

RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	IPTV Receiver
Test Model:	Amigo 7X V2
Sample ID:	20210821-21-2#
Environmental Conditions	
Temperature:	24℃
Relative Humidity:	52%
Test Voltage:	DC12V
Test Engineer:	Hejingchang
Note: For a more detailed features description, please refer to the report TB-FCC183403.	

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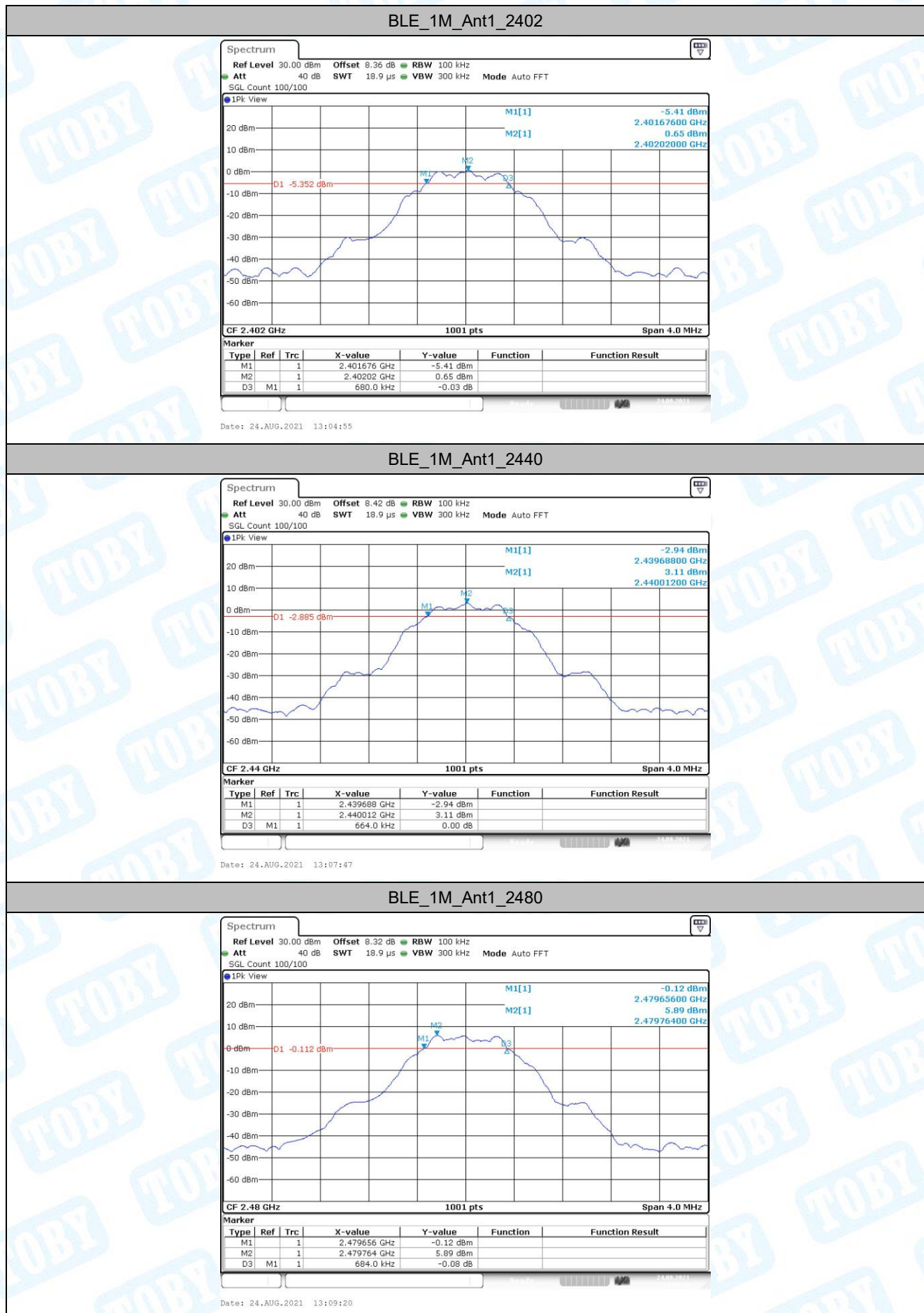
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1. DTS Bandwidth

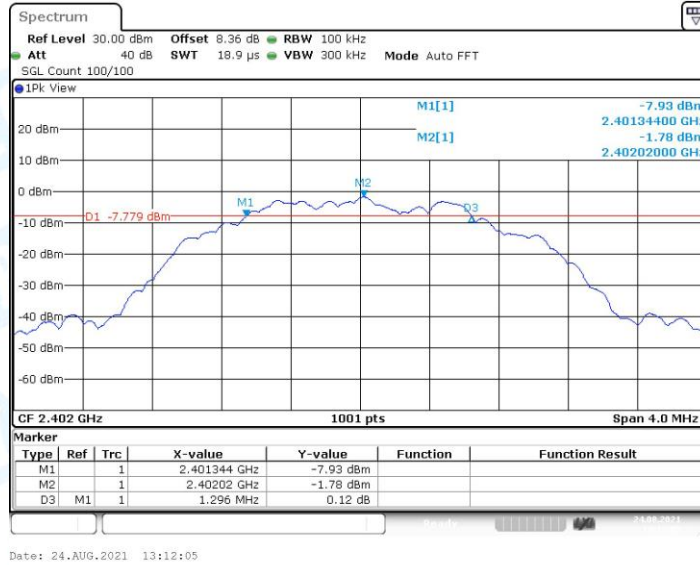
1.1. Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.680	2401.676	2402.356	0.5	PASS
		2440	0.664	2439.688	2440.352	0.5	PASS
		2480	0.684	2479.656	2480.340	0.5	PASS
BLE_2M	Ant1	2402	1.296	2401.344	2402.640	0.5	PASS
		2440	1.008	2439.608	2440.616	0.5	PASS
		2480	1.368	2479.328	2480.696	0.5	PASS

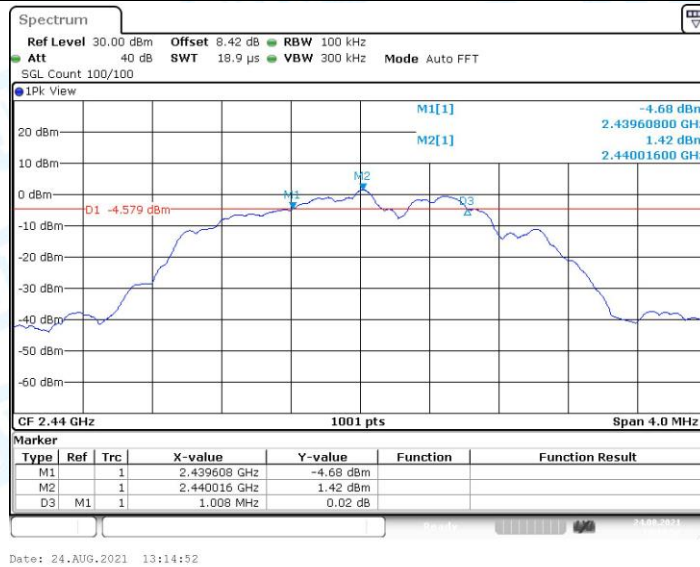
1.2. Test Graphs



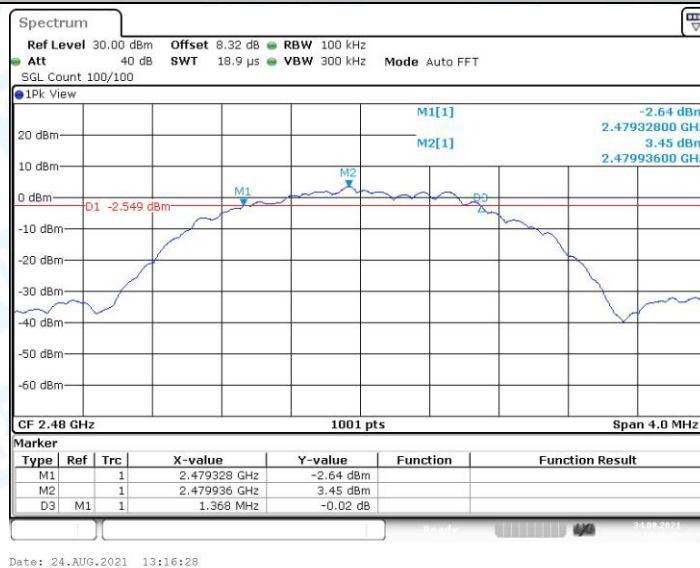
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

