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Appendix for BLE

**Applicant: HONGKONG UCLOUDLINK NETWORK TECHNOLOGY
LIMITED**

**Address: Suite 603, 6/F, Laws Commercial Plaza, 788 Cheung
Sha Wan Road, Kowloon, Hong Kong**

Product Name: 5G Wireless Data Terminal

Model: GLMU21A01



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Appendix A: DTS Bandwidth

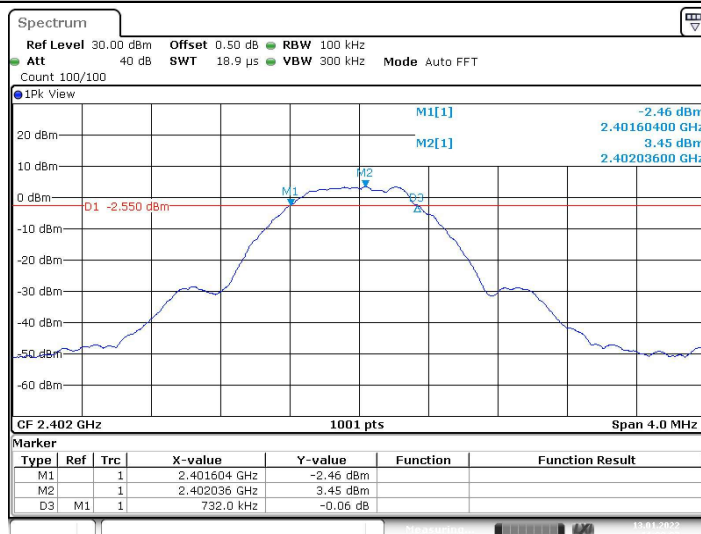
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.73	2401.60	2402.34	0.5	PASS
		2440	0.73	2439.60	2440.33	0.5	PASS
		2480	0.73	2479.60	2480.32	0.5	PASS



