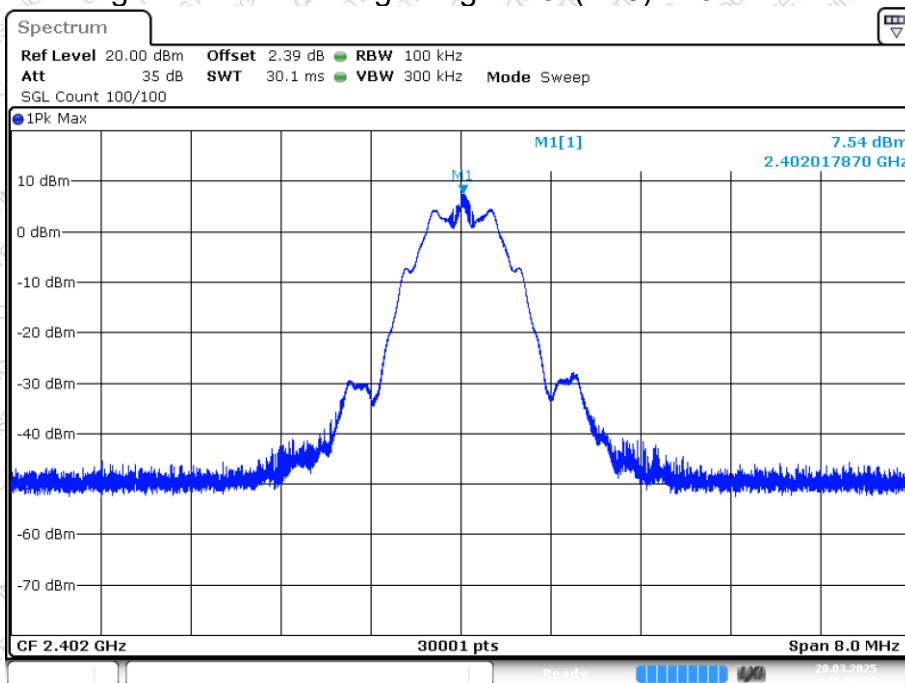
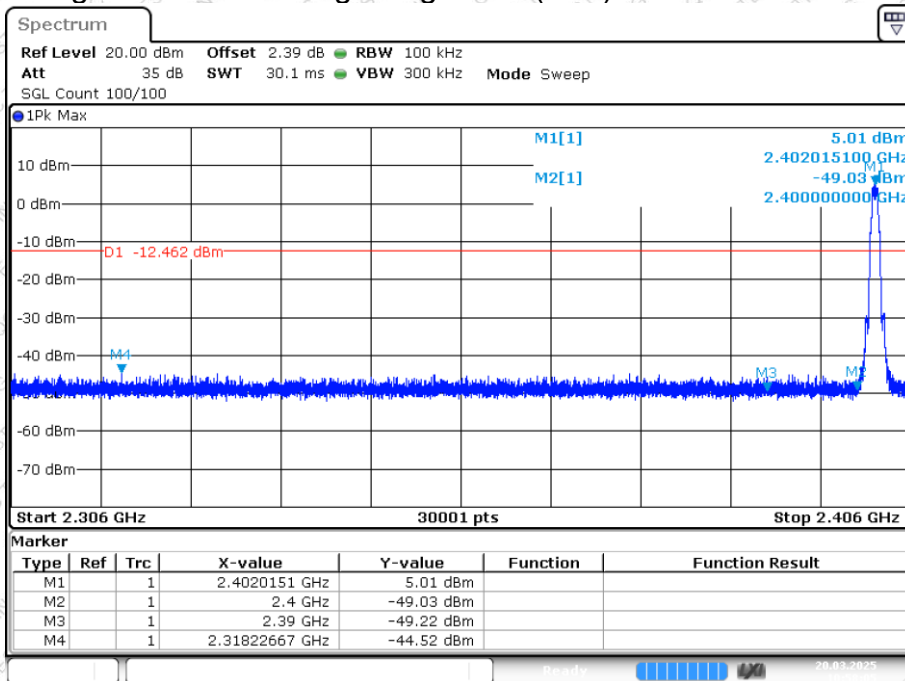




Band Edge NVNT BLE Long Range 125k(S=8) 2402MHz Ant1 Ref

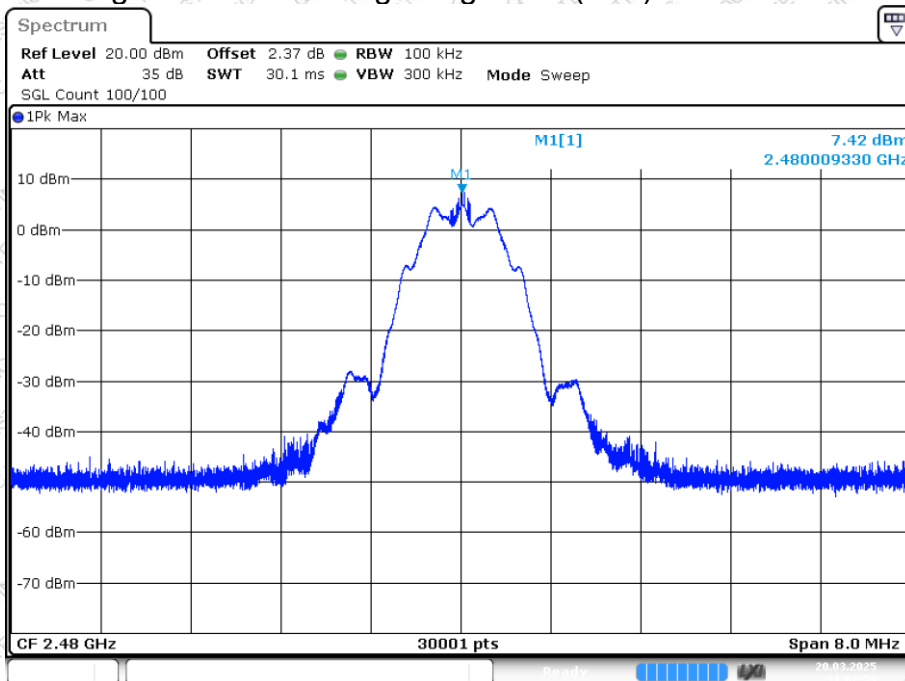


Band Edge NVNT BLE Long Range 125k(S=8) 2402MHz Ant1 Emission



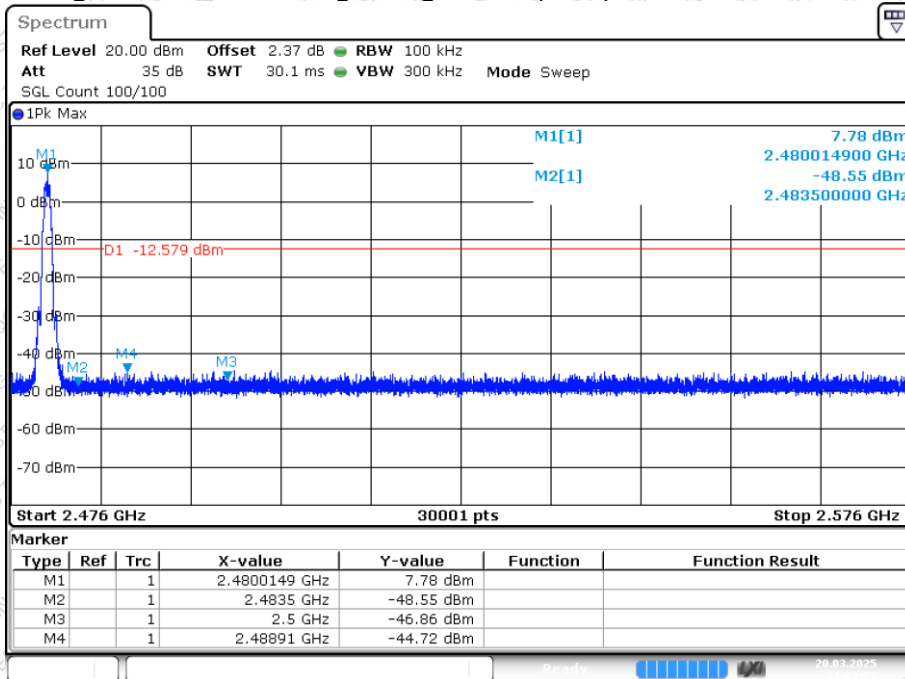


Band Edge NVNT BLE Long Range 125k(S=8) 2480MHz Ant1 Ref



Date: 20.MAR.2025 11:02:59

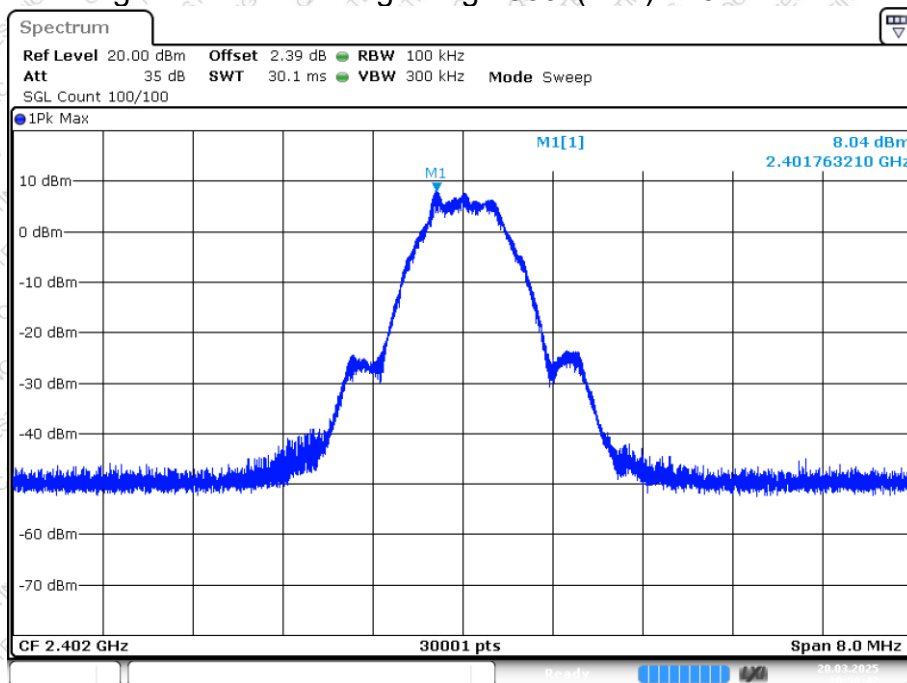
Band Edge NVNT BLE Long Range 125k(S=8) 2480MHz Ant1 Emission