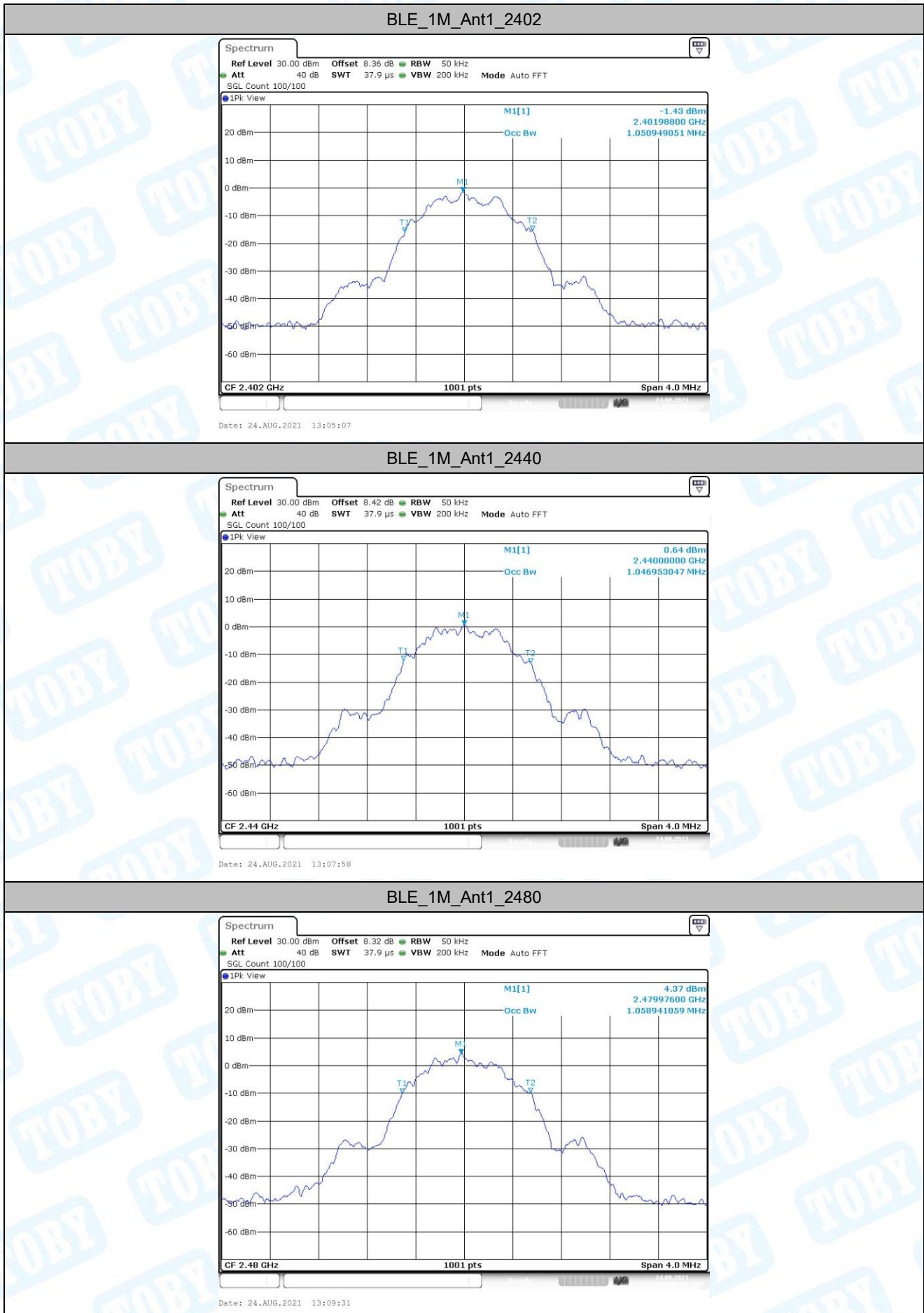


2. Occupied Channel Bandwidth

2.1. Test Result

Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.051	2401.508	2402.559	---	PASS
		2440	1.047	2439.500	2440.547	---	PASS
		2480	1.059	2479.489	2480.547	---	PASS
BLE_2M	Ant1	2402	2.042	2401.021	2403.063	---	PASS
		2440	2.05	2439.005	2441.055	---	PASS
		2480	2.034	2479.005	2481.039	---	PASS

2.2. Test Graphs



BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

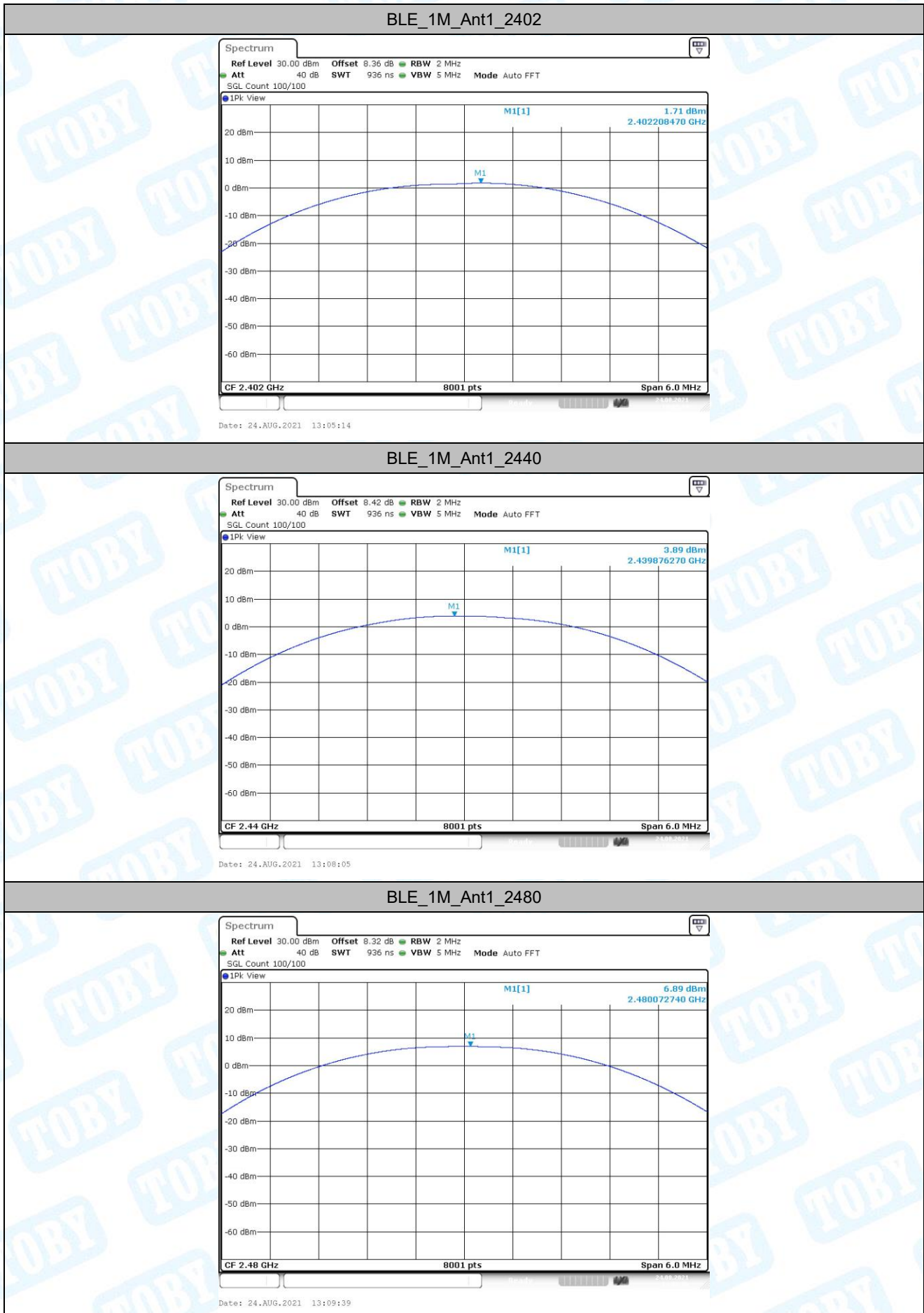


3. Maximum conducted output power

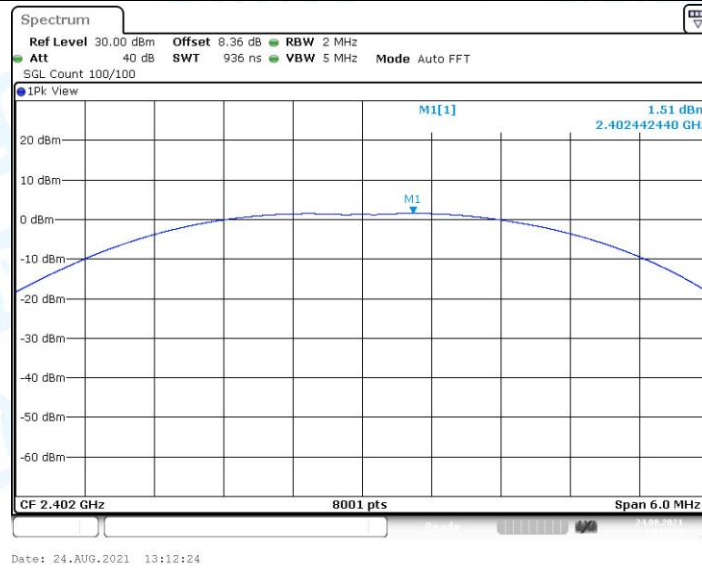
3.1. Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	1.71	≤30	PASS
		2440	3.89	≤30	PASS
		2480	6.89	≤30	PASS
BLE_2M	Ant1	2402	1.51	≤30	PASS
		2440	3.63	≤30	PASS
		2480	6.95	≤30	PASS

