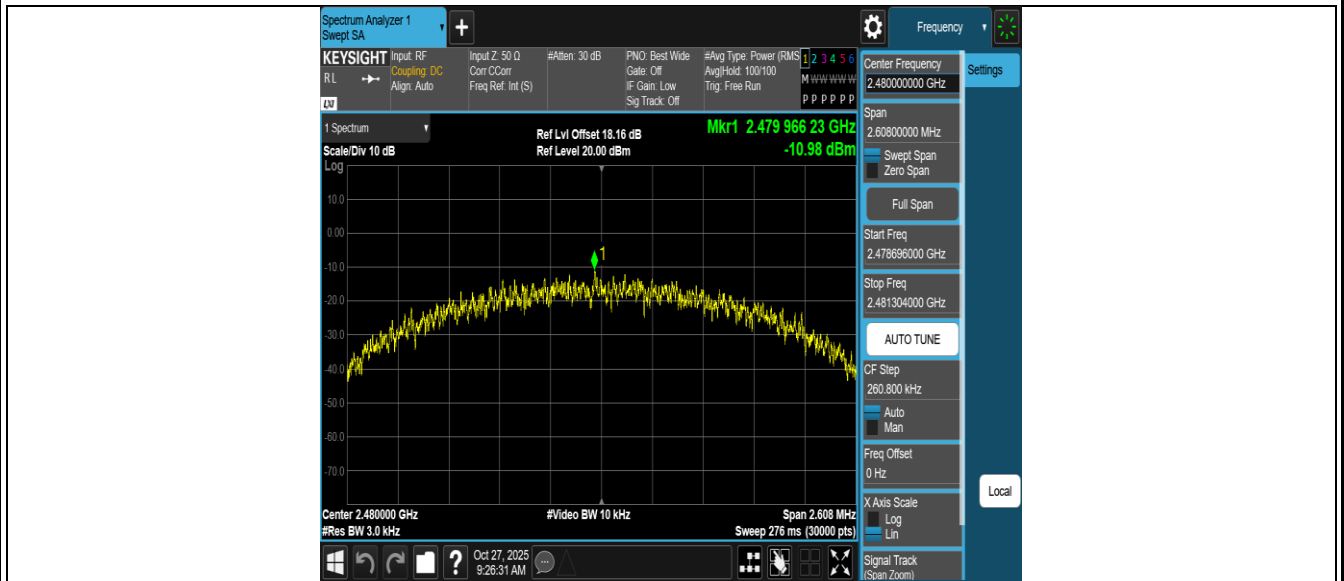
BLE 2M Ant1 2402



BLE 2M Ant1 2440



BLE 2M Ant1 2480



Appendix A.4: Test Results of Band Edge Measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	3.14	-44.78	≤-16.86	PASS
		High	2480	3.81	-45.40	≤-16.19	PASS
BLE_2M	Ant1	Low	2402	1.88	-32.00	≤-18.12	PASS
		High	2480	1.73	-45.15	≤-18.27	PASS