Date: 20.MAR.2025 11:03:05

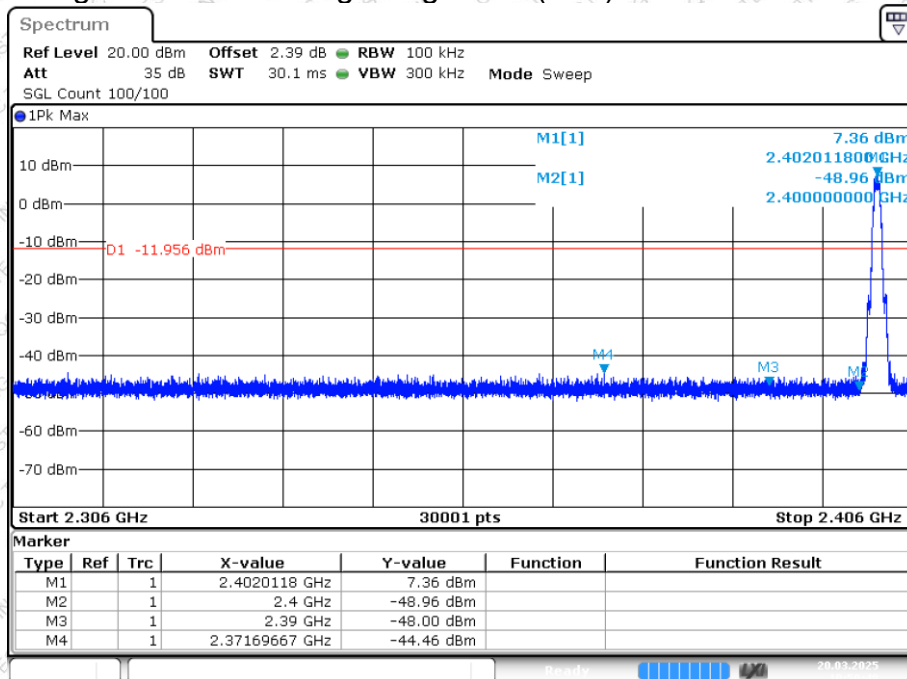


Band Edge NVNT BLE Long Range 500k(S=2) 2402MHz Ant1 Ref



Date: 20. MAR 2025 10:50:42

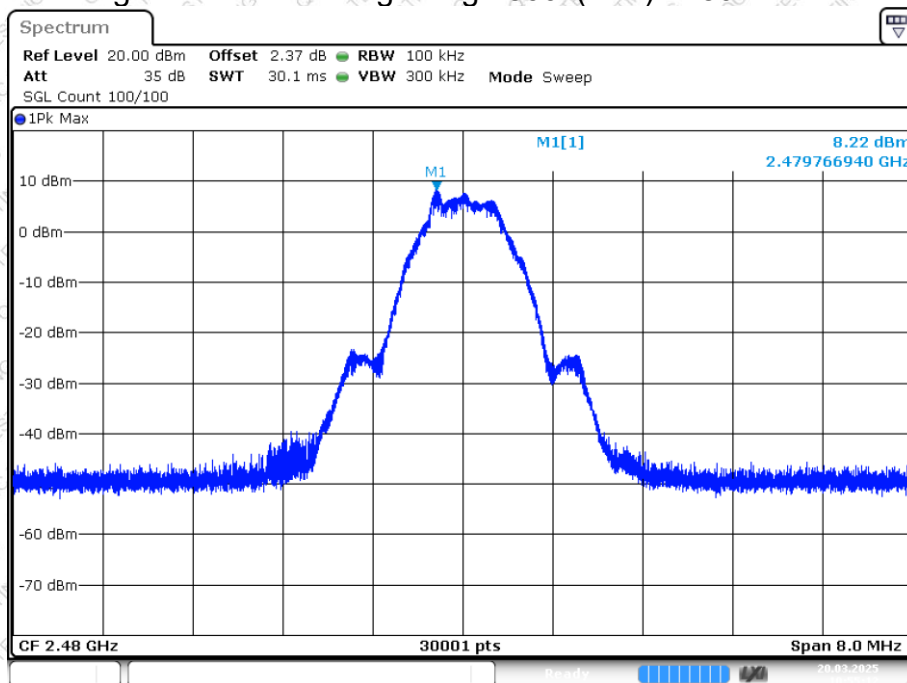
Band Edge NVNT BLE Long Range 500k(S=2) 2402MHz Ant1 Emission



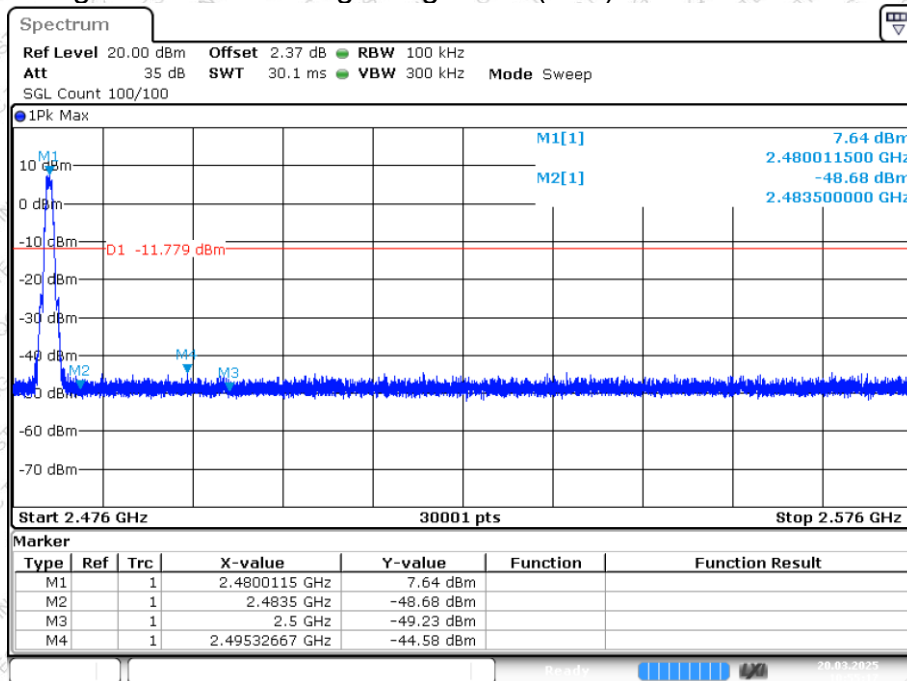
Date: 20. MAR 2025 10:50:48



Band Edge NVNT BLE Long Range 500k(S=2) 2480MHz Ant1 Ref



Band Edge NVNT BLE Long Range 500k(S=2) 2480MHz Ant1 Emission



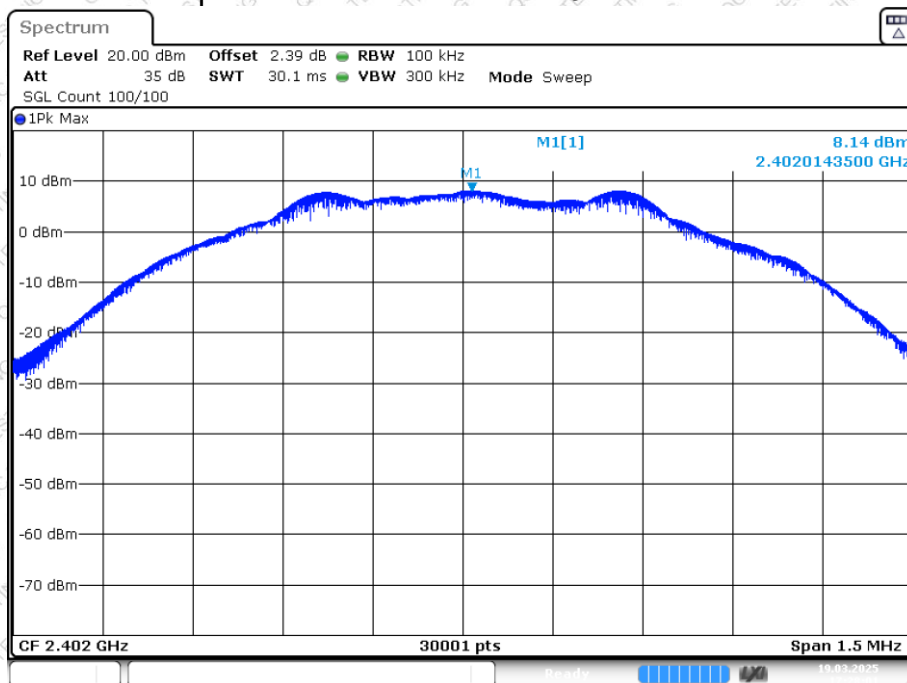


Conducted RF Spurious Emission:

Modulation	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
BLE 1Mbps	Lowest	2402	-47.42	-20	Pass
	Middle	2440	-47.73	-20	Pass
	Highest	2480	-46.71	-20	Pass
BLE 2Mbps	Lowest	2402	-47.24	-20	Pass
	Middle	2440	-48.19	-20	Pass
	Highest	2480	-47.75	-20	Pass
BLE Long Range 125k(S=8)	Lowest	2402	-46.12	-20	Pass
	Middle	2440	-46.83	-20	Pass
	Highest	2480	-46.32	-20	Pass
BLE Long Range 500k(S=2)	Lowest	2402	-46.34	-20	Pass
	Middle	2440	-47.61	-20	Pass
	Highest	2480	-47.02	-20	Pass