3.2. Test Graphs



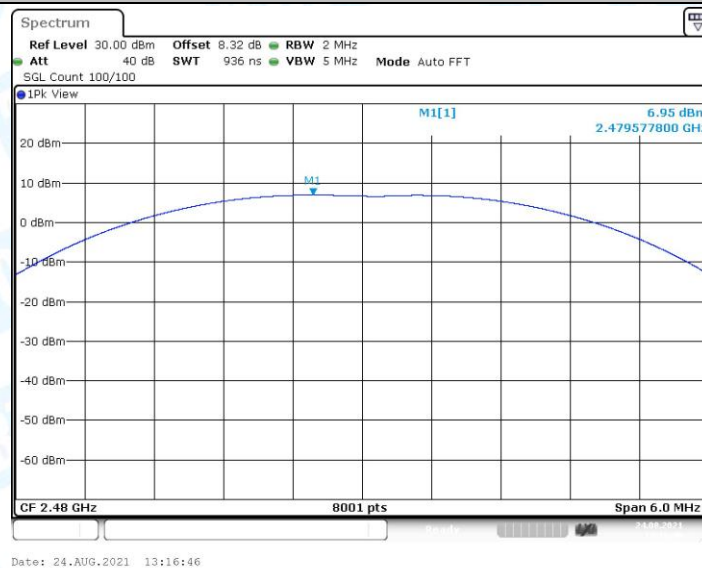
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

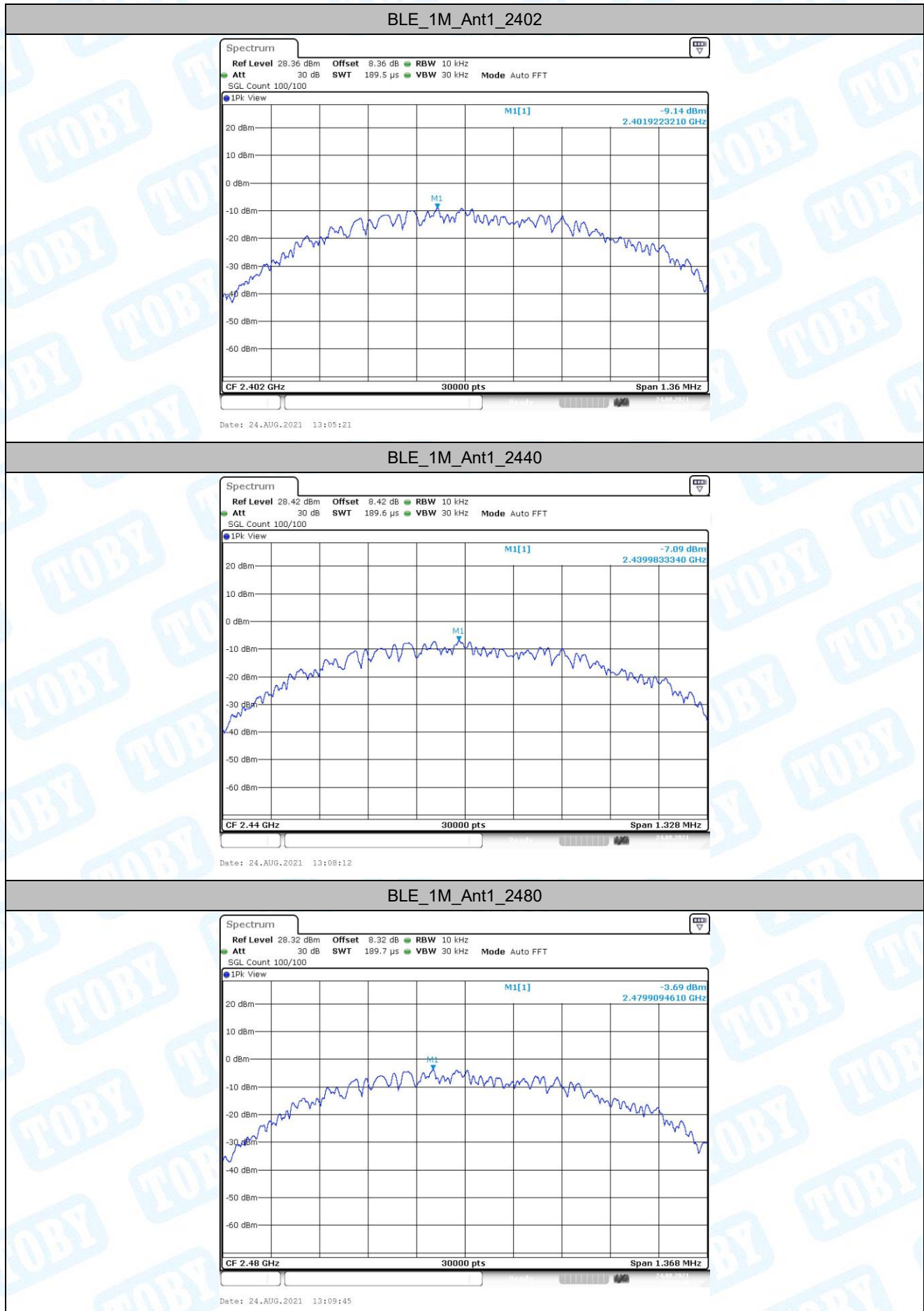


4. Maximum power spectral density

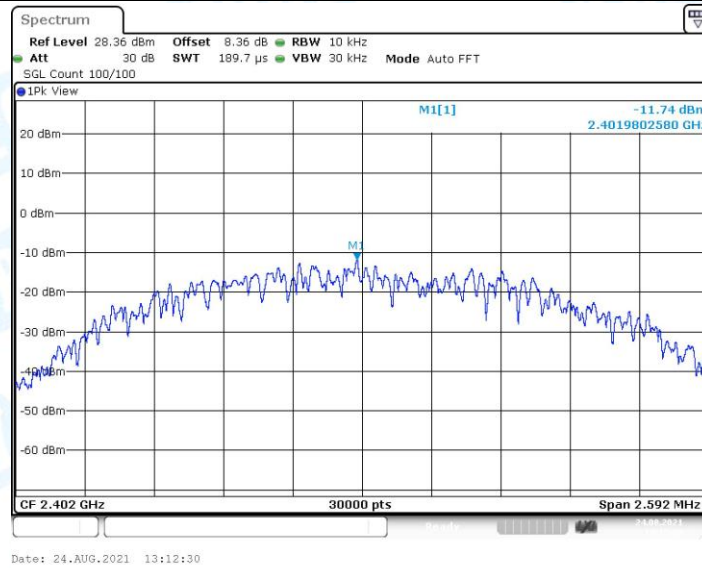
4.1. Test Result

Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-9.14	≤8	PASS
		2440	-7.09	≤8	PASS
		2480	-3.69	≤8	PASS
BLE_2M	Ant1	2402	-11.74	≤8	PASS
		2440	-9.58	≤8	PASS
		2480	-6.12	≤8	PASS

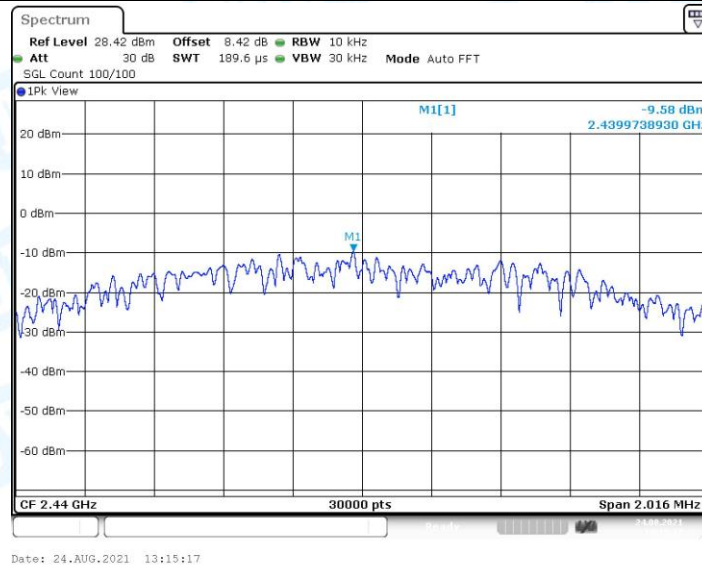
4.2. Test Graphs



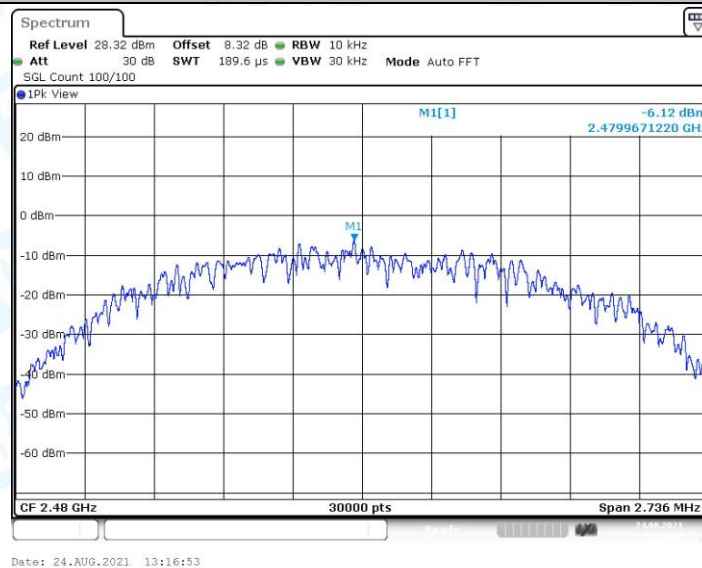
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