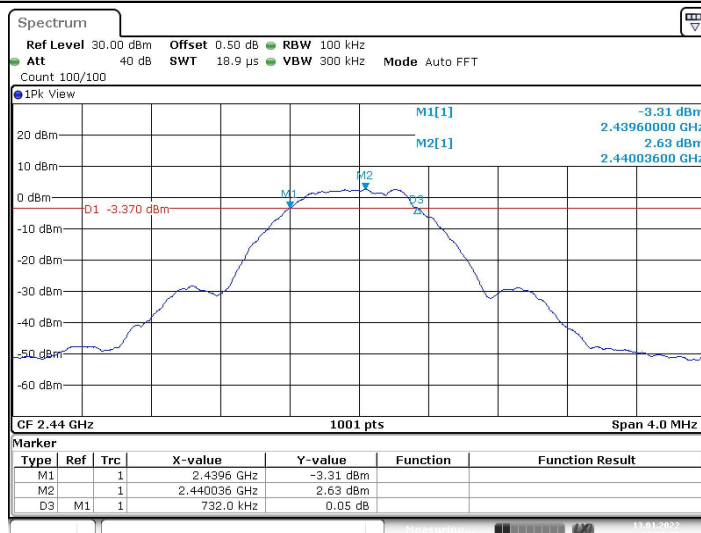
Test Graphs

BLE_1M_Ant1_2402



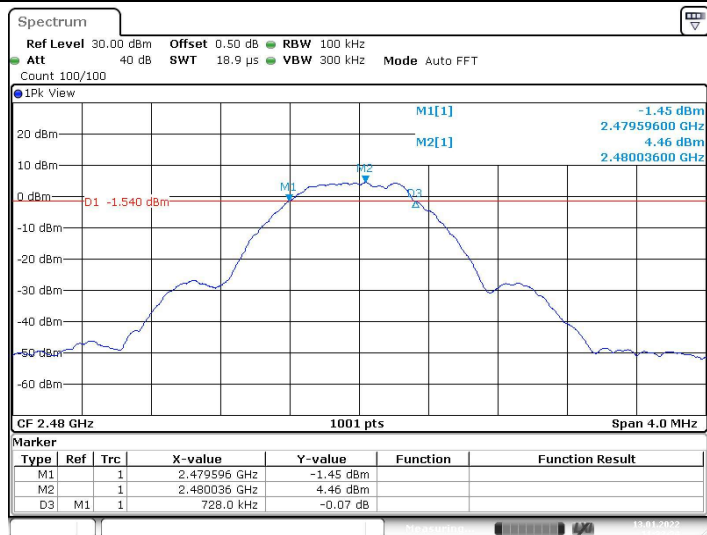
Date: 13.JAN.2022 11:28:37

BLE_1M_Ant1_2440



Date: 13.JAN.2022 11:31:51

BLE_1M_Ant1_2480



Date: 13.JAN.2022 11:33:24



Appendix B: Occupied Channel Bandwidth

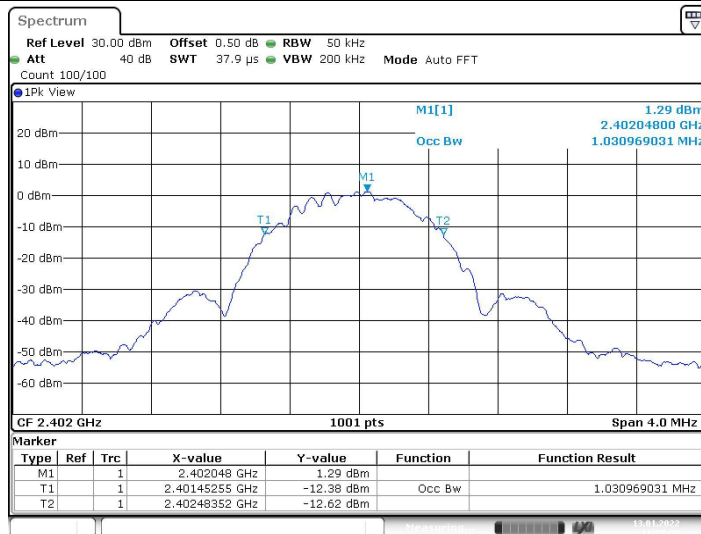
Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.031	2401.453	2402.484	---	PASS
		2440	1.035	2439.449	2440.484	---	PASS
		2480	1.027	2479.449	2480.476	---	PASS

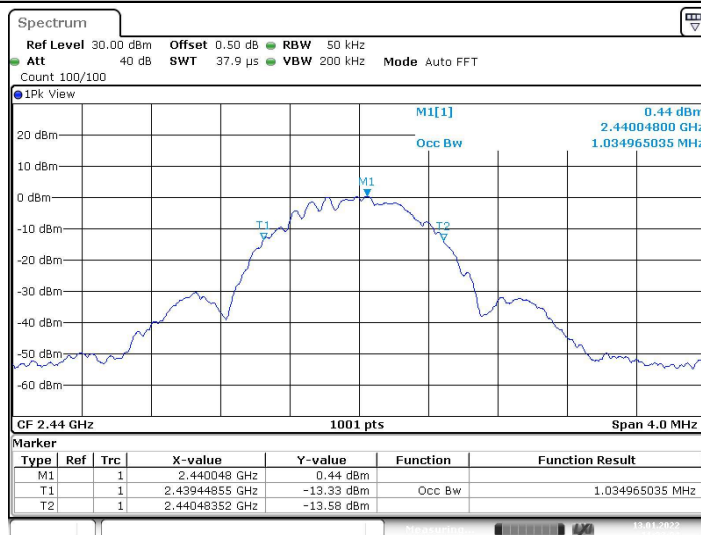


Test Graphs

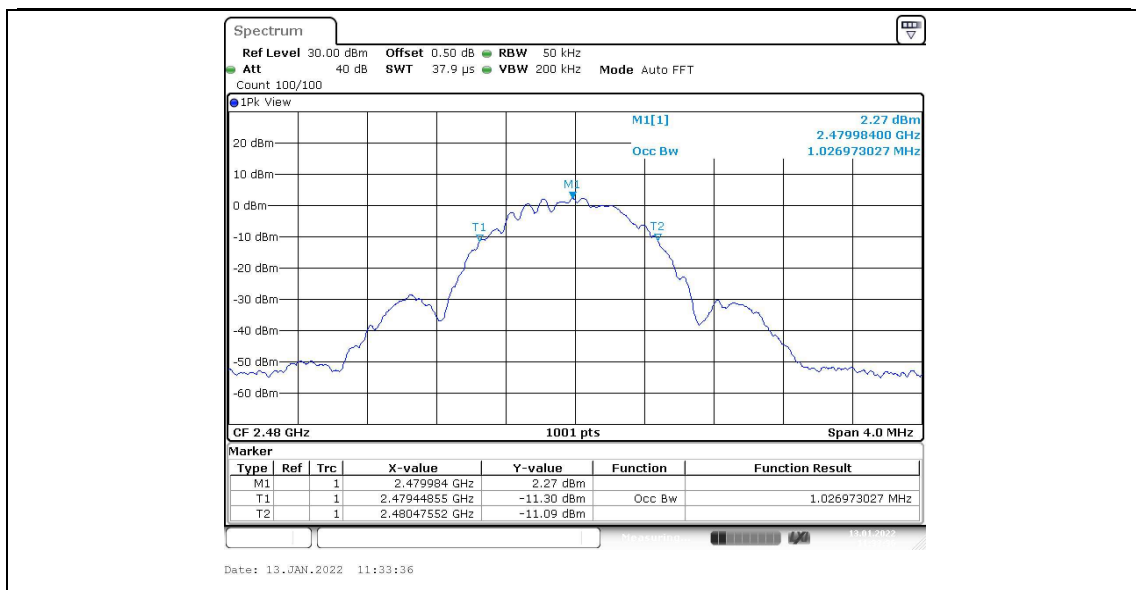
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