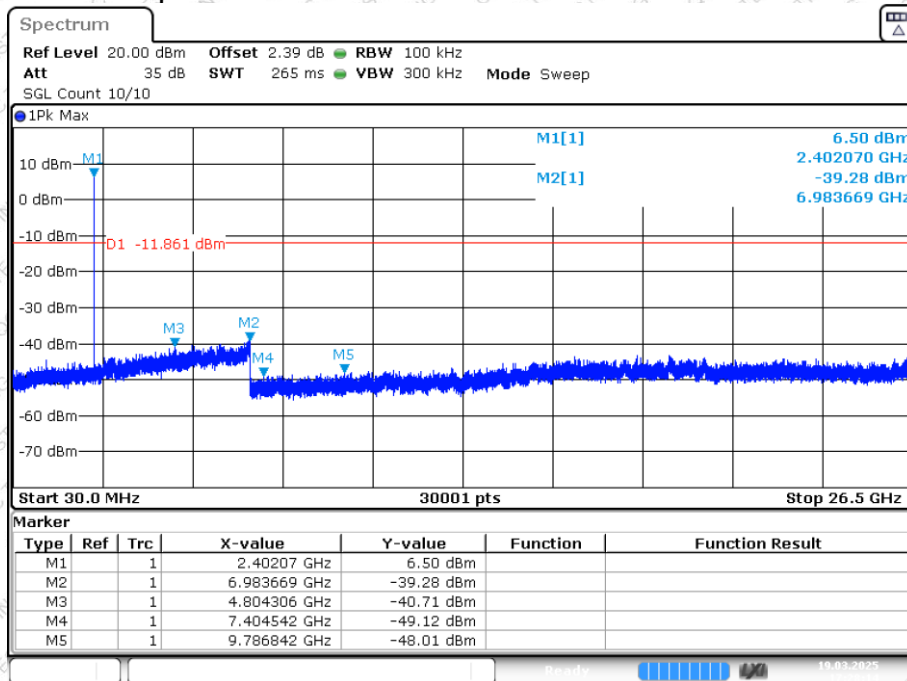


Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Date: 19. MAR 2025 17:28:02

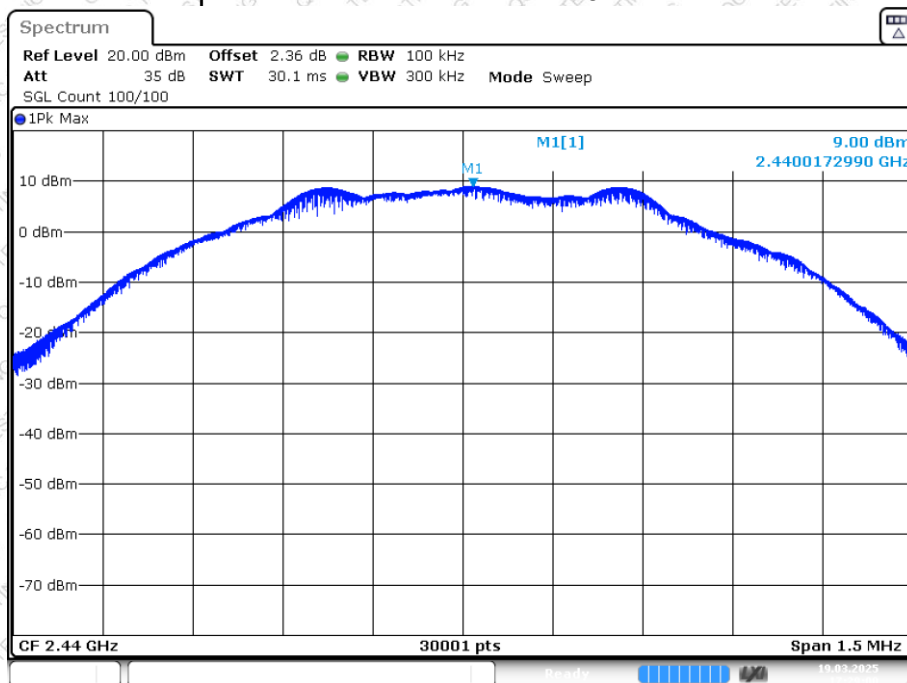
Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