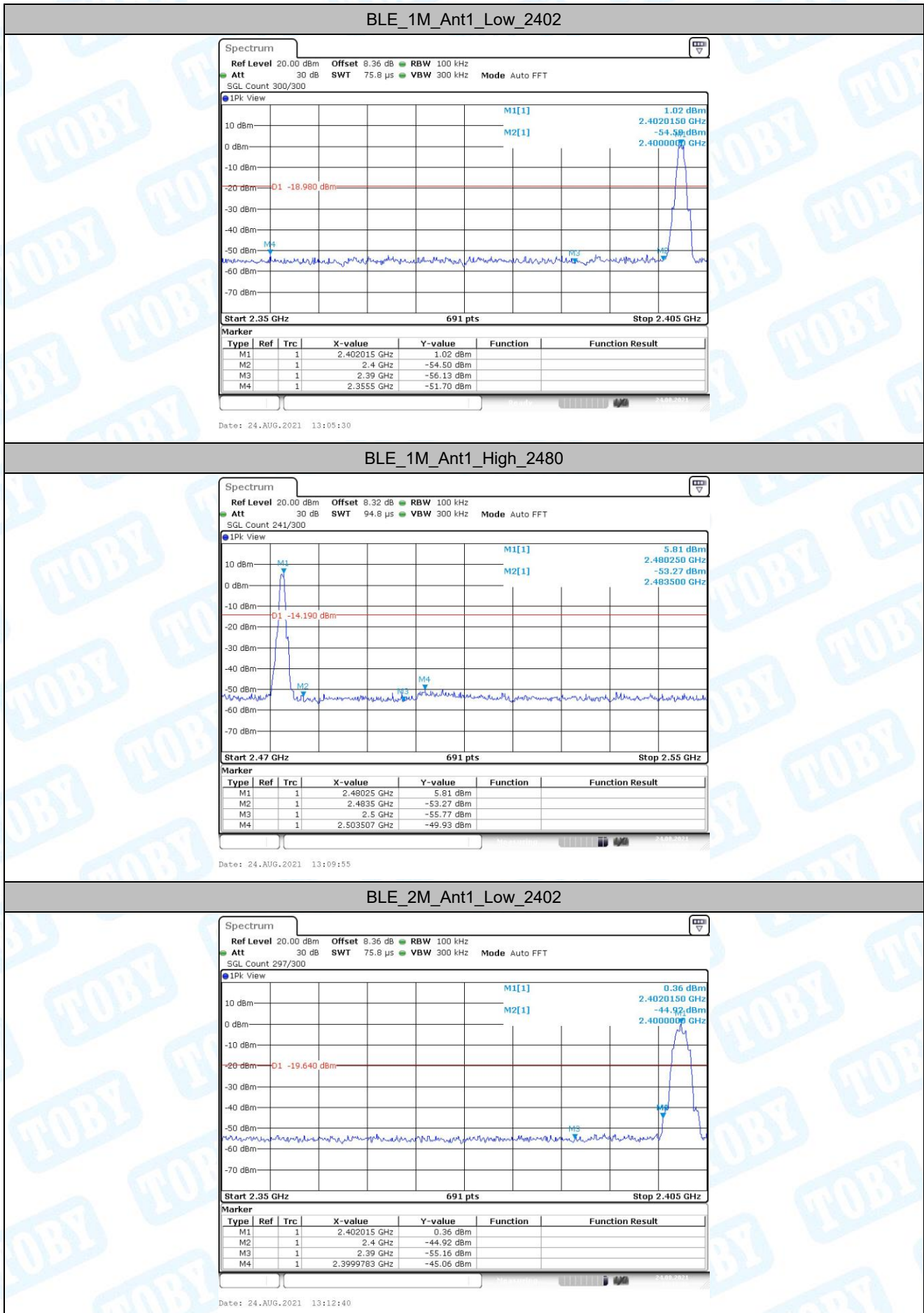


5. Band edge measurements

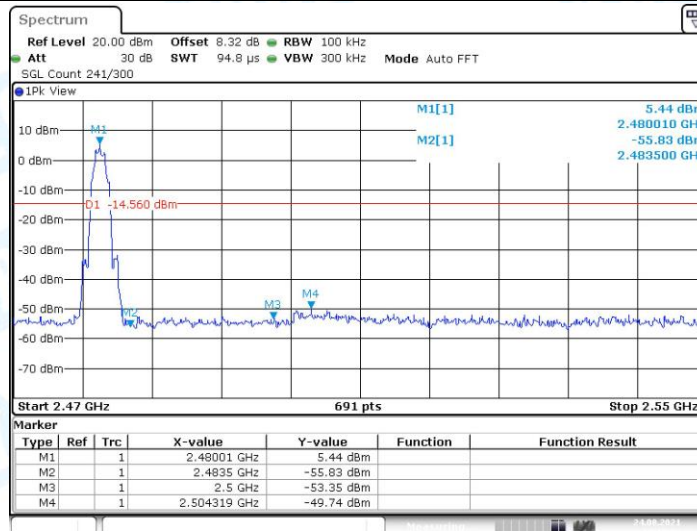
5.1. Test Result

Test Mode	Antenna	ChName	Channel	Ref.Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	1.02	-51.7	≤ -18.98	PASS
		High	2480	5.81	-49.93	≤ -14.19	PASS
BLE_2M	Ant1	Low	2402	0.36	-45.06	≤ -19.64	PASS
		High	2480	5.44	-49.74	≤ -14.56	PASS

5.2. Test Graphs



BLE_2M_Ant1_High_2480



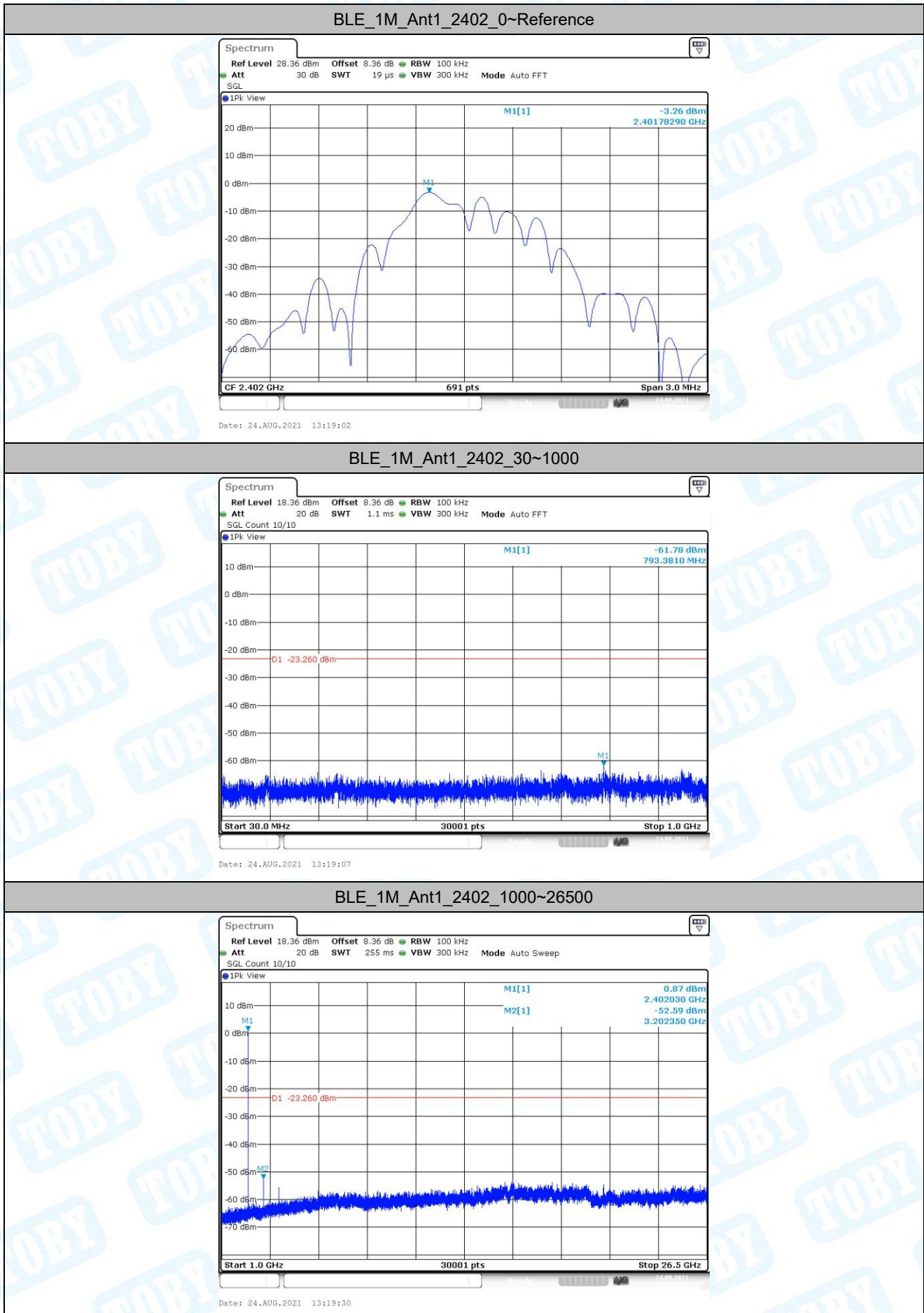
Date: 24.AUG.2021 13:17:02

6. Conducted Spurious Emission

6.1. Test Result

Test Mode	Antenna	Channel	Freq. Range [MHz]	Ref. Level [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-3.26	-3.26	---	PASS
			30~1000	-3.26	-61.78	≤-23.26	PASS
			1000~26500	-3.26	-52.59	≤-23.26	PASS
		2440	Reference	1.65	1.65	---	PASS
			30~1000	1.65	-62.16	≤-18.35	PASS
			1000~26500	1.65	-53.62	≤-18.35	PASS
		2480	Reference	2.05	2.05	---	PASS
			30~1000	2.05	-63.61	≤-17.95	PASS
			1000~26500	2.05	-52.89	≤-17.95	PASS
BLE_2M	Ant1	2402	Reference	-2.95	-2.95	---	PASS
			30~1000	-2.95	-62.91	≤-22.95	PASS
			1000~26500	-2.95	-52.16	≤-22.95	PASS
		2440	Reference	-1.98	-1.98	---	PASS
			30~1000	-1.98	-61.56	≤-21.98	PASS
			1000~26500	-1.98	-53.05	≤-21.98	PASS
		2480	Reference	0.71	0.71	---	PASS
			30~1000	0.71	-62.83	≤-19.29	PASS
			1000~26500	0.71	-53.01	≤-19.29	PASS