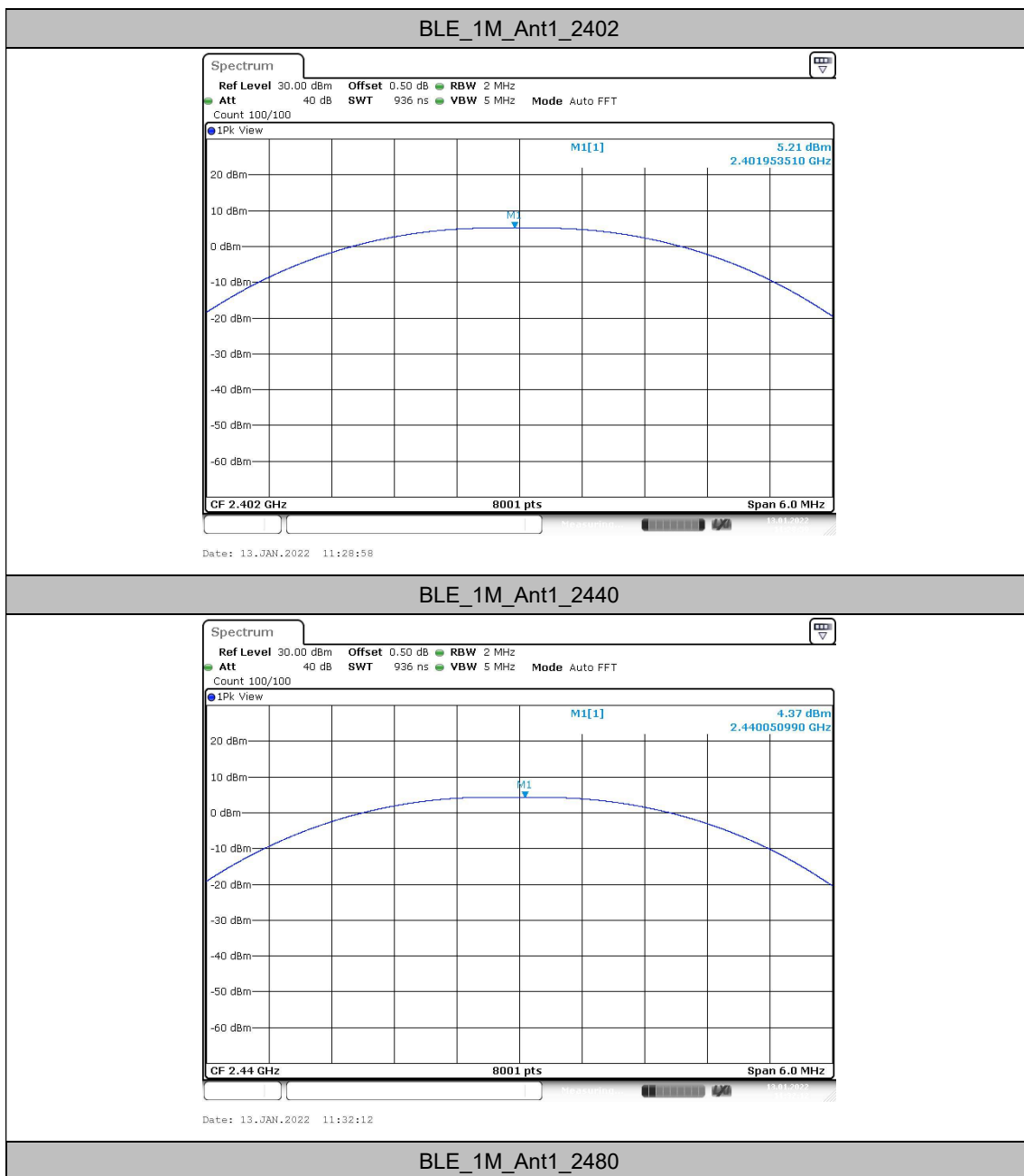
Appendix C: Maximum conducted output power

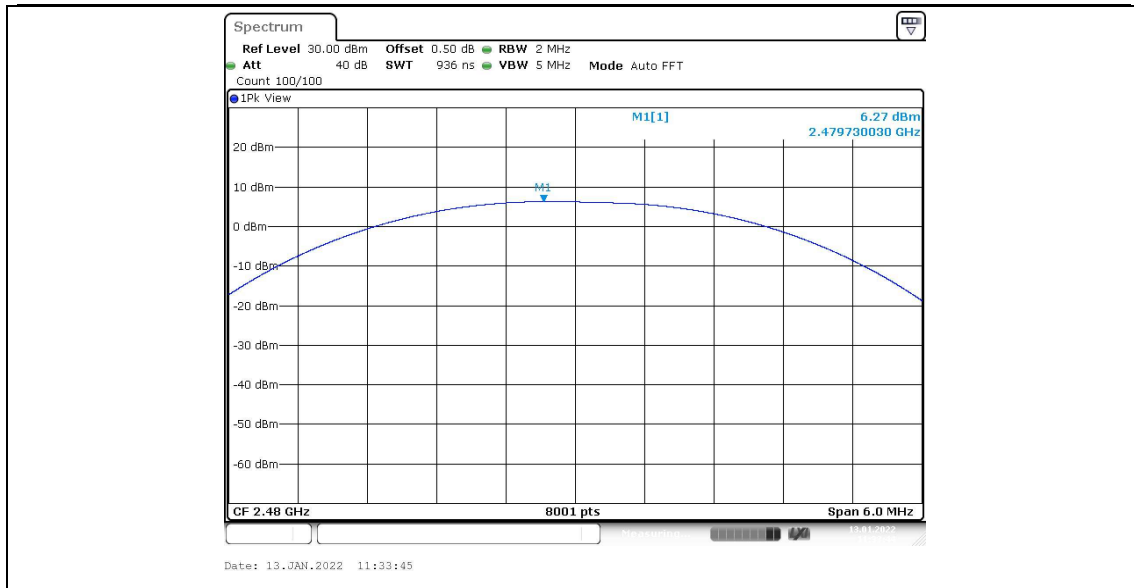
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	5.21	≤30	PASS
		2440	4.37	≤30	PASS
		2480	6.27	≤30	PASS