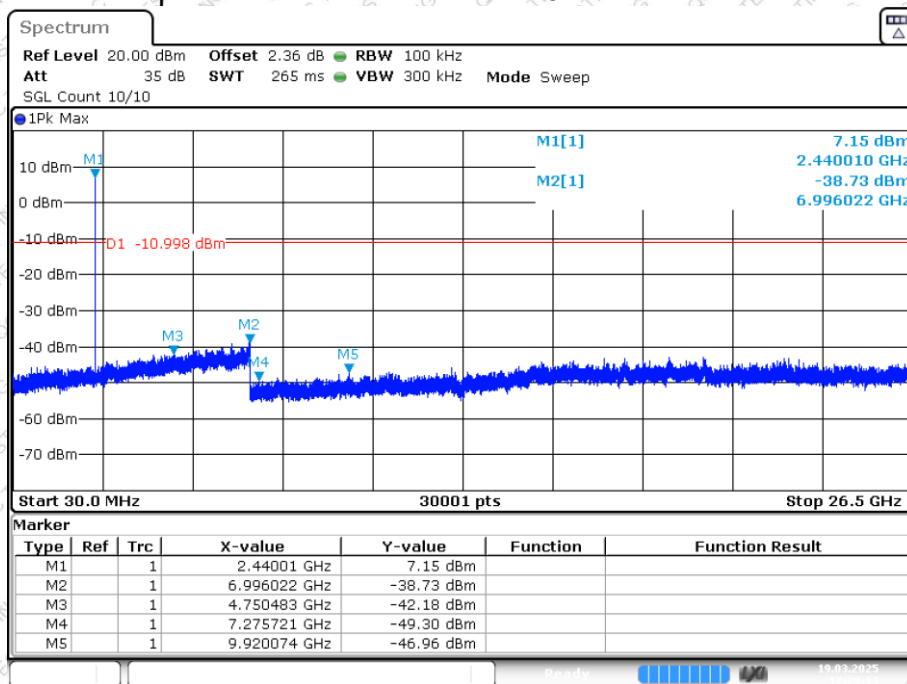
Date: 19. MAR 2025 17:28:14



Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref

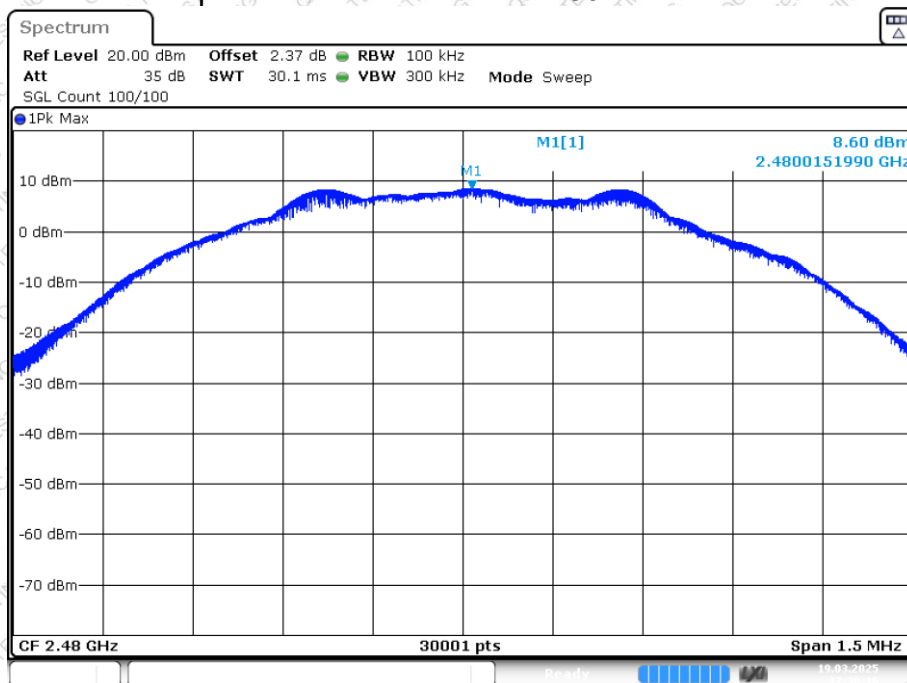


Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission

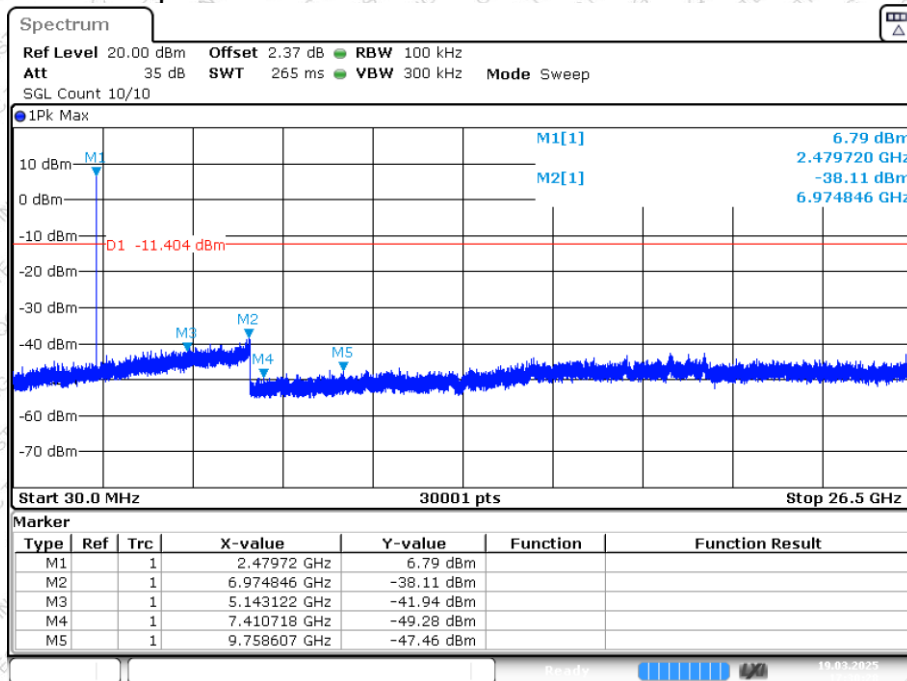




Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref

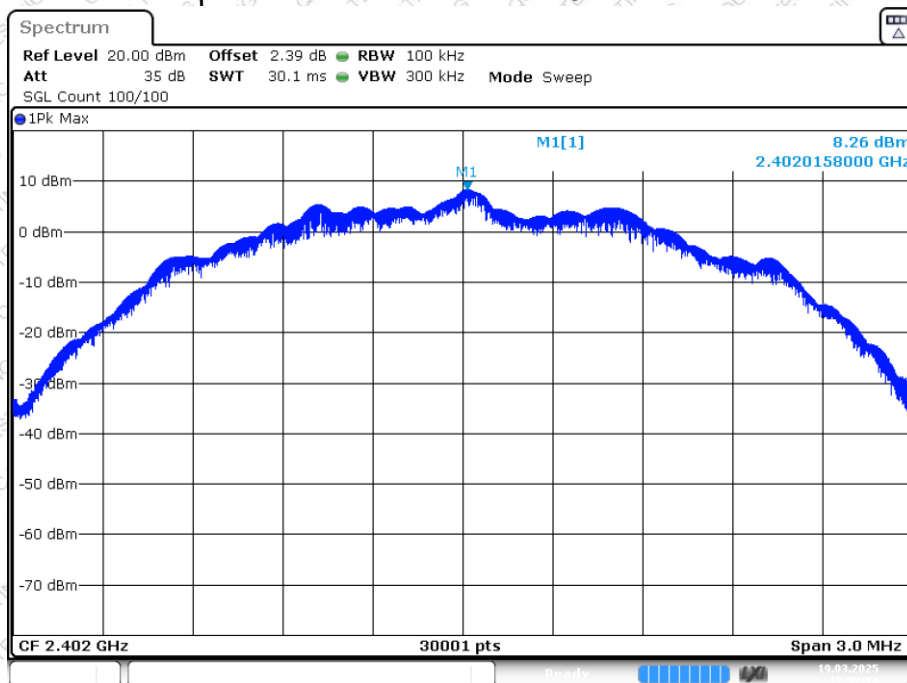


Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Emission



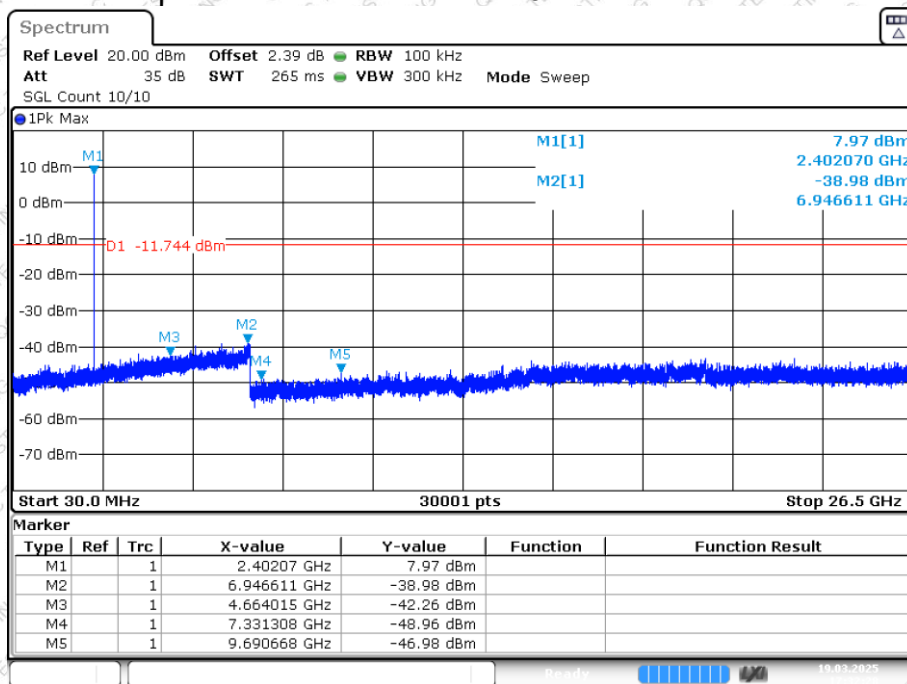


Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Ref



Date: 19. MAR 2025 17:32:15

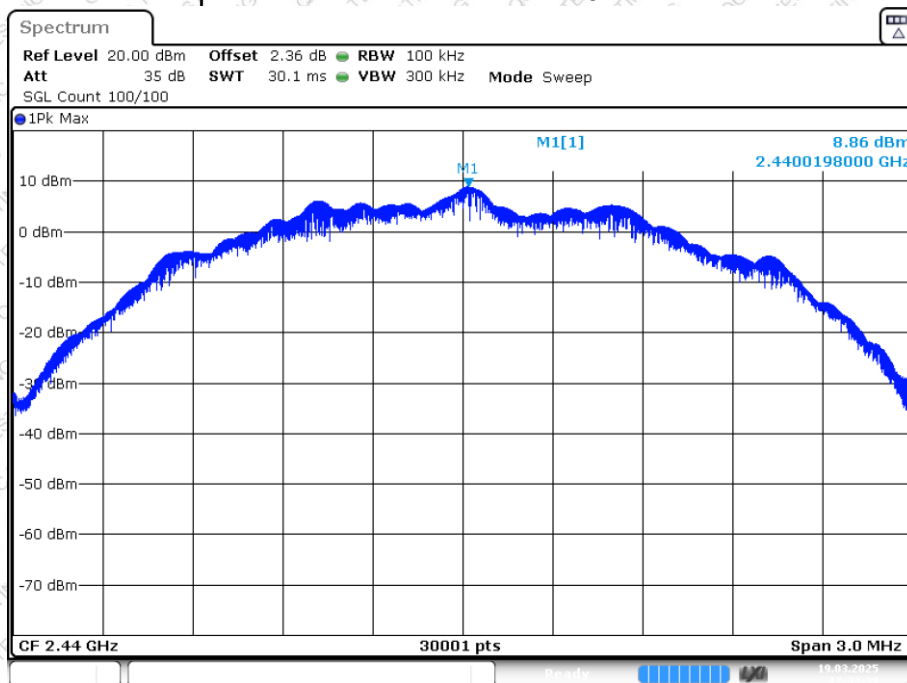
Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Emission



Date: 19. MAR 2025 17:32:28

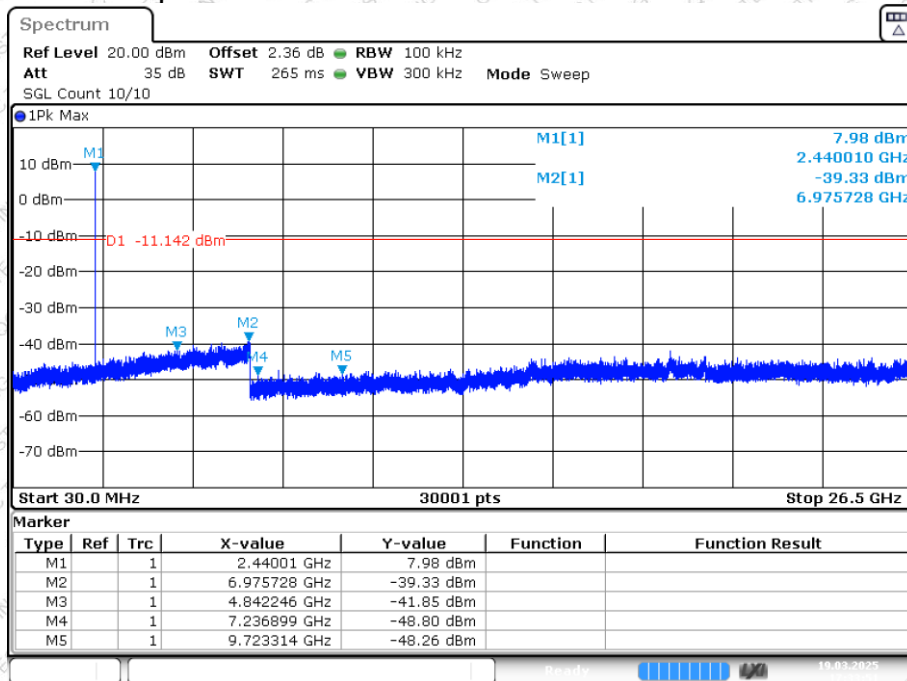


Tx. Spurious NVNT BLE 2M 2440MHz Ant1 Ref



Date: 19. MAR 2025 17:33:39

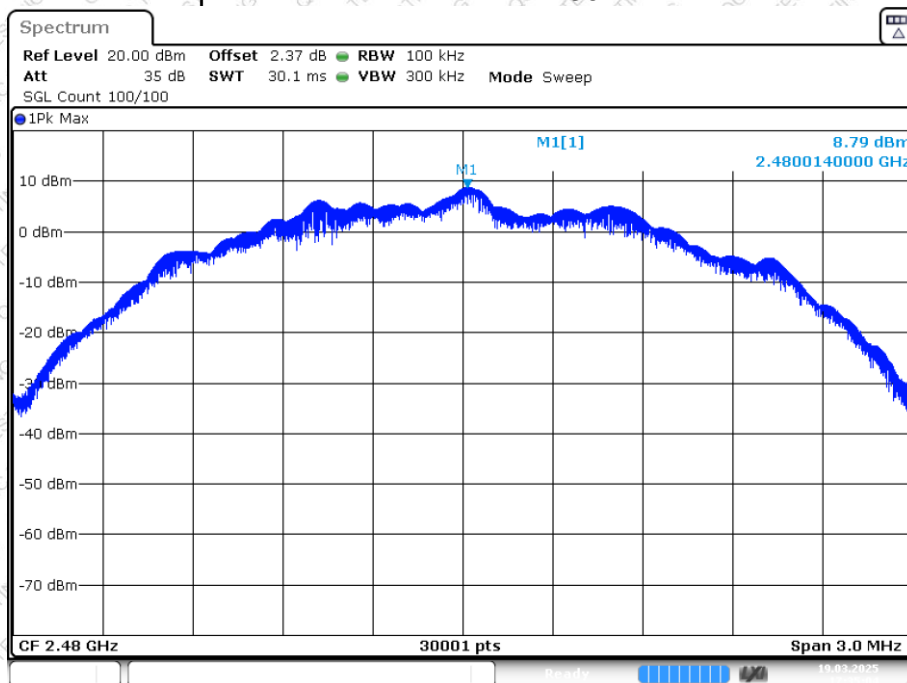
Tx. Spurious NVNT BLE 2M 2440MHz Ant1 Emission