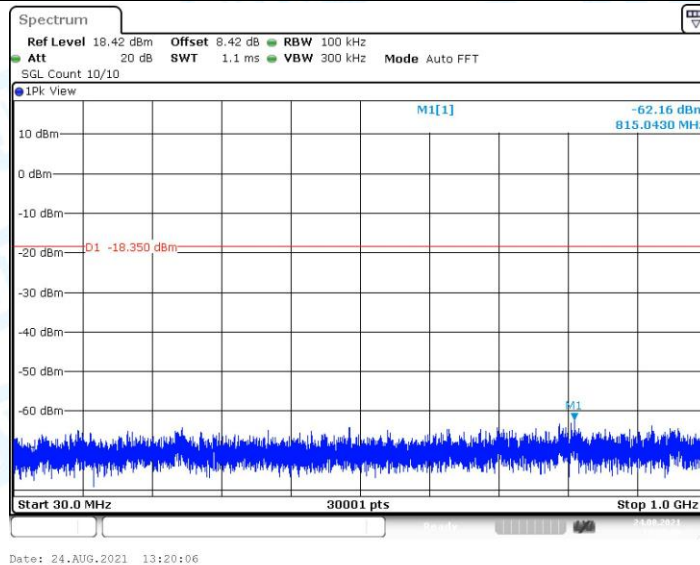
6.2. Test Graphs



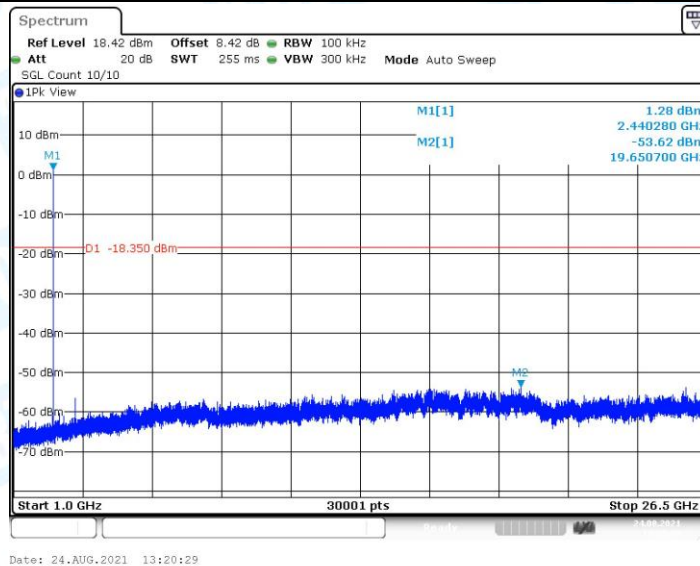
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



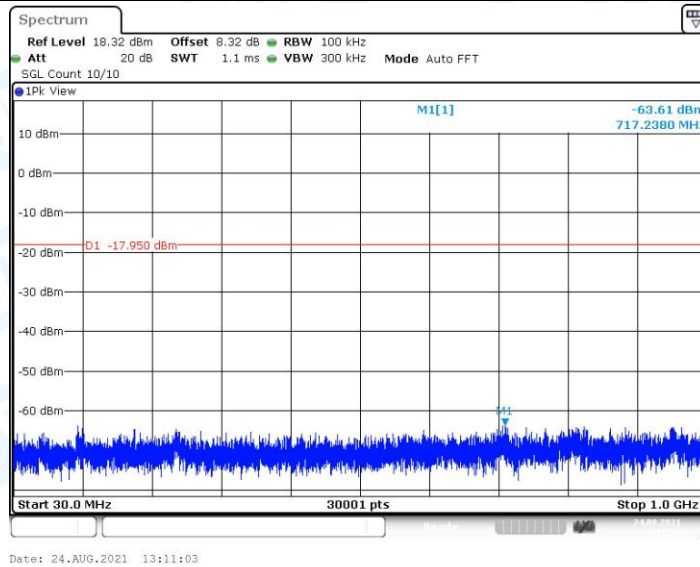
BLE_1M_Ant1_2440_1000~26500



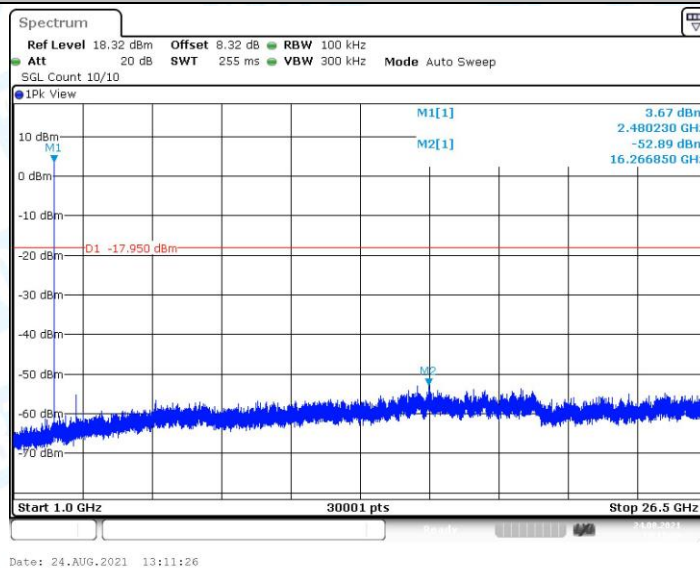
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