Test Graphs







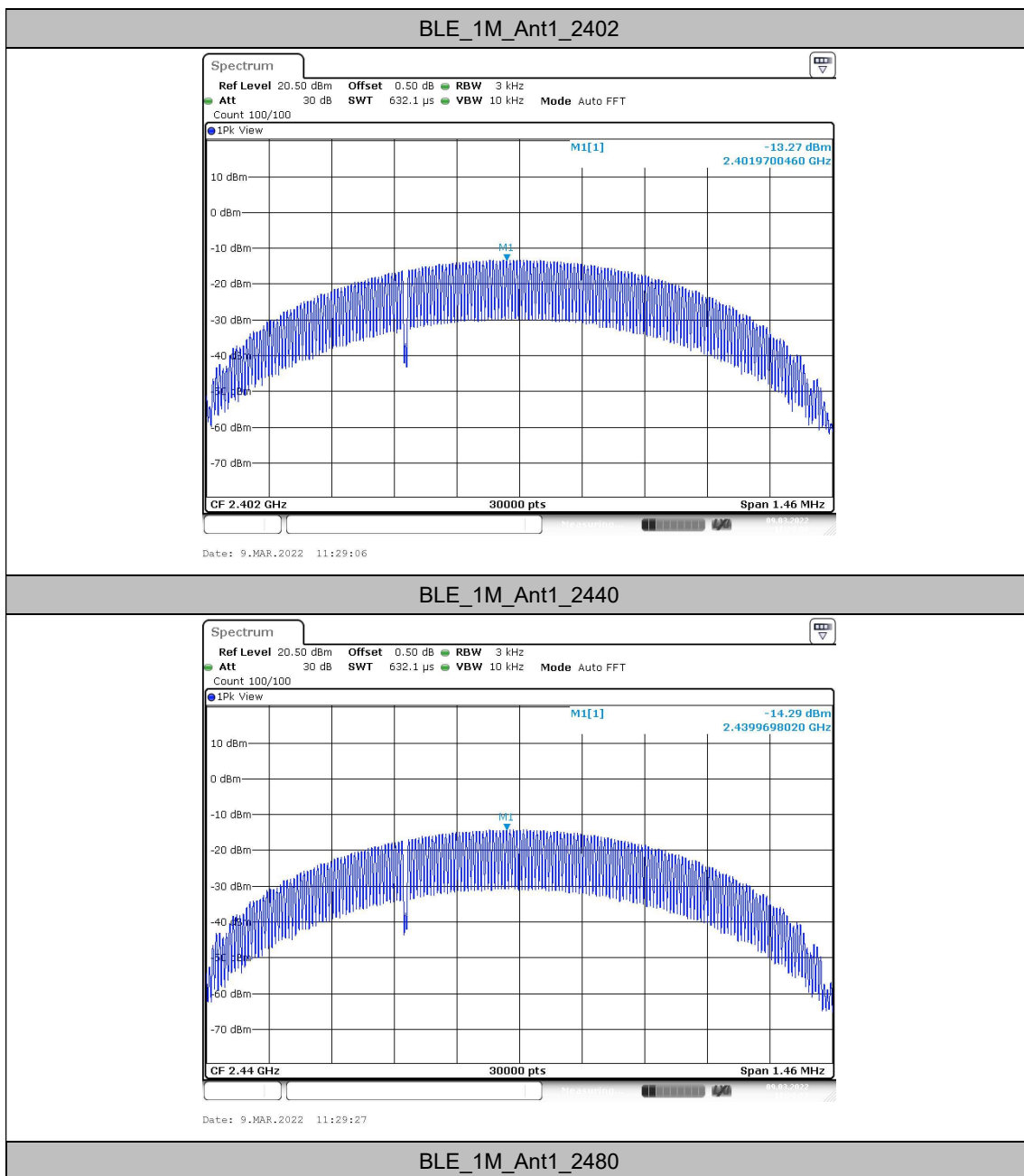
Appendix D: Maximum power spectral density