Test Graphs



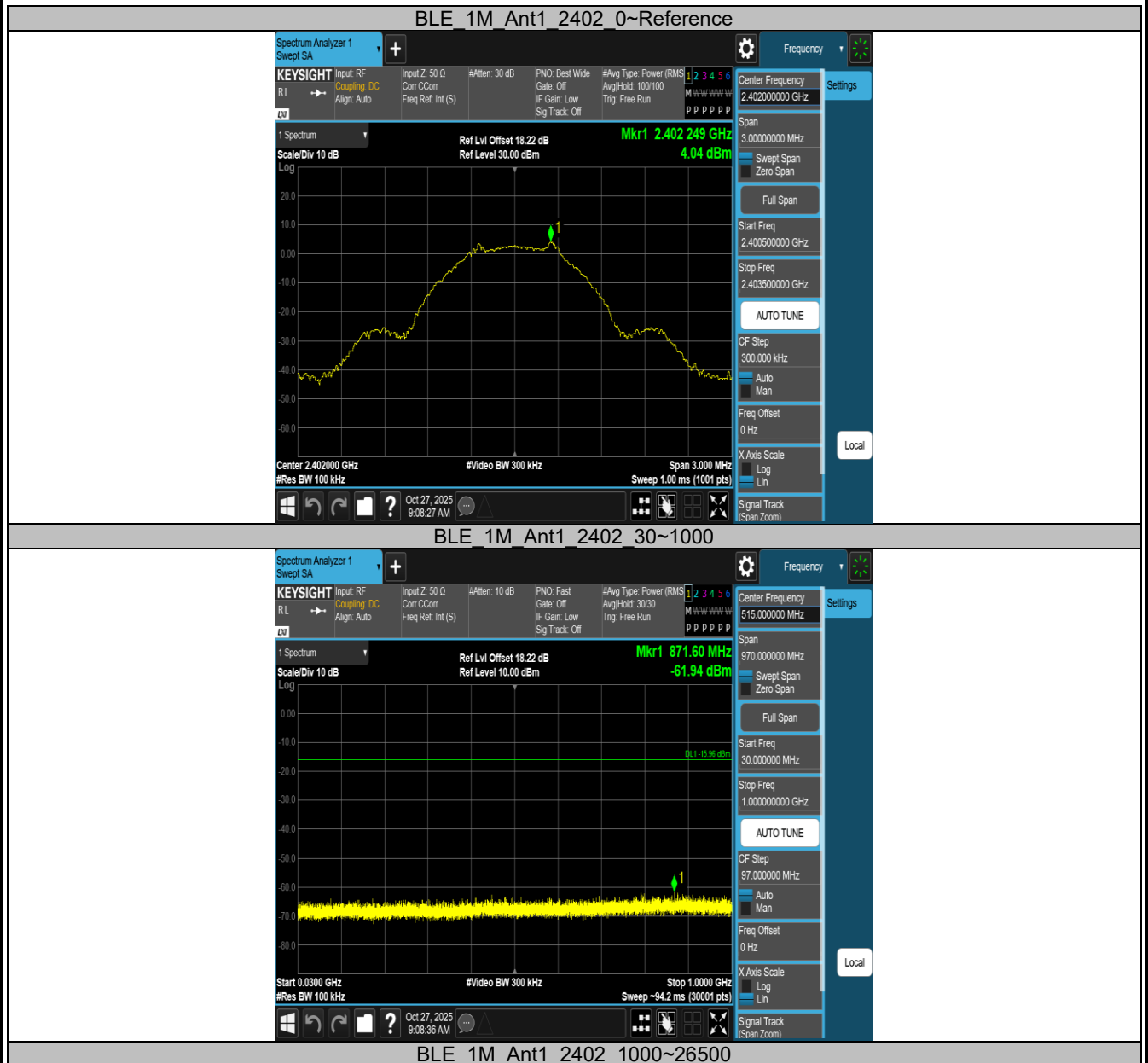


Appendix A.5: Test Results of Conducted Spurious Emission

Test Result

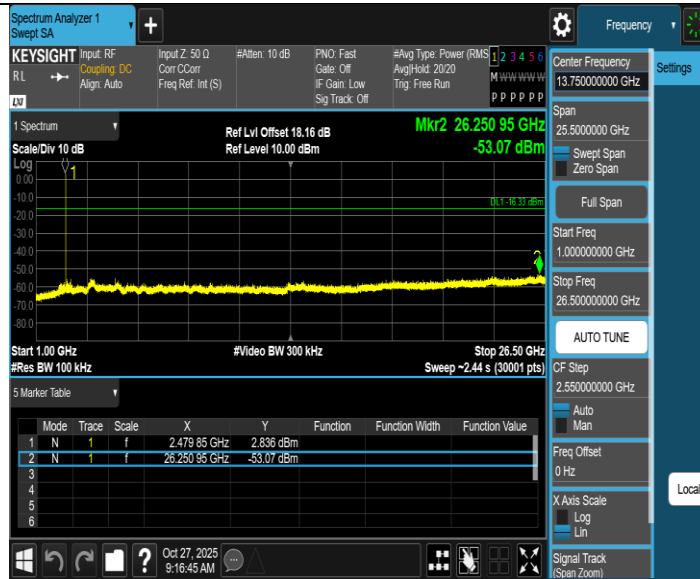
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	4.04	4.04	---	PASS
			30~1000	4.04	-61.94	≤-15.96	PASS
			1000~26500	4.04	-49.29	≤-15.96	PASS
		2440	Reference	3.85	3.85	---	PASS
			30~1000	3.85	-61.73	≤-16.15	PASS
			1000~26500	3.85	-51.73	≤-16.15	PASS
		2480	Reference	3.67	3.67	---	PASS
			30~1000	3.67	-61.86	≤-16.33	PASS
			1000~26500	3.67	-53.07	≤-16.33	PASS
BLE_2M	Ant1	2402	Reference	1.86	1.86	---	PASS
			30~1000	1.86	-61.5	≤-18.14	PASS
			1000~26500	1.86	-49.47	≤-18.14	PASS
		2440	Reference	2.52	2.52	---	PASS
			30~1000	2.52	-62.15	≤-17.48	PASS
			1000~26500	2.52	-52.62	≤-17.48	PASS
		2480	Reference	2.14	2.14	---	PASS
			30~1000	2.14	-62.35	≤-17.86	PASS
			1000~26500	2.14	-53.17	≤-17.86	PASS