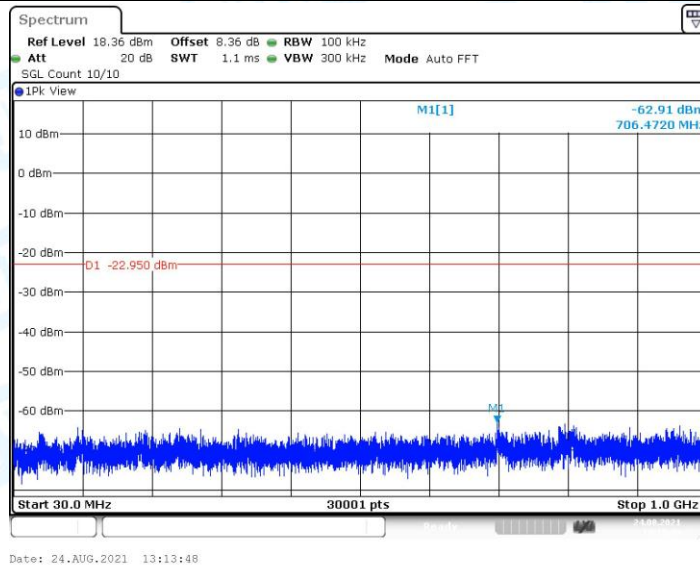
BLE_1M_Ant1_2480_1000~26500



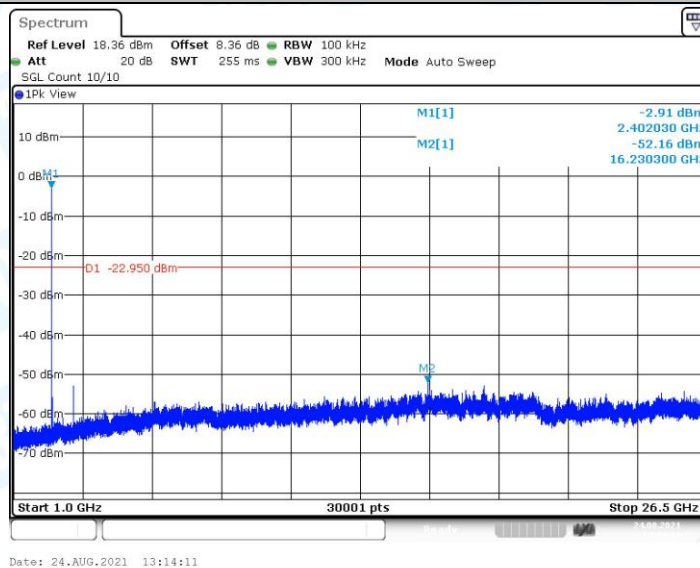
BLE_2M_Ant1_2402_0~Reference



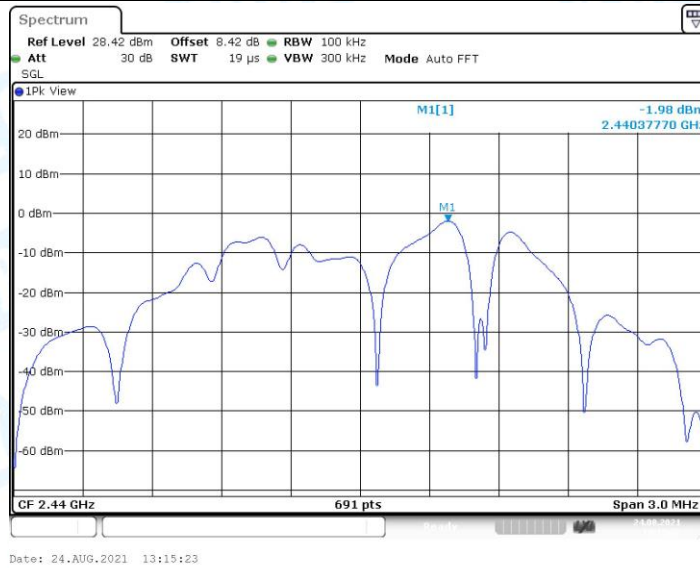
BLE_2M_Ant1_2402_30~1000



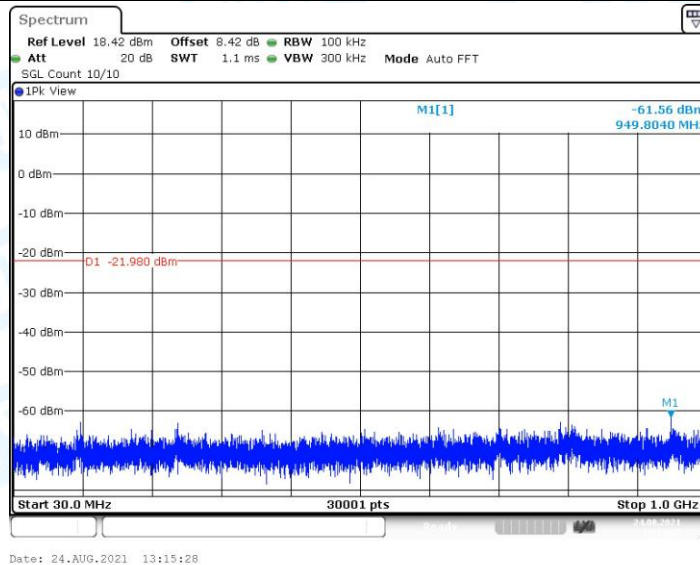
BLE_2M_Ant1_2402_1000~26500



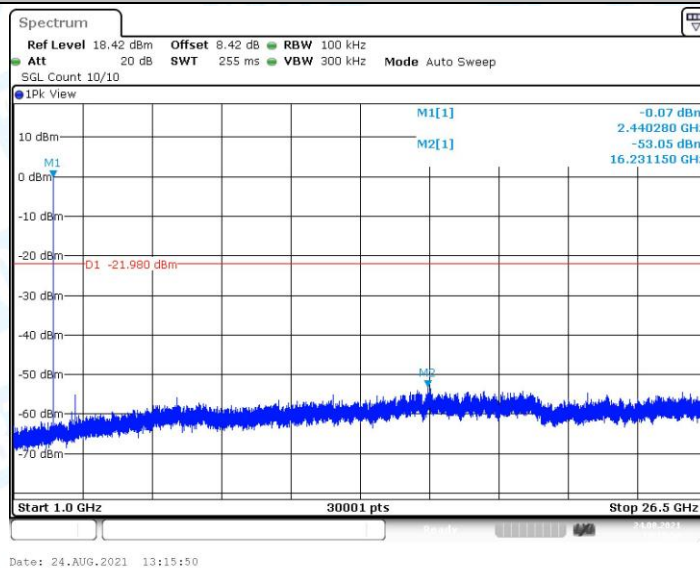
BLE_2M_Ant1_2440_0~Reference



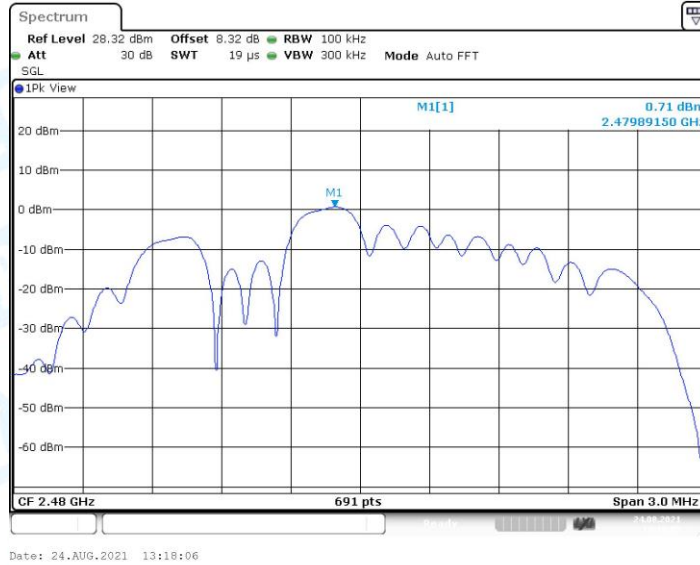
BLE_2M_Ant1_2440_30~1000



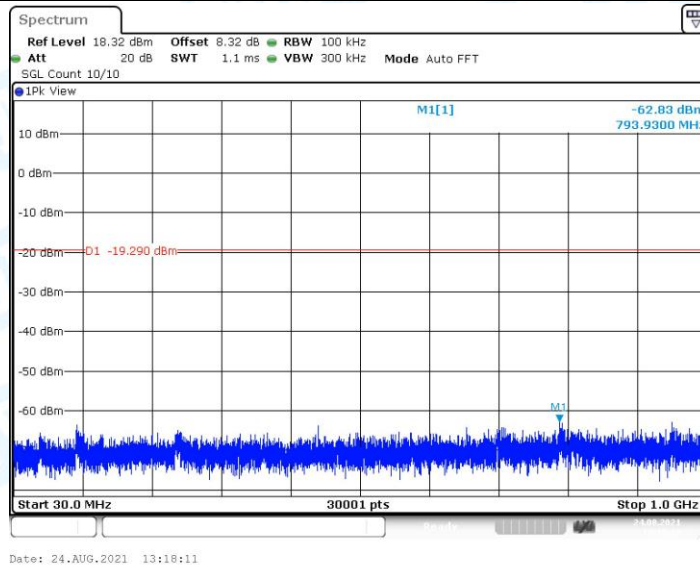
BLE_2M_Ant1_2440_1000~26500



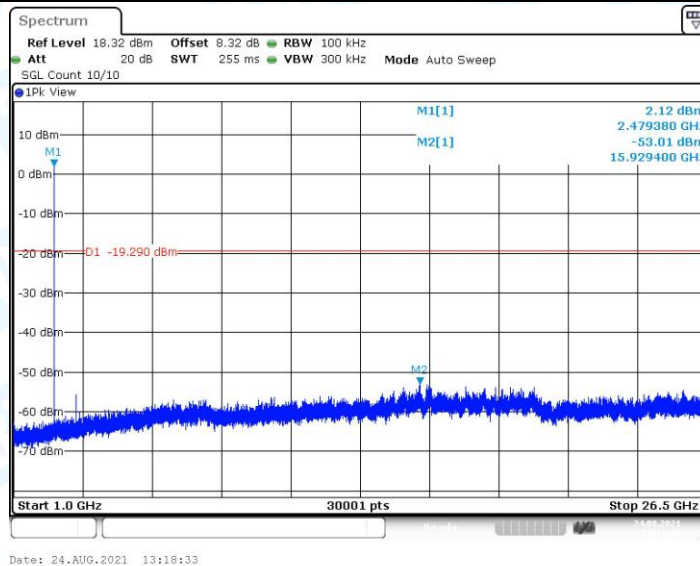
BLE_2M_Ant1_2480_0~Reference



BLE_2M_Ant1_2480_30~1000