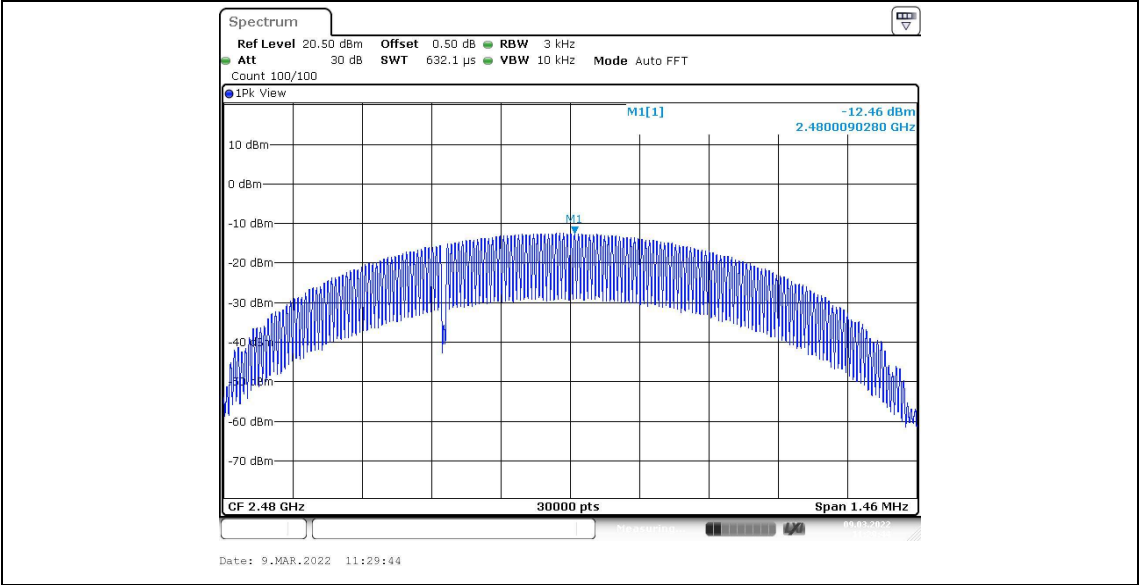
Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-13.27	≤8	PASS
		2440	-14.29	≤8	PASS
		2480	-12.46	≤8	PASS



Test Graphs







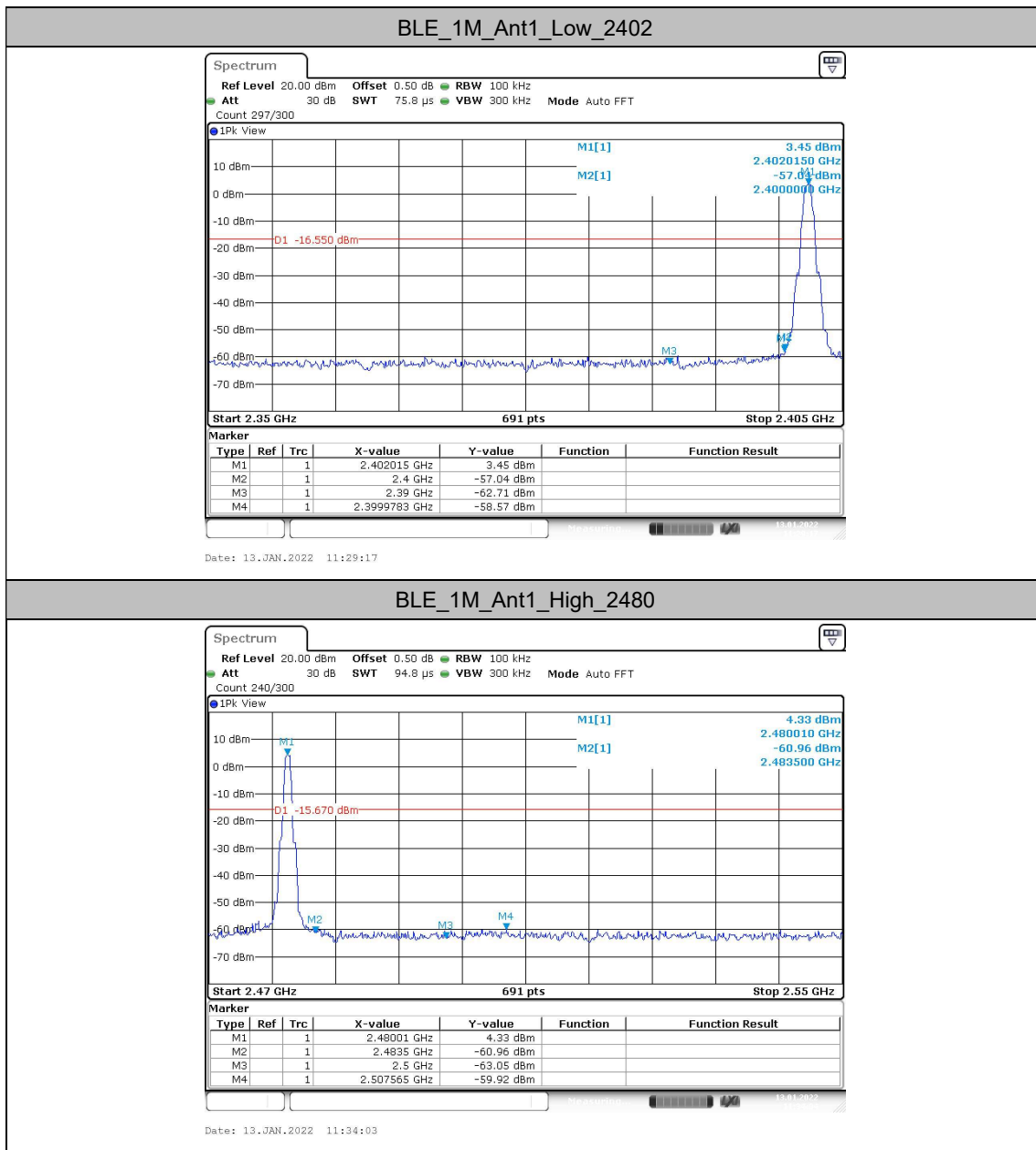
Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	3.45	-58.57	≤ -16.55	PASS
		High	2480	4.33	-59.92	≤ -15.67	PASS