Test Graphs





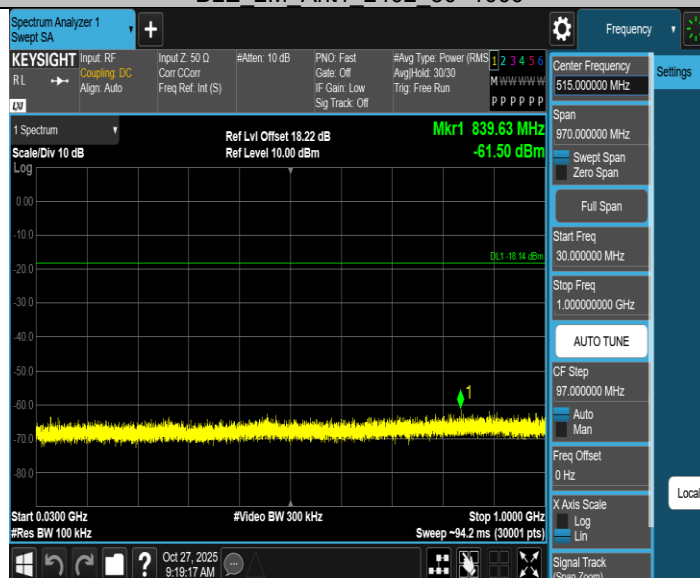




BLE 2M Ant1 2402 0~Reference



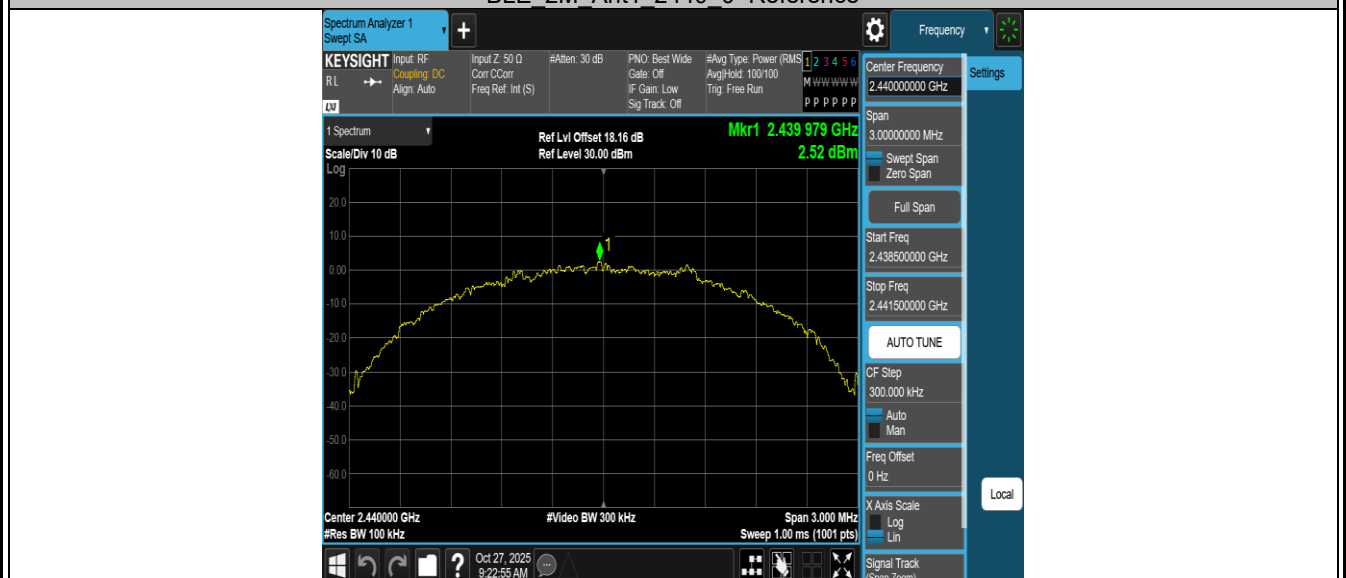
BLE 2M Ant1 2402 30~1000



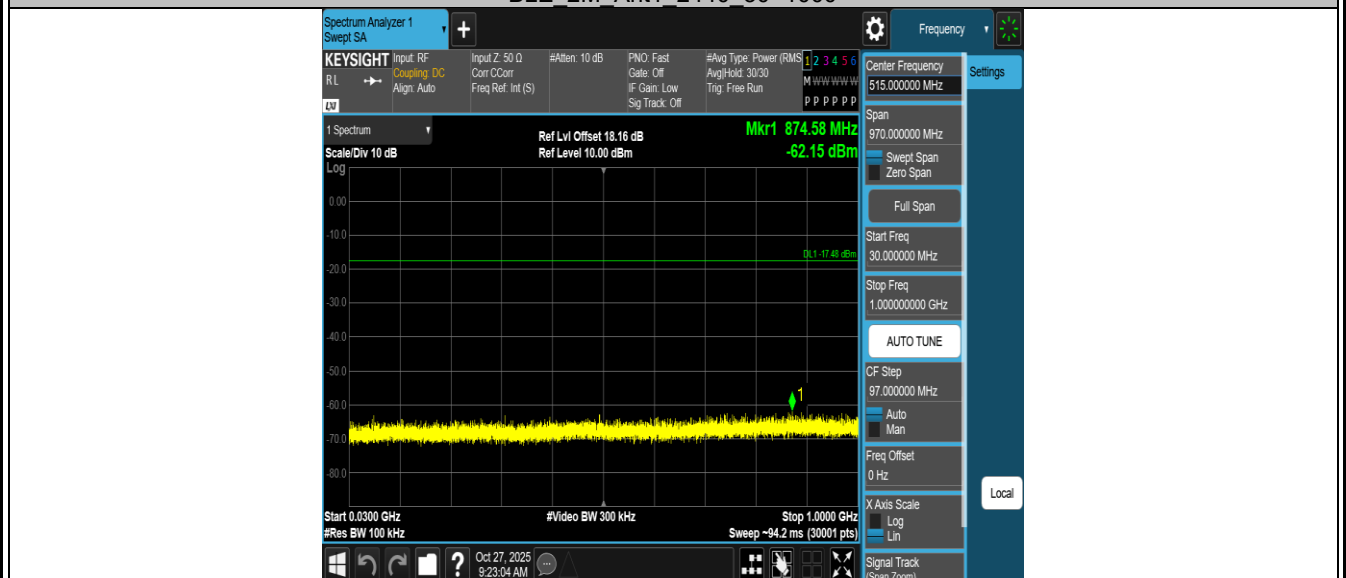
BLE 2M Ant1 2402 1000~26500



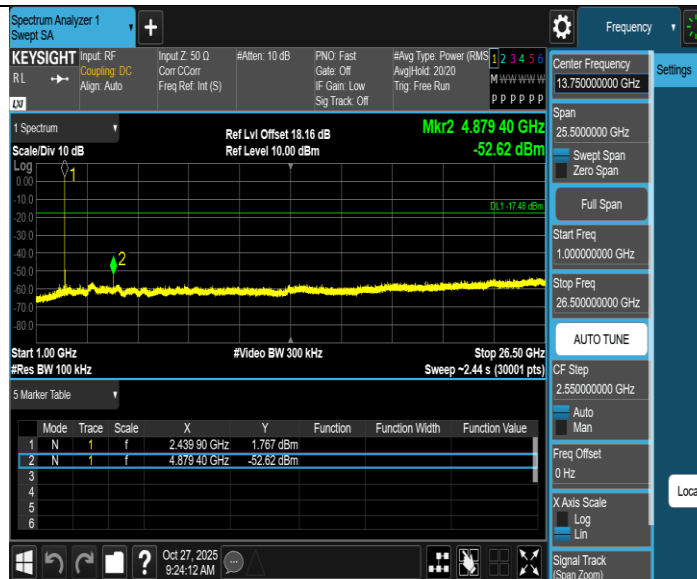
BLE 2M Ant1 2440 0~Reference



BLE 2M Ant1 2440 30~1000



BLE 2M Ant1 2440 1000~26500



BLE 2M Ant1 2480 0~Reference



BLE 2M Ant1 2480 30~1000



BLE 2M Ant1 2480 1000~26500



Appendix A.6: Test Results of Radiated Spurious Emissions