BLE_2M_Ant1_2480_1000~26500

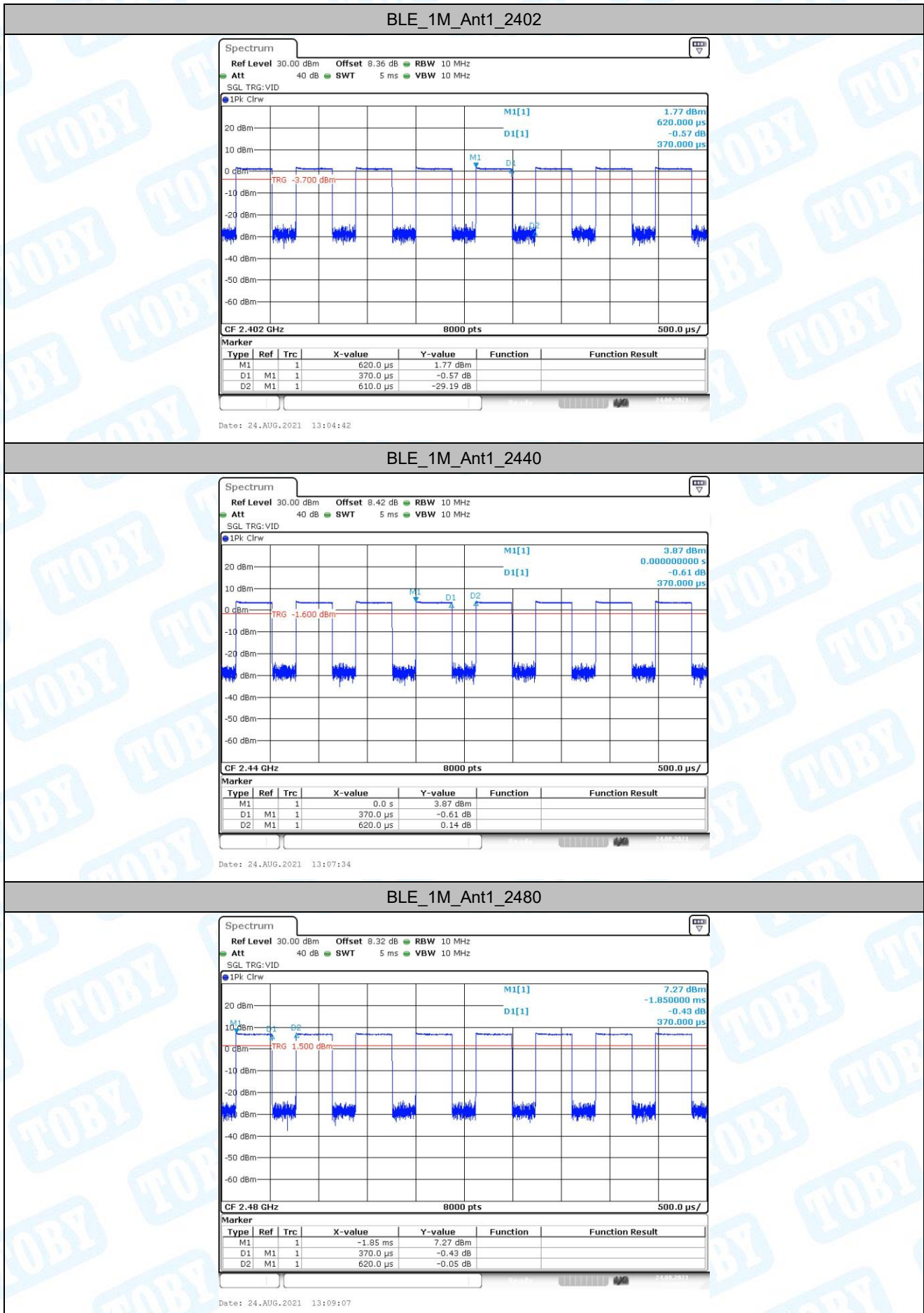


7. Duty Cycle

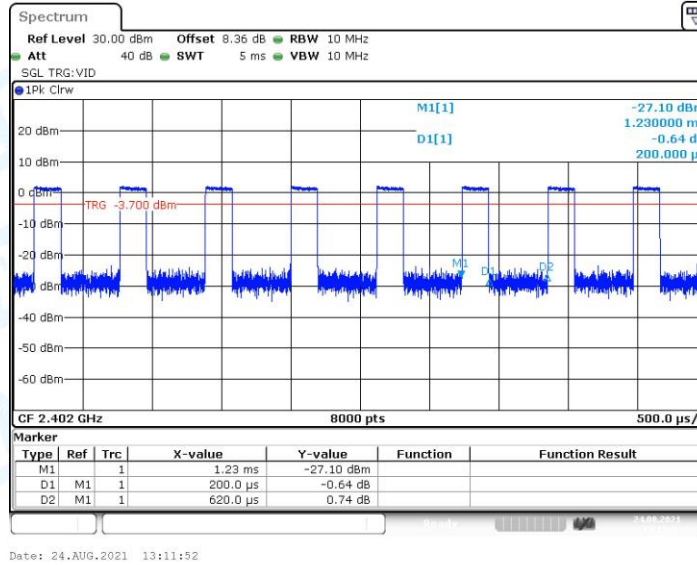
7.1. Test Result

Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T KHz	Limit	Verdict
BLE_1M	Ant1	2402	0.37	0.61	60.66	2.70	---	PASS
		2440	0.37	0.62	59.68	2.70	---	PASS
		2480	0.37	0.62	59.68	2.70	---	PASS
BLE_2M	Ant1	2402	0.20	0.62	32.26	5.00	---	PASS
		2440	0.19	0.62	30.65	5.26	---	PASS
		2480	0.19	0.62	30.65	5.26	---	PASS

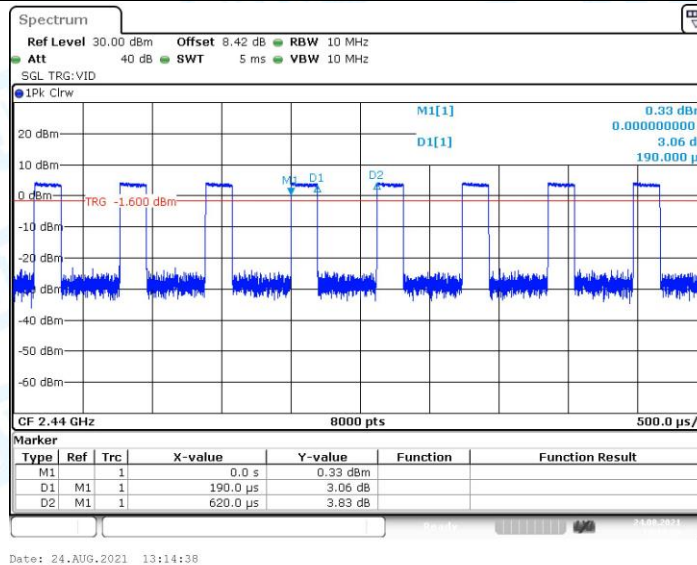
7.2. Test Graphs



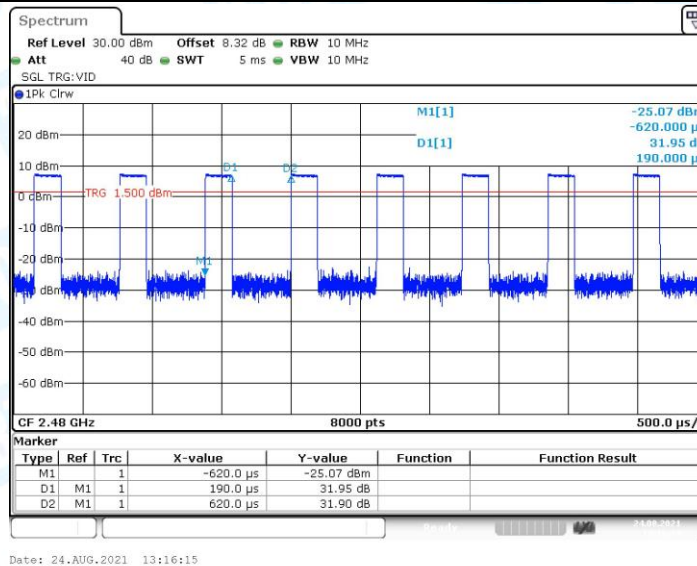
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