Test Graphs





Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	3.48	3.48	---	PASS
			30~1000	3.48	-70.92	≤-16.52	PASS
			1000~26500	3.48	-43.07	≤-16.52	PASS
		2440	Reference	2.53	2.53	---	PASS
			30~1000	2.53	-69.98	≤-17.47	PASS
			1000~26500	2.53	-43.69	≤-17.47	PASS
		2480	Reference	4.35	4.35	---	PASS
			30~1000	4.35	-71.01	≤-15.65	PASS
			1000~26500	4.35	-42.9	≤-15.65	PASS

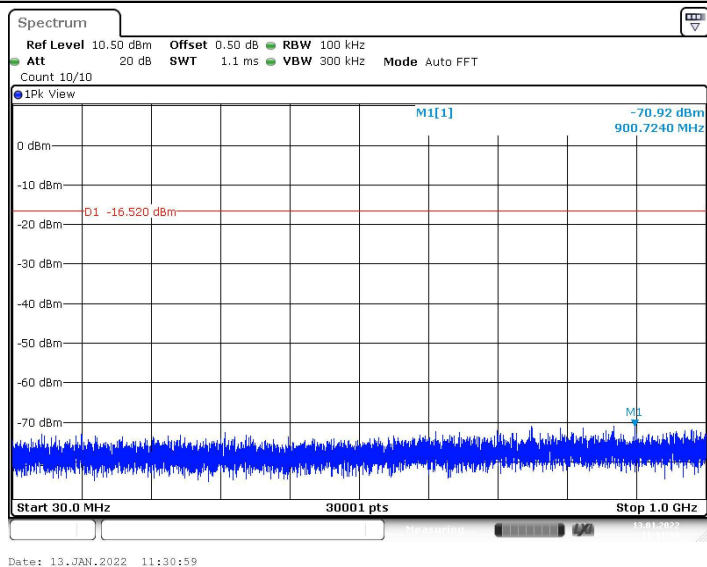


Test Graphs

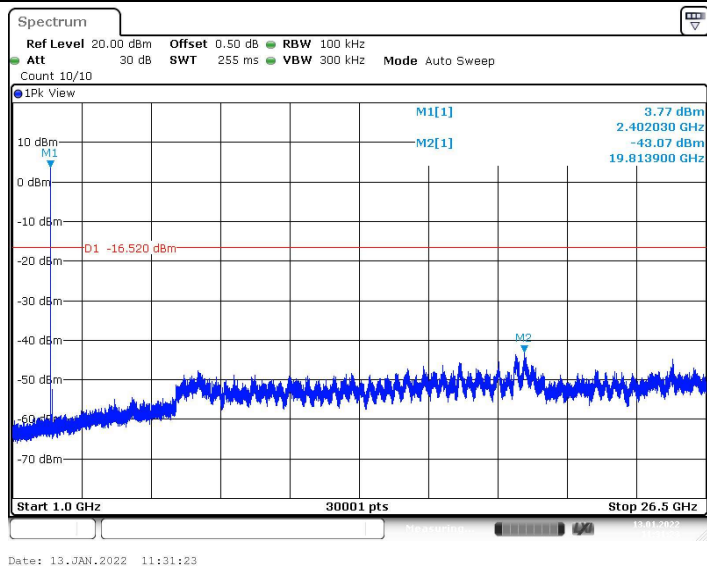