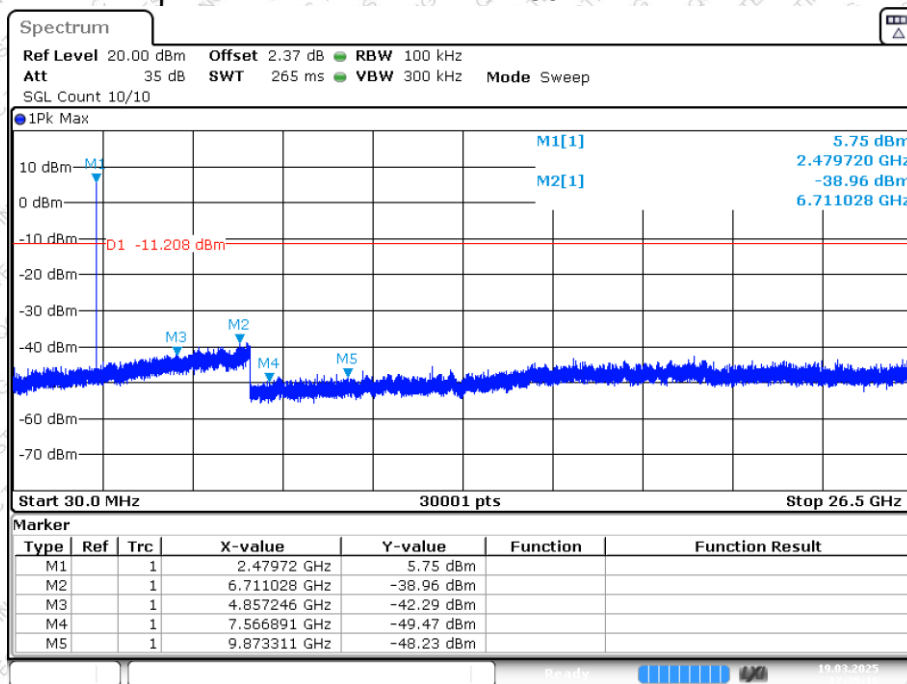
Date: 19. MAR 2025 17:33:51



Tx. Spurious NVNT BLE 2M 2480MHz Ant1 Ref

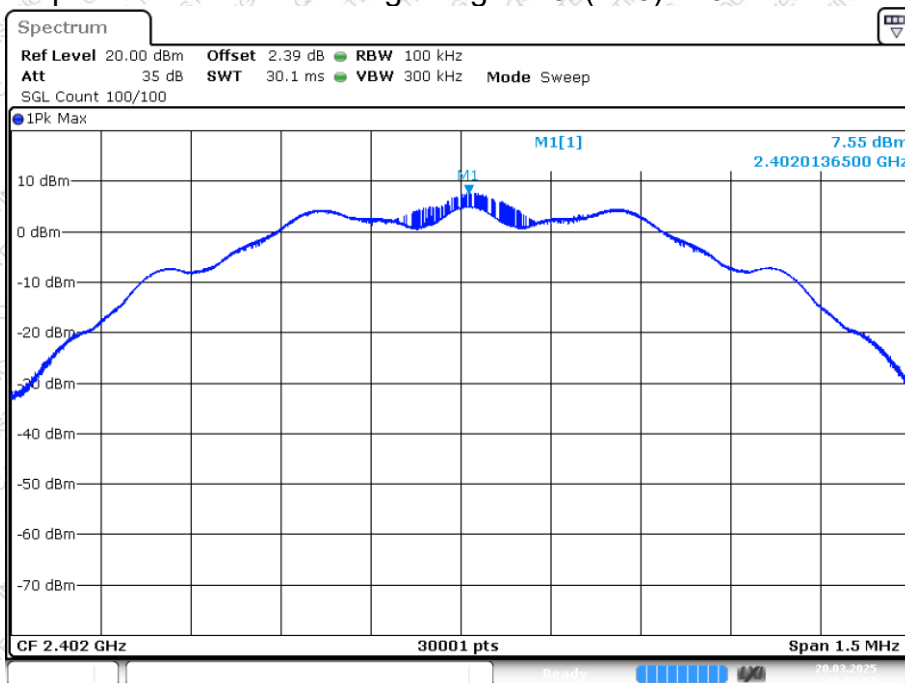


Tx. Spurious NVNT BLE 2M 2480MHz Ant1 Emission



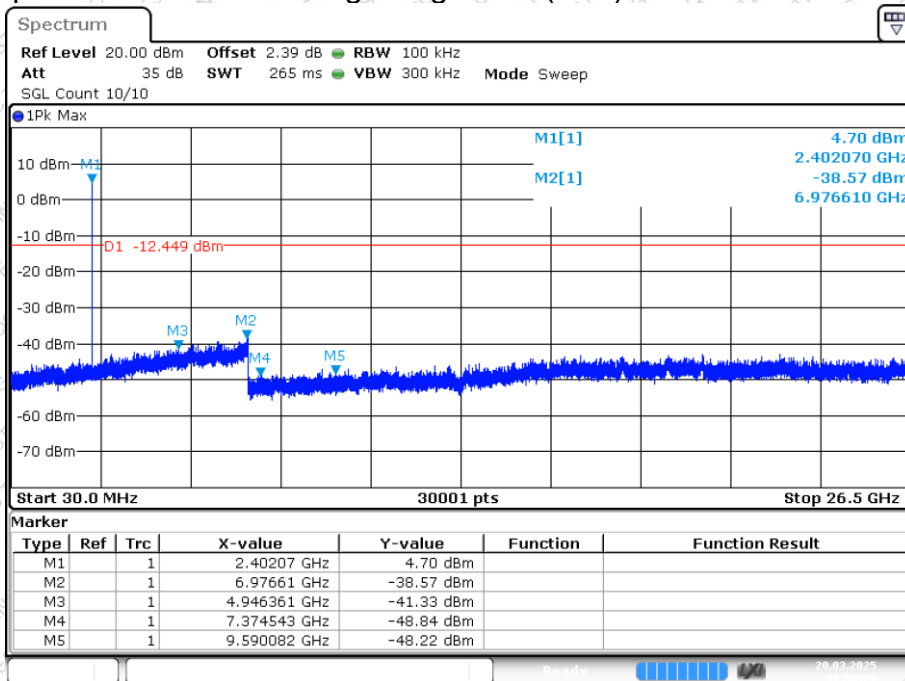


Tx. Spurious NVNT BLE Long Range 125k(S=8) 2402MHz Ant1 Ref



Date: 20. MAR 2025 10:58:13

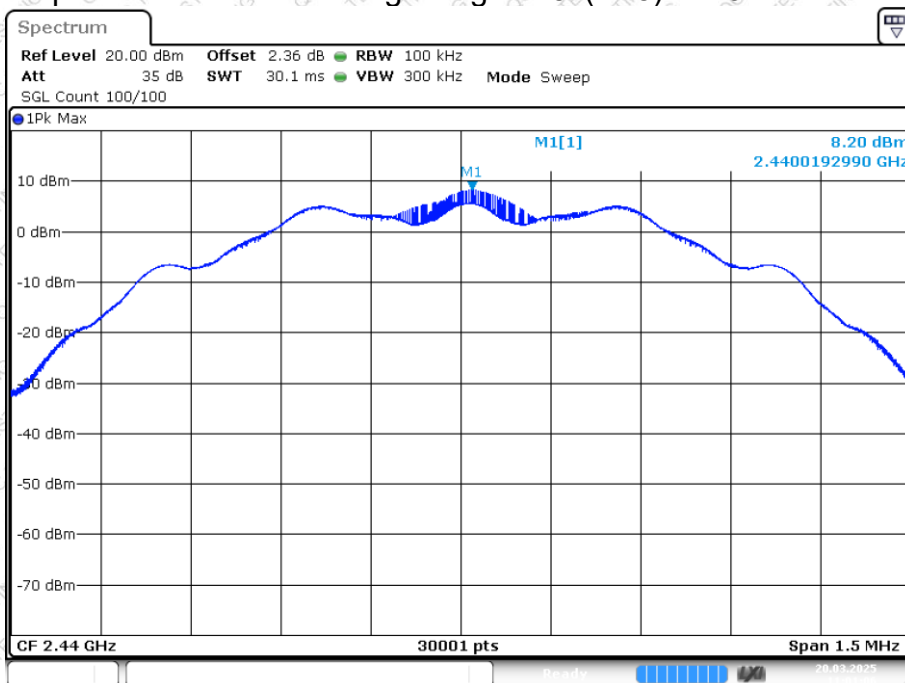
Tx. Spurious NVNT BLE Long Range 125k(S=8) 2402MHz Ant1 Emission