8. Emissions in Restricted Bands

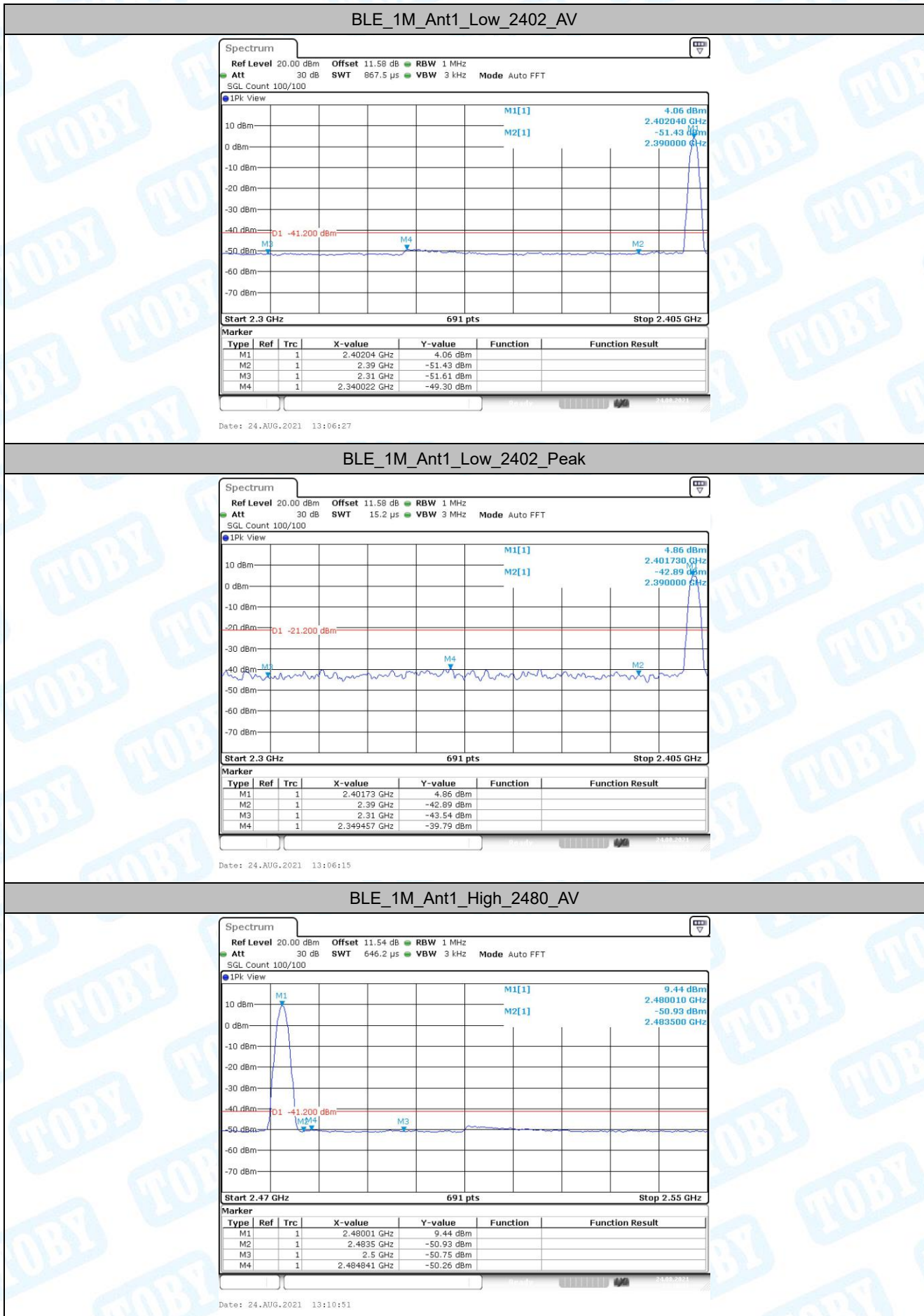
8.1. Test Result

Test Mode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-51.61	≤-41.20	PASS
				AV	2340.022	-49.3	≤-41.20	PASS
				AV	2390.000	-51.43	≤-41.20	PASS
				Peak	2310.000	-43.54	≤-21.20	PASS
				Peak	2349.457	-39.79	≤-21.20	PASS
				Peak	2390.000	-42.89	≤-21.20	PASS
		High	2480	AV	2483.500	-50.93	≤-41.20	PASS
				AV	2484.841	-50.26	≤-41.20	PASS
				AV	2500.000	-50.75	≤-41.20	PASS
				Peak	2483.500	-41.62	≤-21.20	PASS
				Peak	2491.565	-40.54	≤-21.20	PASS
				Peak	2500.000	-43.32	≤-21.20	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-51.51	≤-41.20	PASS
				AV	2341.087	-48.65	≤-41.20	PASS
				AV	2390.000	-50.98	≤-41.20	PASS
				Peak	2310.000	-42.37	≤-21.20	PASS
				Peak	2340.326	-38.25	≤-21.20	PASS
				Peak	2390.000	-42.94	≤-21.20	PASS
		High	2480	AV	2483.500	-49.56	≤-41.20	PASS
				AV	2483.797	-48.68	≤-41.20	PASS
				AV	2500.000	-49.67	≤-41.20	PASS
				Peak	2483.500	-43.35	≤-21.20	PASS
				Peak	2499.101	-40.01	≤-21.20	PASS
				Peak	2500.000	-42.17	≤-21.20	PASS

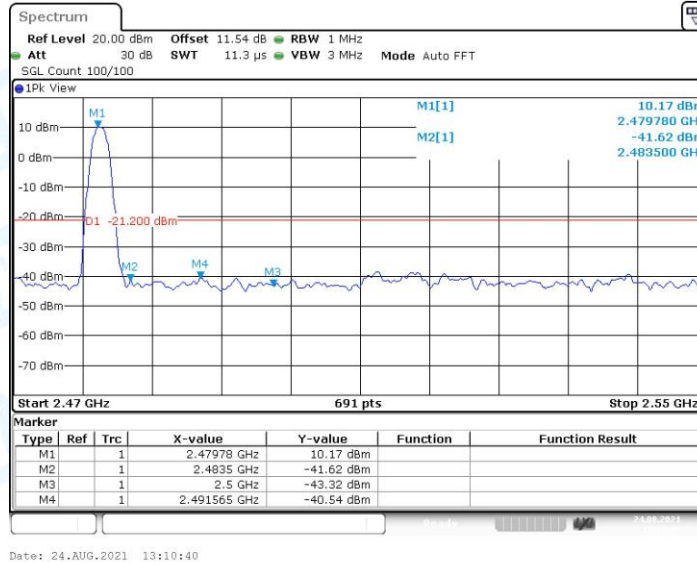
Note:

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.

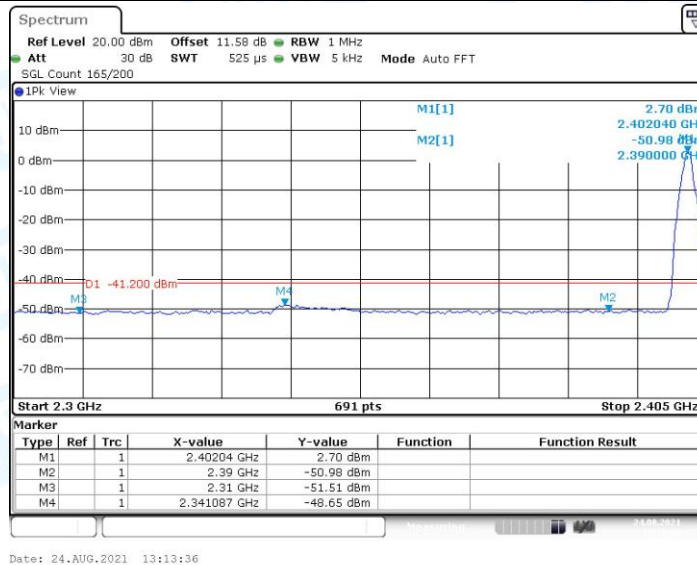
8.2.Test Graphs



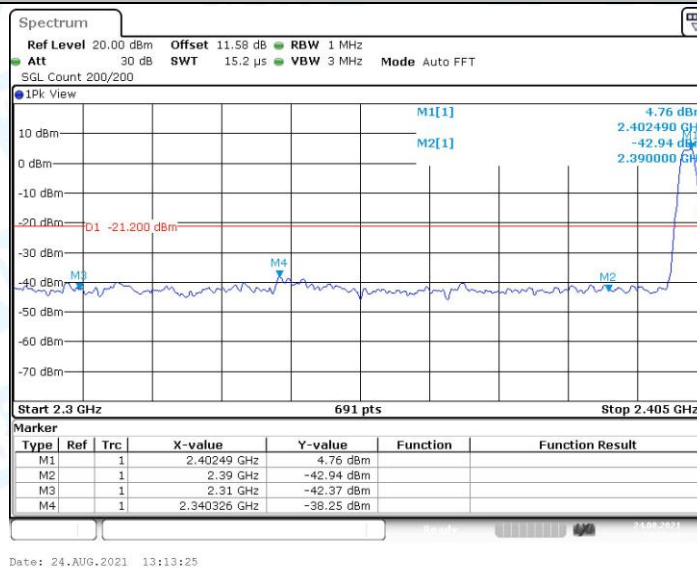
BLE_1M_Ant1_High_2480_Peak



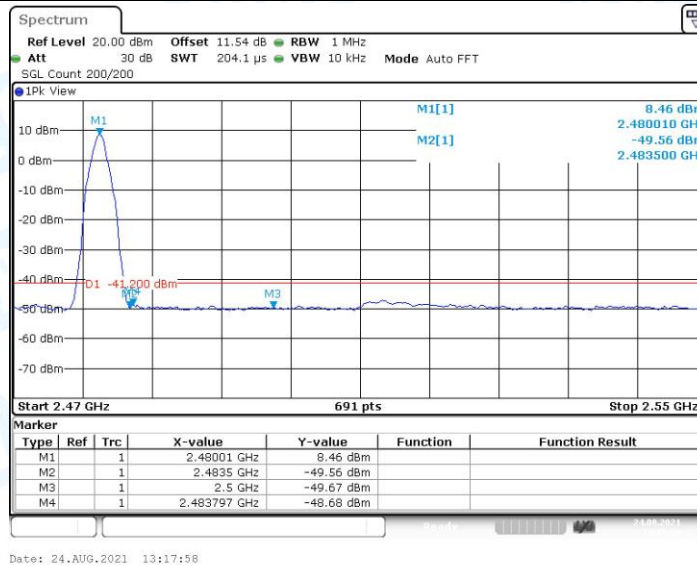
BLE_2M_Ant1_Low_2402_AV



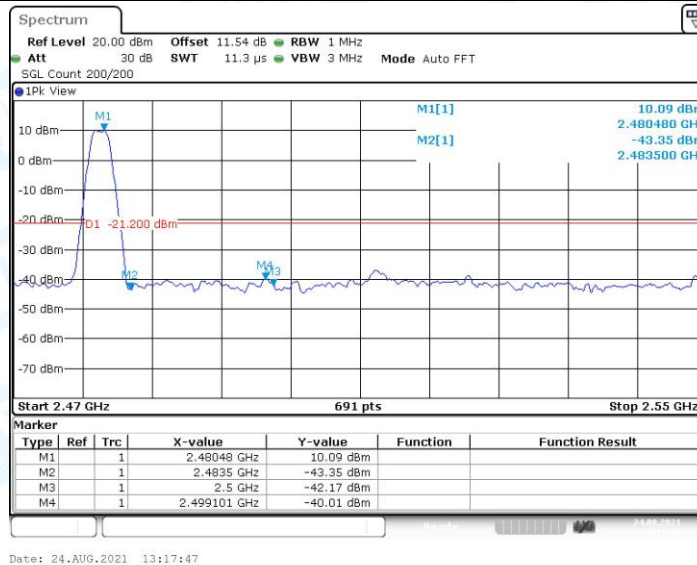
BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV



BLE_2M_Ant1_High_2480_Peak



-----End of the report-----