BLE_1M_Ant1_2402_0~Reference



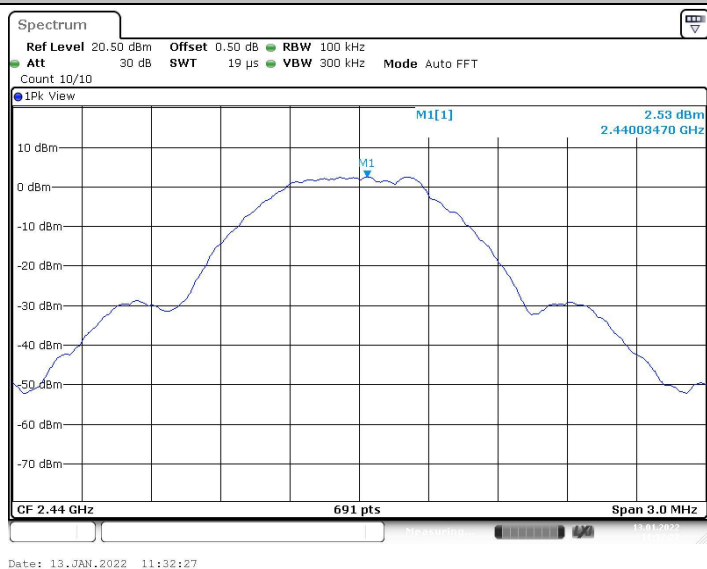
BLE_1M_Ant1_2402_30~1000



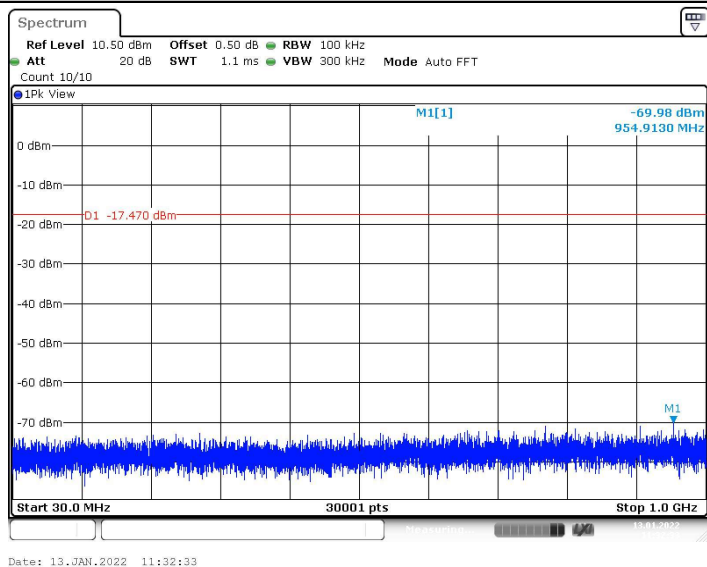
BLE_1M_Ant1_2402_1000~26500



BLE_1M_Ant1_2440_0~Reference

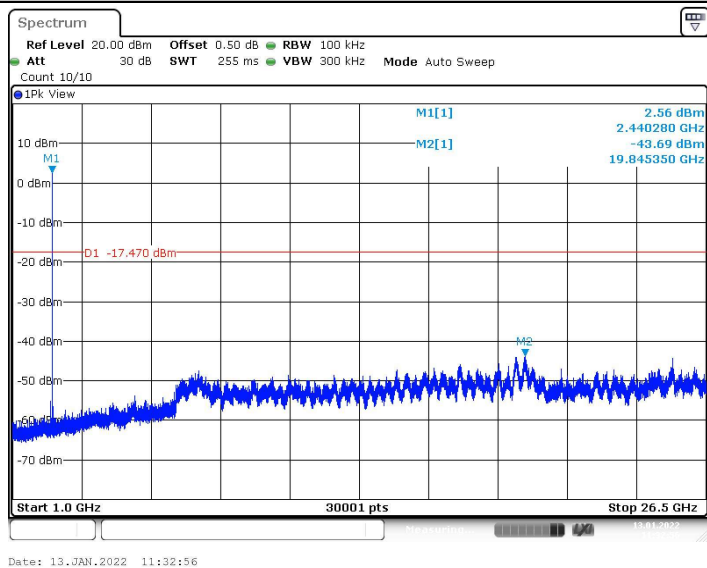


BLE_1M_Ant1_2440_30~1000





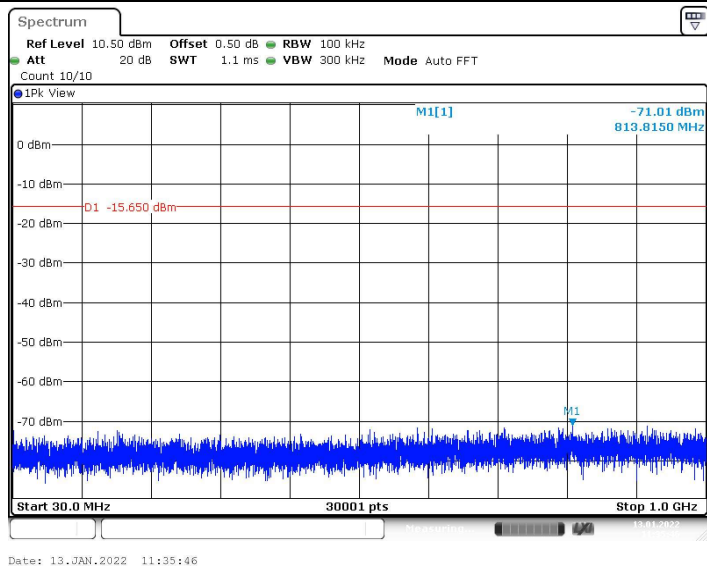
BLE_1M_Ant1_2440_1000~26500



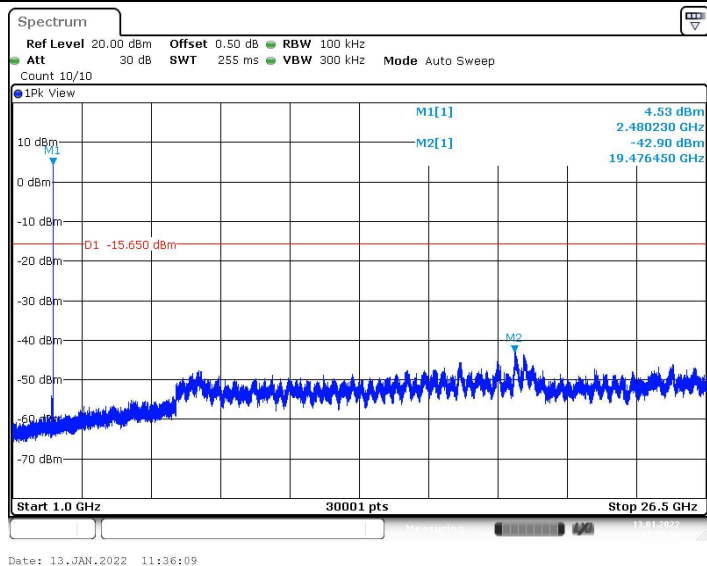
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500