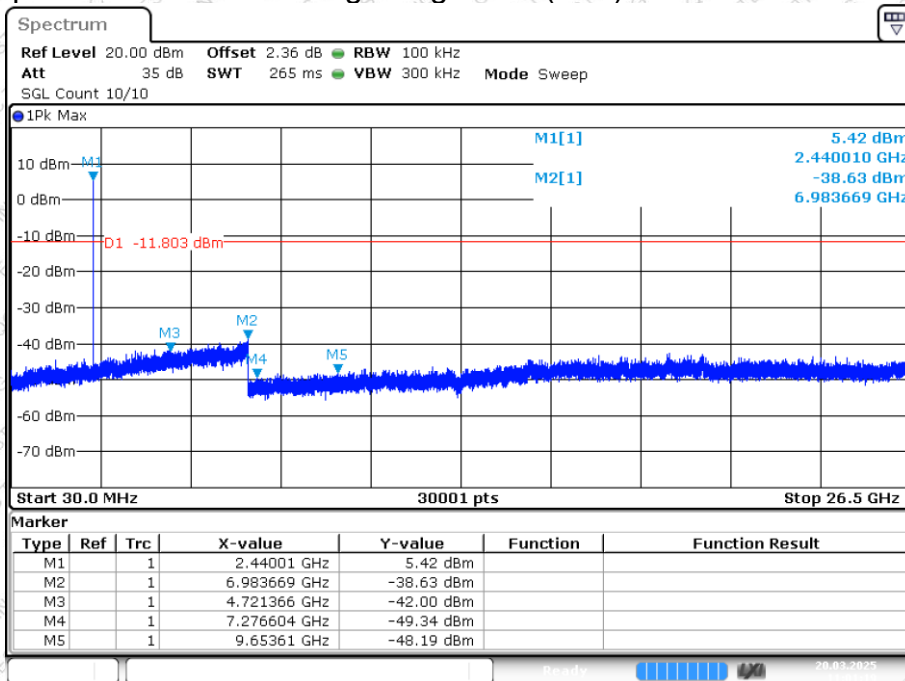
Date: 20. MAR 2025 10:58:26



Tx. Spurious NVNT BLE Long Range 125k(S=8) 2440MHz Ant1 Ref

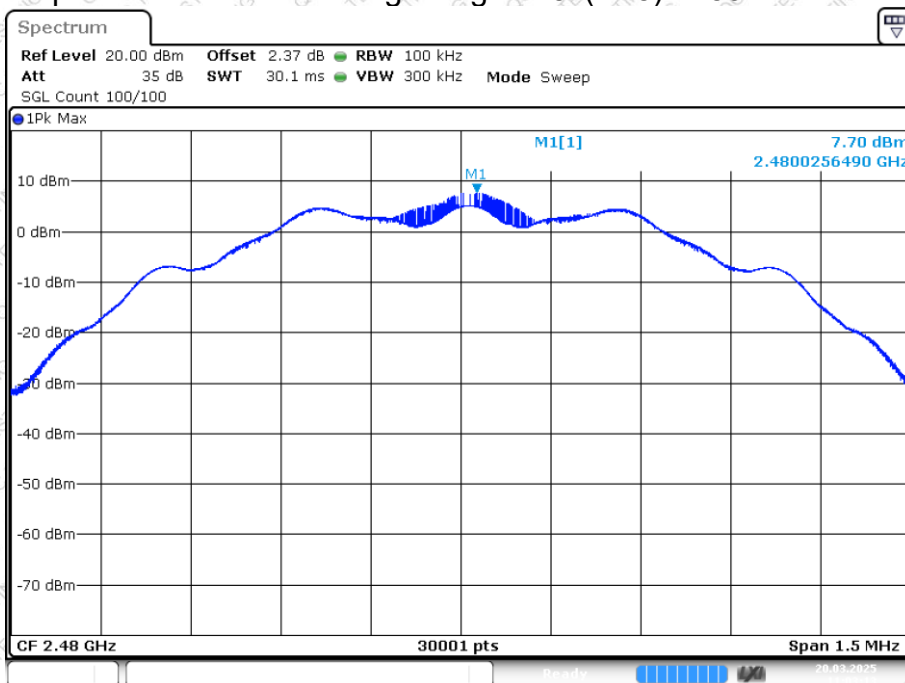


Tx. Spurious NVNT BLE Long Range 125k(S=8) 2440MHz Ant1 Emission

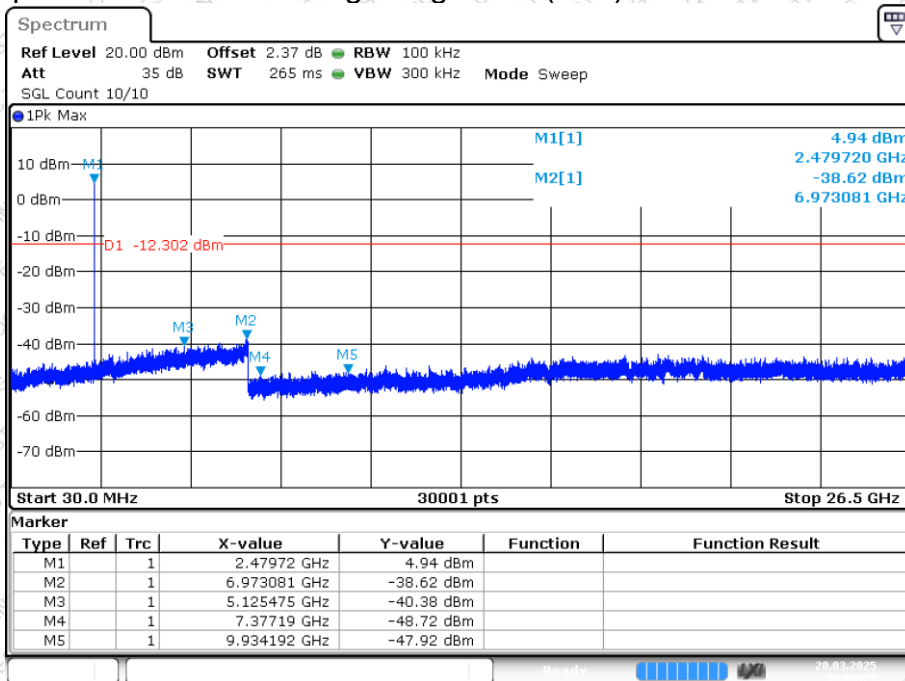




Tx. Spurious NVNT BLE Long Range 125k(S=8) 2480MHz Ant1 Ref

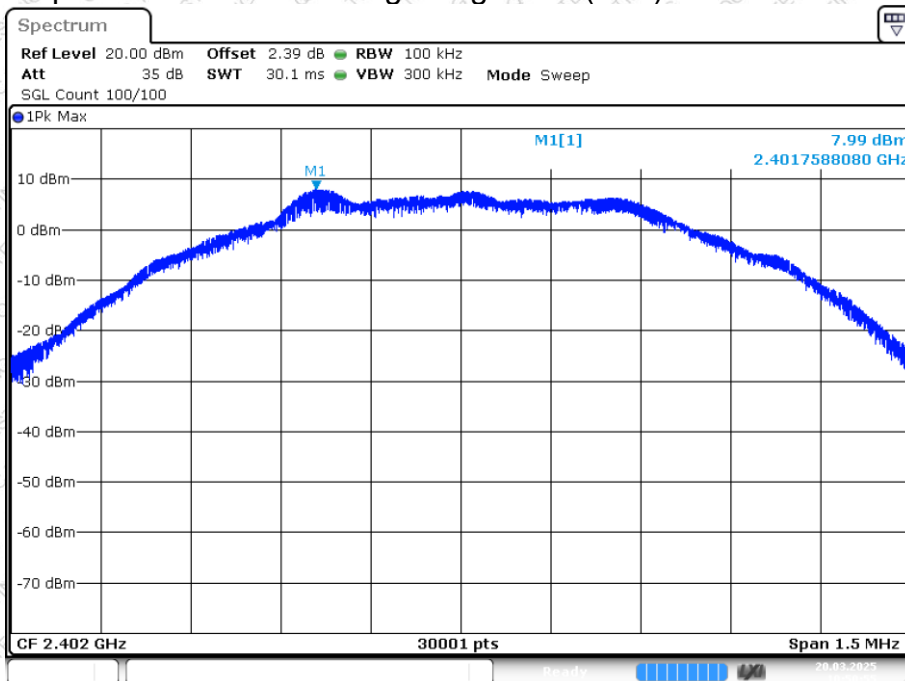


Tx. Spurious NVNT BLE Long Range 125k(S=8) 2480MHz Ant1 Emission

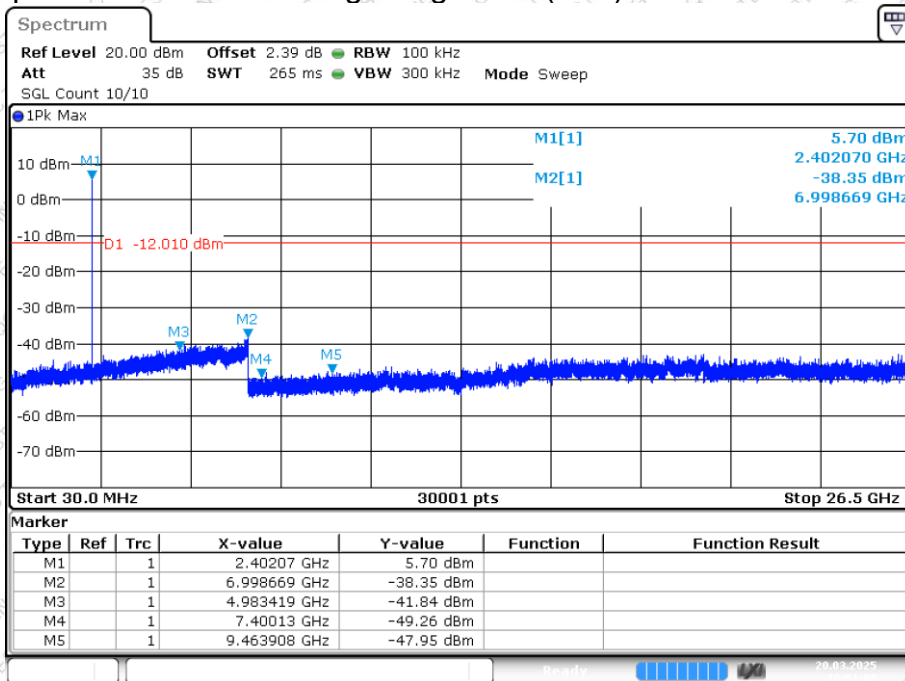




Tx. Spurious NVNT BLE Long Range 500k(S=2) 2402MHz Ant1 Ref

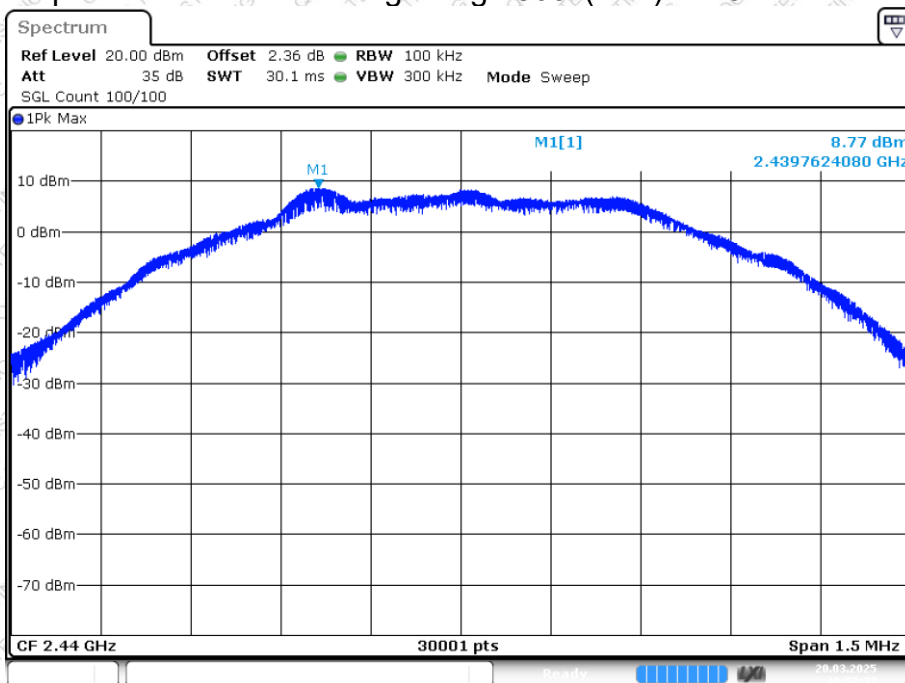


Tx. Spurious NVNT BLE Long Range 500k(S=2) 2402MHz Ant1 Emission



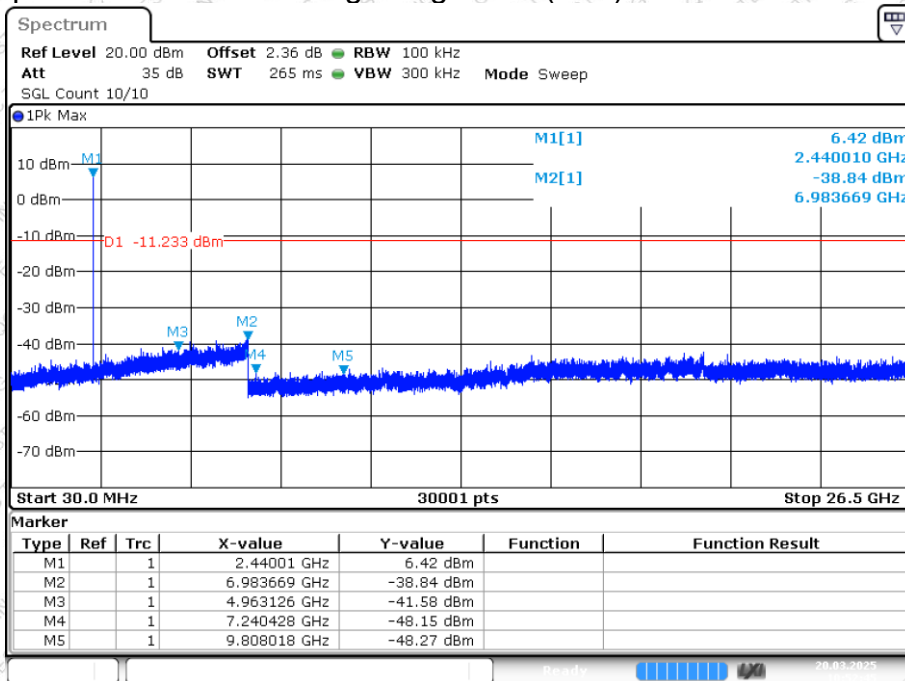


Tx. Spurious NVNT BLE Long Range 500k(S=2) 2440MHz Ant1 Ref



Date: 20. MAR 2025 10:52:33

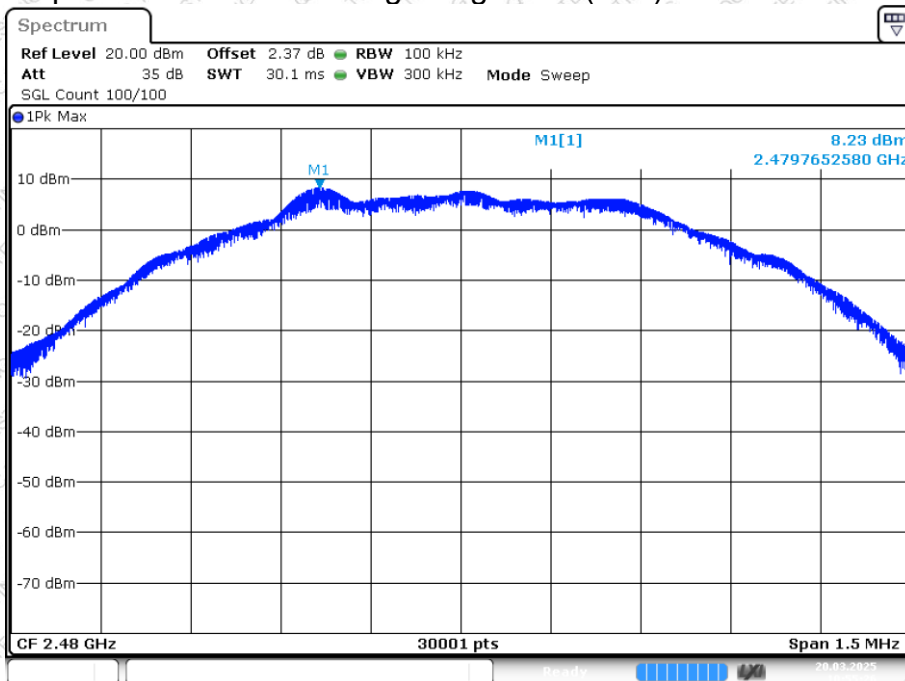
Tx. Spurious NVNT BLE Long Range 500k(S=2) 2440MHz Ant1 Emission



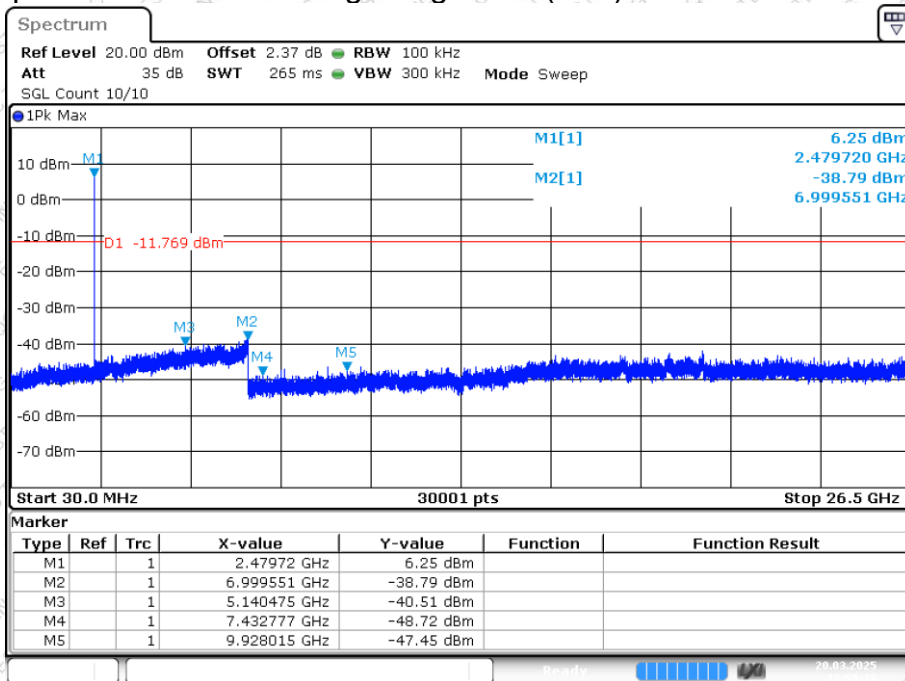
Date: 20. MAR 2025 10:52:46



Tx. Spurious NVNT BLE Long Range 500k(S=2) 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE Long Range 500k(S=2) 2480MHz Ant1 Emission