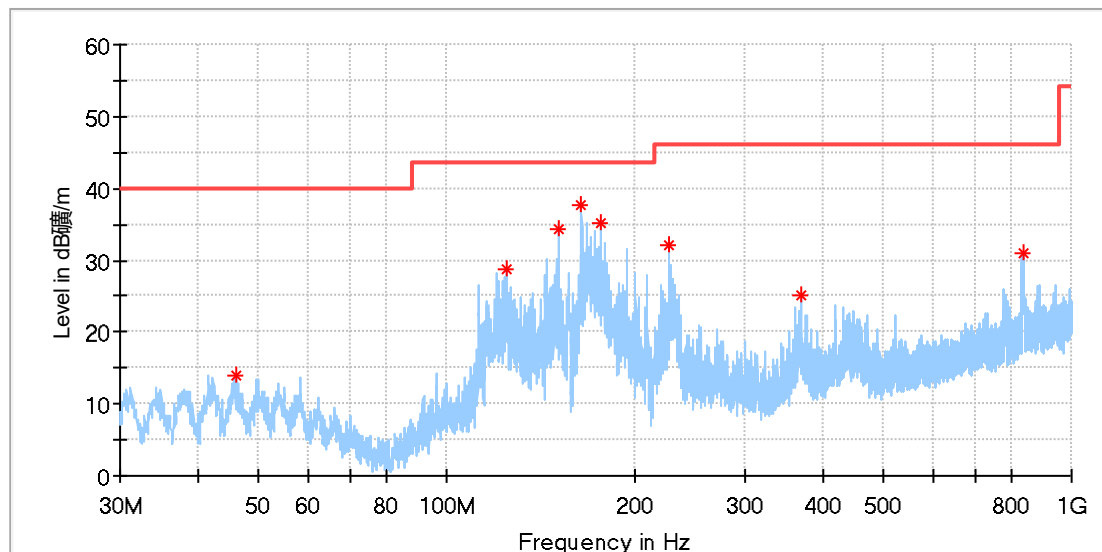
Note:

- 1) This testing was carried out on different modulations, but only the worst case was presented in this report.
- 2) Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

30 MHz - 1GHz

EUT Information

EUT Name:	Nexus 2 Digital Manifold Gauge
Model:	NX1G
Test Mode:	BLE 1M_Mid channel
Order No/Sample No:	168579276/A004114803-003
Test Voltage:	Battery
Remark:	Temp 23 Humi:56%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