Appendix G: Duty Cycle

Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
TestMode	Antenna	Channel	BurstWidth	Period	Result



Test Graphs

Duty Cycle



Appendix H: Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-60.17	≤-41.20	PASS
				AV	2340.783	-59.4	≤-41.20	PASS
				AV	2390.000	-60.07	≤-41.20	PASS
				Peak	2310.000	-48.34	≤-21.20	PASS
				Peak	2334.239	-46.75	≤-21.20	PASS
				Peak	2390.000	-47.67	≤-21.20	PASS
		High	2480	AV	2483.500	-58.65	≤-41.20	PASS
				AV	2483.565	-58.76	≤-41.20	PASS
				AV	2500.000	-60.24	≤-41.20	PASS
				Peak	2483.500	-49.08	≤-21.20	PASS
				Peak	2499.333	-46.43	≤-21.20	PASS
				Peak	2500.000	-48.01	≤-21.20	PASS

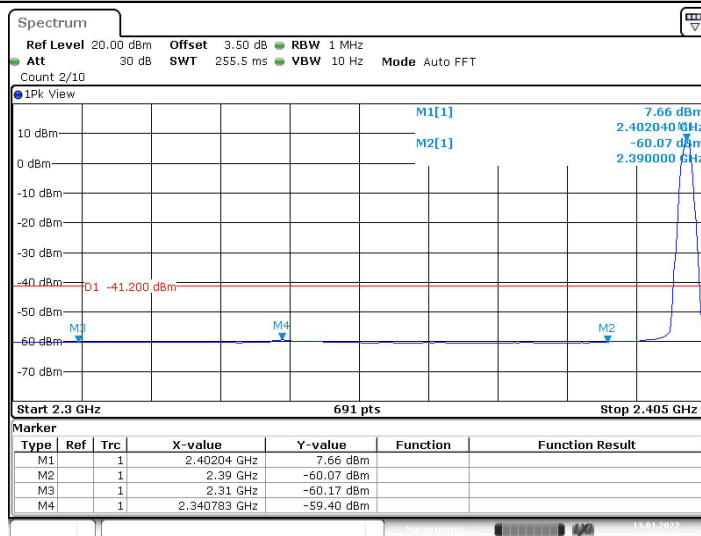
Note:

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.

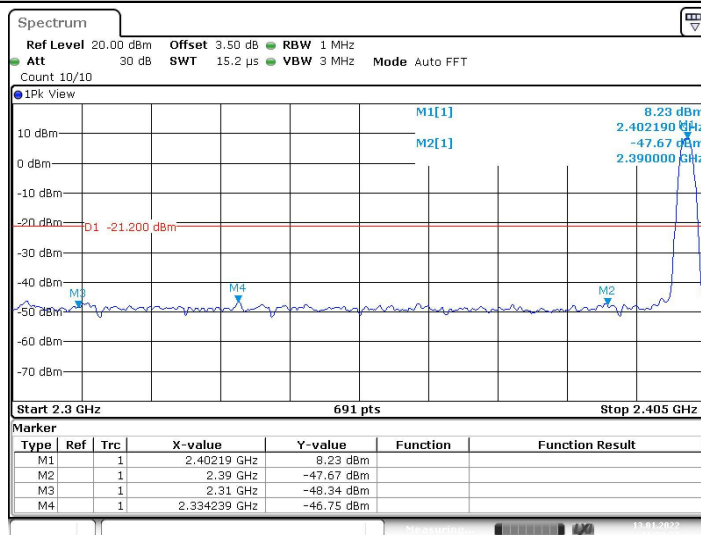


Test Graphs

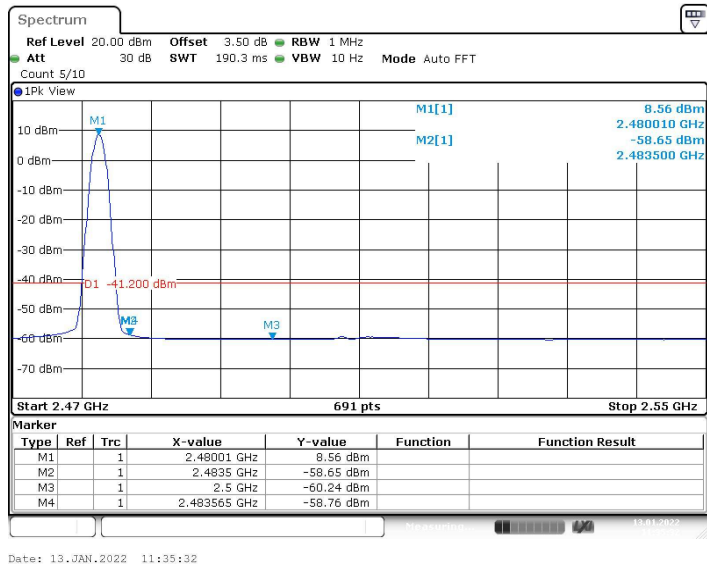
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