8.2. Radiated Emission Method

8.2.1 Applicable Standard

FCC Part15 C Section 15.209 and 15.205

8.2.2 Limit

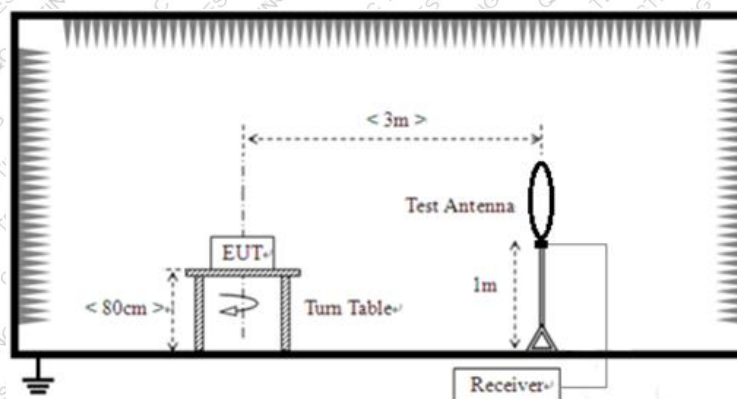
Frequency	Limit (uV/m)	Value	Measurement Distance
0.009MHz-0.490MHz	2400/F(KHz)	QP	300m
0.490MHz-1.705MHz	24000/F(KHz)	QP	30m
1.705MHz-30MHz	30	QP	30m

Frequency	Field Strengths Limits (uV/m at 3 m)	Field Strengths Limits (dBuV/m at 3 m)	Remark
30 – 88	100	40.0	Quasi-peak
88 – 216	150	43.5	Quasi-peak
216 – 960	200	46.0	Quasi-peak
Above 960	500	54.0	Quasi-peak
Above 1GHz	/	74.0	Peak
		54.0	Average

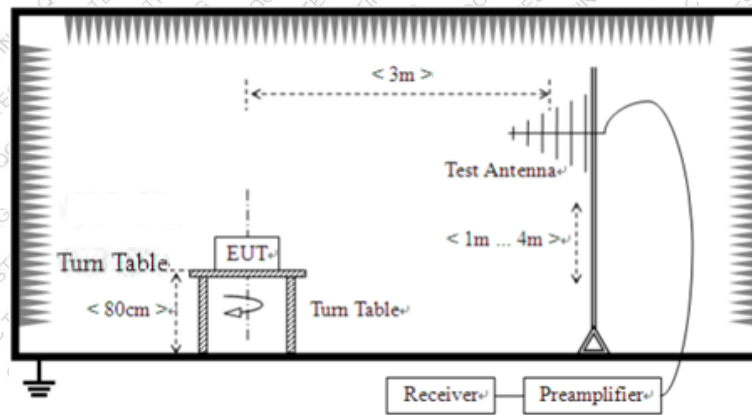
Note: $\text{dBuV/m} = 20\log(\mu\text{V/m})$

8.2.3 Test setup

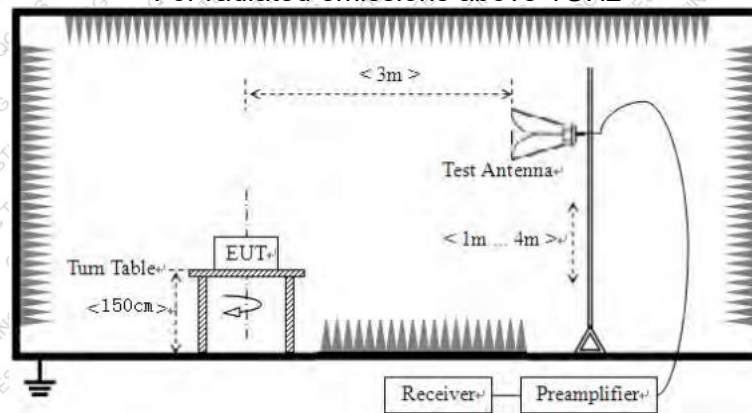
For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



8.2.4 EMI Test Receiver Setup

Frequency	RBW	VBW	IF B/W	Measurement
9KHz-150KHz	200Hz	600Hz	/	QP
150KHz-30MHz	9KHz	30KHz	/	QP
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	Peak
	1 MHz	10 Hz	/	Average

Remark: For the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission test in these three bands are based on measurements employing an average detector.