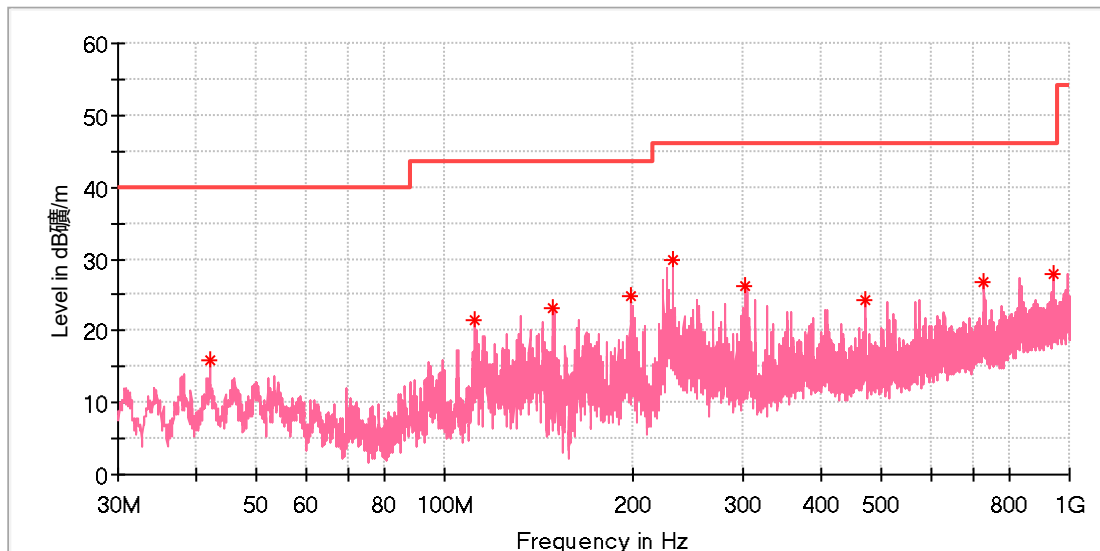
Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
46.116923	14.05	40.00	25.95	100.0	H	303.0	-18.8
124.612308	28.67	43.50	14.83	100.0	H	211.0	-21.4
151.436539	34.25	43.50	9.25	100.0	H	91.0	-22.2
164.382308	37.55	43.50	5.95	100.0	H	261.0	-21.6
176.805769	35.27	43.50	8.23	100.0	H	295.0	-20.9
227.245769	32.16	46.00	13.84	100.0	H	354.0	-18.3
368.007692	25.18	46.00	20.82	100.0	H	354.0	-14.5
836.293846	30.98	46.00	15.02	100.0	H	303.0	-5.5

Final_Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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EUT Information

EUT Name: Nexus 2 Digital Manifold Gauge
Model: NX1G
Test Mode: BLE 1M_Mid channel
Order No/Sample No: 168579276/A004114803-003
Test Voltage: Battery
Remark: Temp 23 Humi:56%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
42.050385	15.83	40.00	24.17	100.0	V	55.0	-19.7
111.554615	21.36	43.50	22.14	100.0	V	179.0	-19.4
148.526539	23.28	43.50	20.22	100.0	V	229.0	-22.3
198.033846	24.82	43.50	18.68	100.0	V	205.0	-19.2
231.760000	29.90	46.00	16.10	100.0	V	141.0	-18.1
303.502692	26.24	46.00	19.76	100.0	V	0.0	-16.2
469.969615	24.21	46.00	21.79	100.0	V	357.0	-12.4
730.601154	26.80	46.00	19.20	100.0	V	83.0	-7.4
939.486923	27.97	46.00	18.03	100.0	V	74.0	-4.4

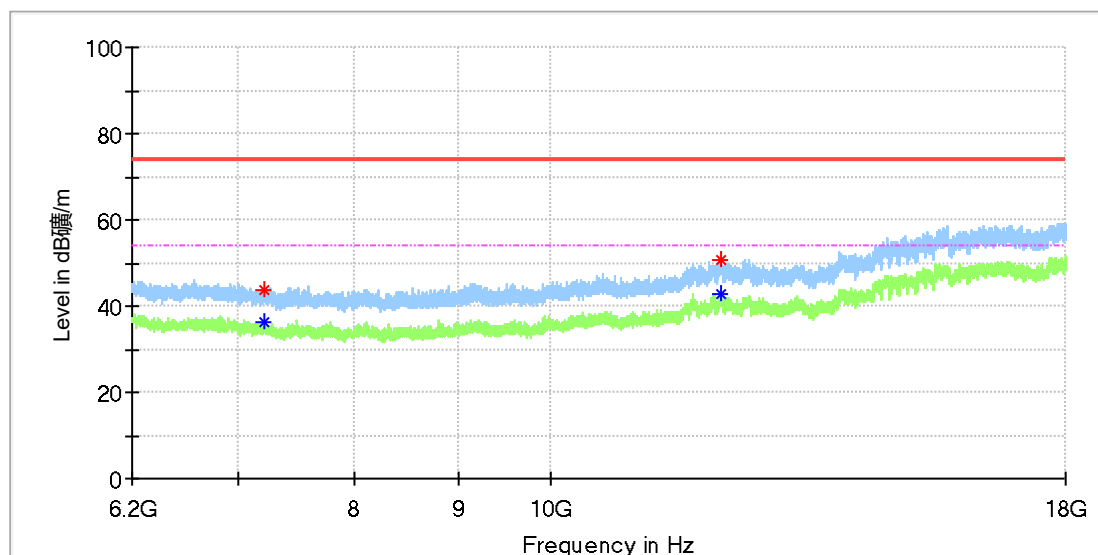
Final_Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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EUT Information