8.2.5 Test procedure

- The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.



- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

8.2.6 Test Data

Temperature	25-26 °C	Humidity	49-54 %
ATM Pressure	101.1kPa	Antenna Gain	-1.4dBi
Test by	LBi Li	Test result	PASS

Remarks:

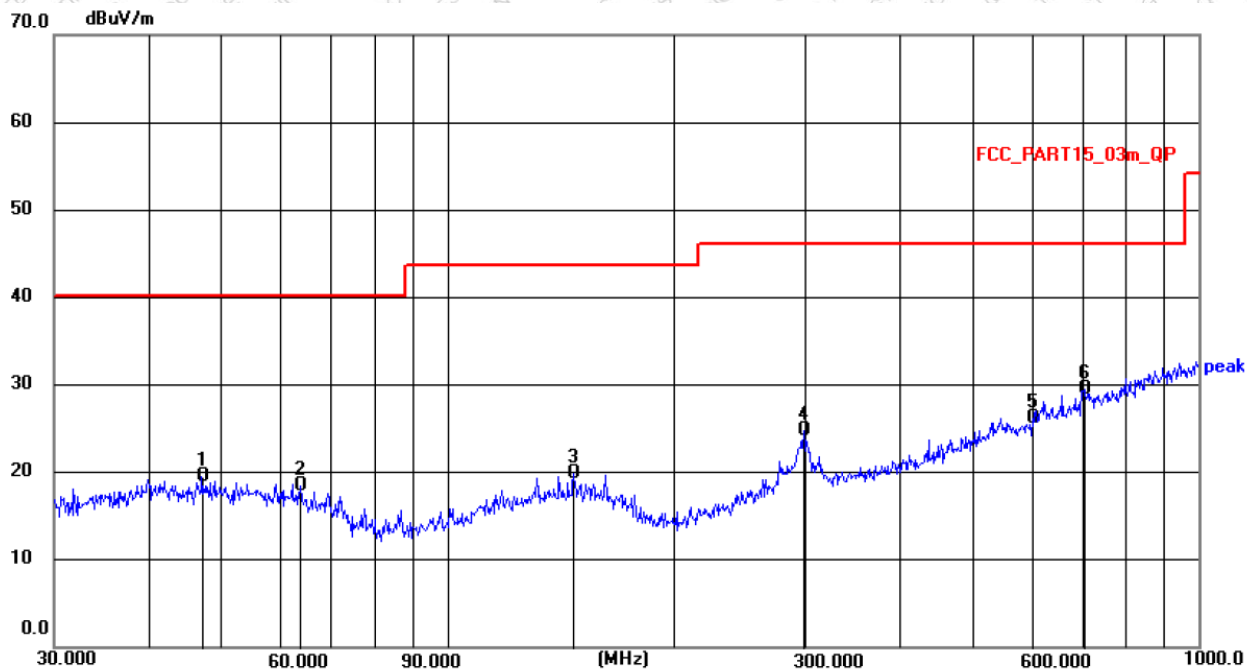
1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.
2. Data of measurement within frequency range 9kHz-30MHz, 18-26GHz are the noise floor or attenuated more than 20dB below the permissible limits or the field strength is too small to be measured, so test data does not present in this report.



Below 1GHz

Pre-scan all test modes, found worst case at BLE 2Mbps:2402MHz, and so only show the test result of BLE 2Mbps:2402MHz.

Horizontal:

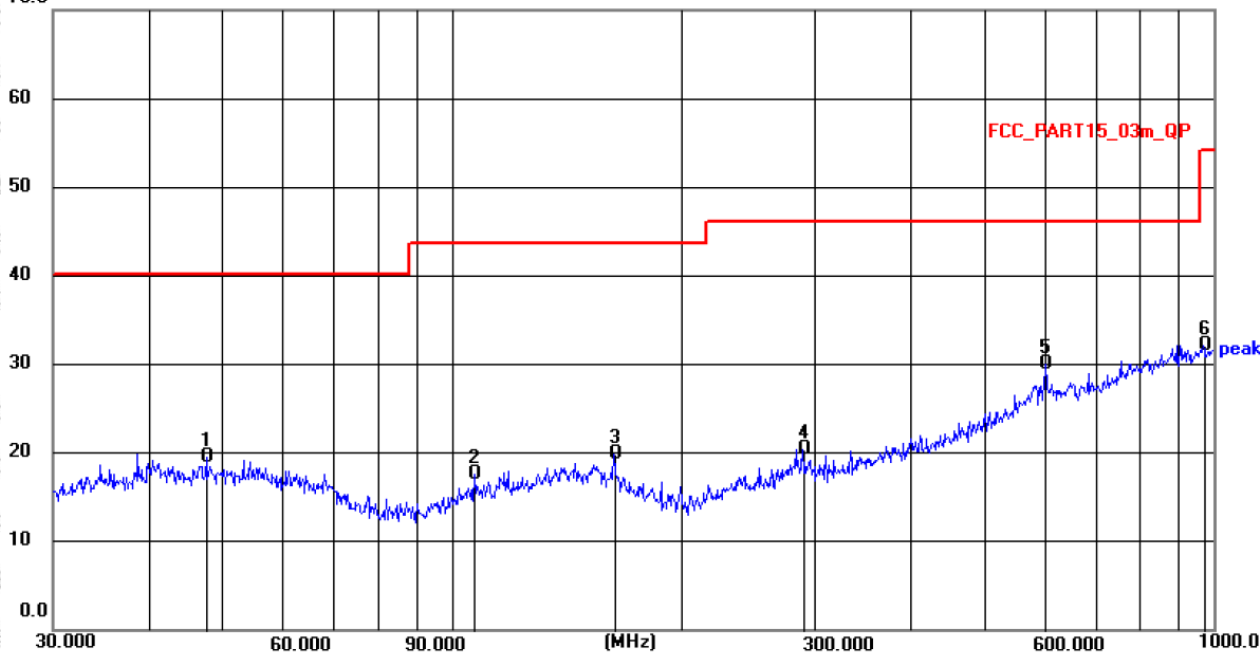


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	47.1599	4.90	14.69	19.59	40.00	20.41	QP
2	63.7588	5.08	13.31	18.39	40.00	21.61	QP
3	147.4036	5.31	14.52	19.83	43.50	23.67	QP
4	298.2681	10.18	14.55	24.73	46.00	21.27	QP
5	601.4265	4.94	21.24	26.18	46.00	19.82	QP
6 *	704.2261	6.44	23.05	29.49	46.00	16.51	QP



Vertical:

70.0 dBuV/m



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	47.6586	5.03	14.47	19.50	40.00	20.50	QP
2	107.1337	5.57	11.94	17.51	43.50	25.99	QP
3	163.1818	5.76	14.05	19.81	43.50	23.69	QP
4	289.0021	5.82	14.53	20.35	46.00	25.65	QP
5 *	601.4265	8.60	21.34	29.94	46.00	16.06	QP
6	968.9338	5.41	26.73	32.14	54.00	21.86	QP

**Above 1GHz**

Pre-scan all test modes, found worst case at BLE 2Mbps, and so only show the test result of BLE 2Mbps.

Test channel: Lowest channel

Frequency (MHz)	Read Level (dBμV)	polarization	Factor (dB/m)	Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector
2310	56.12	H	-22.55	33.57	74	40.43	peak
2310	57.05	V	-22.55	34.5	74	39.5	peak
2330.9	65.29	V	-22.55	42.74	74	31.26	peak
2390	61.5	H	-22.39	39.11	74	34.89	peak
2390	55.12	V	-22.39	32.73	74	41.27	peak
4804	54.98	H	-18.87	36.11	74	37.89	peak
4804	55.48	V	-18.87	36.61	74	37.39	peak

Test channel: Middle channel

Frequency (MHz)	Read Level (dBμV)	polarization	Factor (dB/m)	Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector
4880	56.03	H	-18.62	37.41	74	36.59	peak
4880	55.46	V	-18.62	36.84	74	37.16	peak

Test channel: Highest channel

Frequency (MHz)	Read Level (dBμV)	polarization	Factor (dB/m)	Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector
2483.5	86.95	H	-22.2	64.75	74	9.25	peak
2483.5	65.48	H	-22.2	43.28	54	10.72	AVG
2483.5	60.69	V	-22.2	38.49	74	35.51	peak
2484.7	75.33	V	-22.2	53.13	74	20.87	peak
2487	74.72	H	-22.19	52.53	74	21.47	peak
2487.85	74.79	V	-22.19	52.6	74	21.4	peak
2487.92	93.3	H	-22.19	71.11	74	2.89	peak
2487.92	74.38	H	-22.19	52.19	54	1.81	AVG
2490.64	74.57	H	-22.18	52.39	74	21.61	peak
2494.16	73.97	H	-22.18	51.79	74	22.21	peak
2495.32	74.36	H	-22.18	52.18	74	21.82	peak
2499.1	70.55	V	-22.18	48.37	74	25.63	peak
2498.88	84.94	H	-22.17	62.77	74	11.23	peak
2498.88	67.26	H	-22.17	45.09	54	8.91	AVG
2500	85.02	H	-22.17	62.85	74	11.15	peak
2500	62.35	H	-22.17	40.18	54	13.82	AVG



2500	59.55	V	-22.17	37.38	74	36.62	peak
4960	55.92	H	-18.38	37.54	74	36.46	peak
4960	56.22	V	-18.38	37.84	74	36.16	peak

Remarks:

1. Level = Receiver Read level + Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. 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 above table if the peak value complies with average limit.

----- THE END OF TEST REPORT -----