EUT Name:	Nexus 2 Digital Manifold Gauge
Model:	NX1G
Test Mode:	BLE 1M_Low channel
Order No/Sample No:	168579276/A004114803-003
Test Voltage:	Battery
Remark:	Temp 23 Humi:56%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7213.325000	---	36.42	54.00	17.58	150.0	H	319.0	8.7
7215.783333	43.81	---	74.00	30.19	150.0	H	307.0	8.7
12147.200000	50.91	---	74.00	23.09	150.0	H	194.0	16.7
12147.200000	---	42.74	54.00	11.26	150.0	H	194.0	16.7

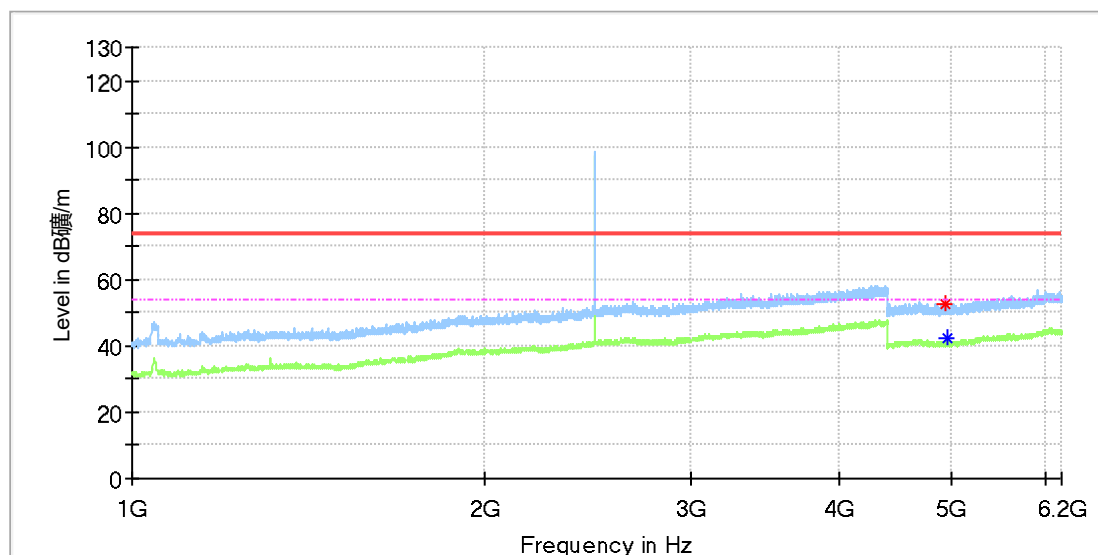
Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---		---	---

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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EUT Information

EUT Name:	Nexus 2 Digital Manifold Gauge
Model:	NX1G
Test Mode:	BLE 1M_High channel
Order No/Sample No:	168579276/A004114803-003
Test Voltage:	Battery
Remark:	Temp 23 Humi:56%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4944.000000	52.57	---	74.00	21.43	150.0	H	120.0	13.3
4959.500000	---	42.11	54.00	11.89	150.0	H	303.0	13.3

Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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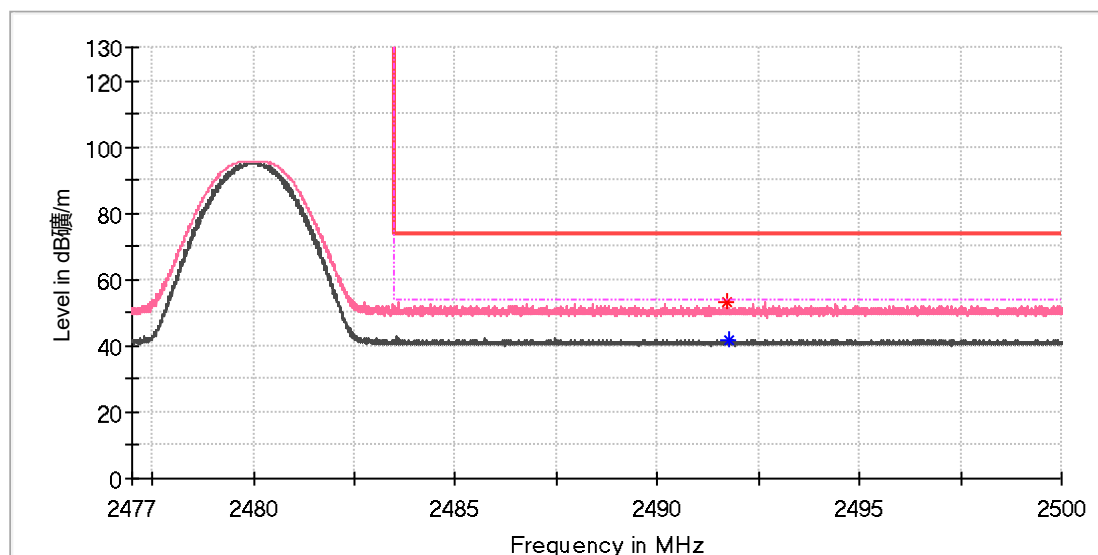
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
100.000000	100.000000	100.000000	100.000000	100.000000	100.000000		100.000000	

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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EUT Information

EUT Name:	Nexus 2 Digital Manifold Gauge
Model:	NX1G
Test Mode:	BLE 1M_High channel
Order No/Sample No:	168579276/A004114803-003
Test Voltage:	Battery
Remark:	Temp 23 Humi:56%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2491.709853	53.45	---	74.00	20.55	150.0	V	161.0	9.0
2491.767353	---	41.84	54.00	12.16	150.0	V	97.0	9.0

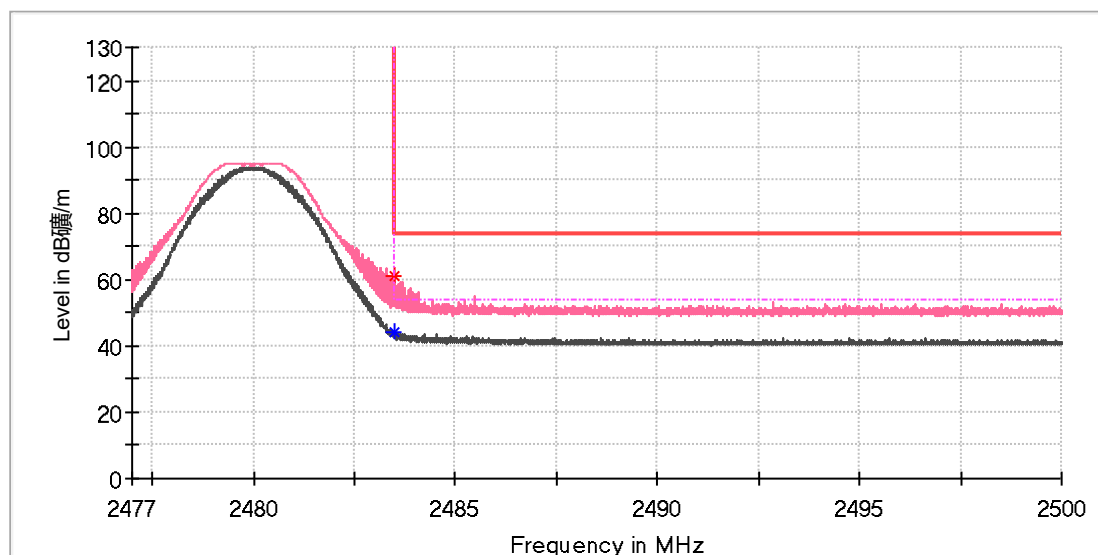
Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---		---	---

EUT Information

EUT Name:	Nexus 2 Digital Manifold Gauge
Model:	NX1G
Test Mode:	BLE 2M_High channel
Order No/Sample No:	168579276/A004114803-003
Test Voltage:	Battery
Remark:	Temp 23 Humi:56%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.504265	60.77	---	74.00	13.23	150.0	V	272.0	9.0
2483.507647	---	44.18	54.00	9.82	150.0	V	217.0	9.0

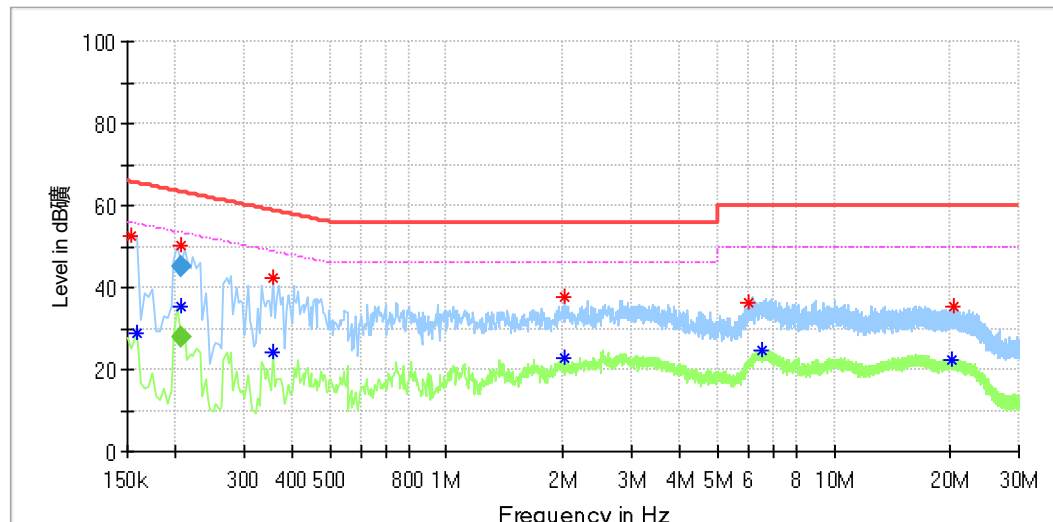
Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Appendix A.8: Test Results of Conducted Emission on AC Mains

EUT Information

EUT Name: Nexus 2 Digital Manifold Gauge
Order Number: 168579276 20(P02141810)
Model: NX1G
Test Mode: Charging with BLE connected
Test Voltage: AC 120V/ 60Hz
Test Standard: FCC PART 15
Test By./Review By: Aric Wang/Murphy Chen
Tem./Hum./Pressure: 24.9°C/50.4%/101kPa
Remark: SR 3



Critical Freqs

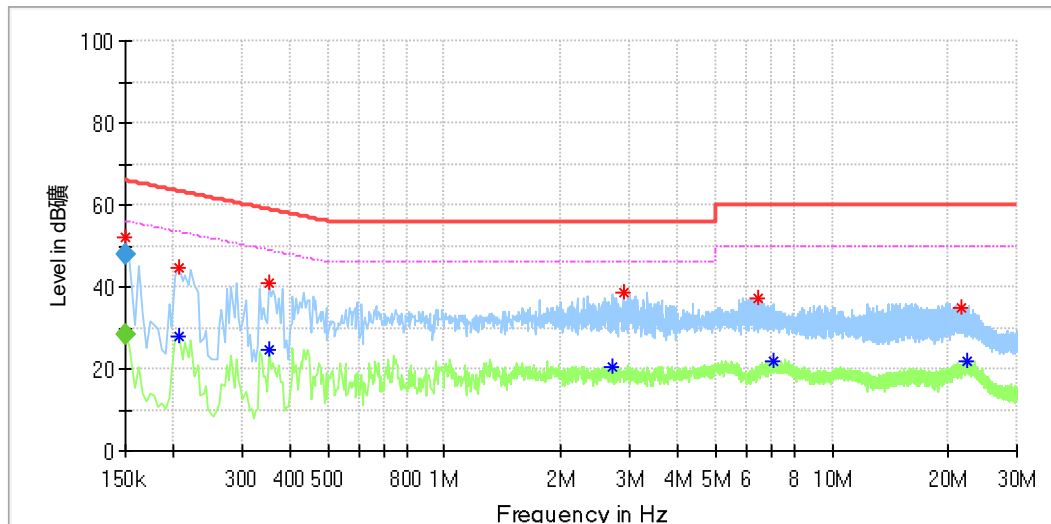
Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.154	52.8	---	65.78	12.99	L1	9.6
0.158	---	29.0	55.57	26.58	L1	9.6
0.206	50.1	---	63.53	13.48	L1	9.7
0.207	---	35.2	53.53	18.37	L1	9.7
0.358	42.5	---	58.78	16.31	L1	9.6
0.358	---	24.3	48.78	24.44	L1	9.6
2.018	---	22.7	46.00	23.33	L1	9.6
2.018	37.6	---	56.00	18.37	L1	9.6
6.026	36.4	---	60.00	23.60	L1	9.8
6.522	---	24.5	50.00	25.48	L1	9.9
20.174	---	22.5	50.00	27.48	L1	9.8
20.322	35.5	---	60.00	24.50	L1	9.8

Final Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.206	45.2	---	63.39	18.19	1000.0	9.0	L1	9.7
0.207	---	27.9	53.35	25.48	1000.0	9.0	L1	9.7

EUT Information

EUT Name: Nexus 2 Digital Manifold Gauge
Order Number: 168579276 20(P02141810)
Model: NX1G
Test Mode: Charging with BLE connected
Test Voltage: AC 120V/ 60Hz
Test Standard: FCC PART 15
Test By:/Review By: Aric Wang/Murphy Chen
Tem./Hum./Pressure: 24.9°C/50.4%/101kPa
Remark: SR 3



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.150	---	28.6	56.00	27.44	N	9.7
0.150	52.0	---	66.00	14.00	N	9.7
0.206	---	28.1	53.37	25.26	N	9.9
0.206	44.5	---	63.37	18.88	N	9.9
0.354	41.1	---	58.87	17.82	N	9.9
0.354	---	24.6	48.87	24.24	N	9.9
2.706	---	20.7	46.00	25.34	N	9.8
2.886	38.7	---	56.00	17.34	N	9.8
6.454	37.4	---	60.00	22.59	N	9.9
7.058	---	21.9	50.00	28.12	N	9.9
21.450	35.0	---	60.00	25.03	N	9.8
22.390	---	21.7	50.00	28.30	N	9.8

Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150	---	28.6	56.00	27.42	1000.0	9.0	N	9.7
0.150	47.7	---	66.00	18.30	1000.0	9.0	N	9.7