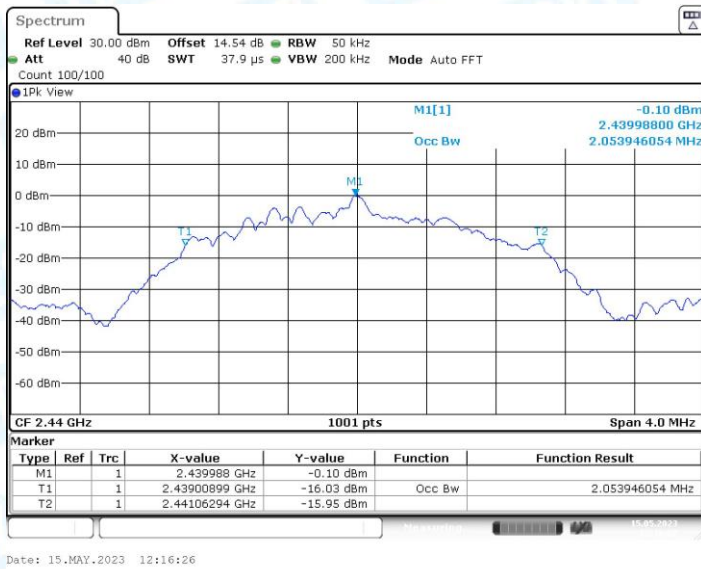


OCB-BLE_2M_2402



OCB-BLE_2M_2440



OCB-BLE_2M_2480



9. Peak Output Power

9.1 Test Standard and Limit

9.1.1 Test Standard

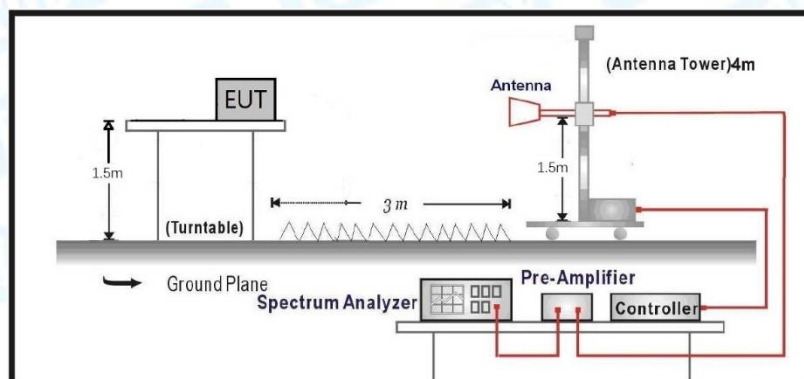
RSS 247 5.4

FCC Part 15.247(b)(3)

9.1.2 Test Limit

Test Item	Limit	Frequency Range(MHz)
Peak Output Power	not exceed 1 W or 30dBm	2400~2483.5
E.I.R.P	not exceed 4 W or 36dBm	

9.2 Test Setup



9.3 Test Procedure

---RBW \geq DTS bandwidth

● The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

- Set the RBW \geq DTS bandwidth.
- Set VBW \geq [3*RBW].
- Set span \geq [3*RBW].
- Sweep time = auto couple.
- Detector = peak.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use peak marker function to determine the peak amplitude level.

9.4 Deviation From Test Standard

No deviation

9.5 EUT Operating Mode

Please refer to the description of test mode.

9.6 Test Data

Please refer to the following pages.



---Peak Output Power (Radiation Measurements)

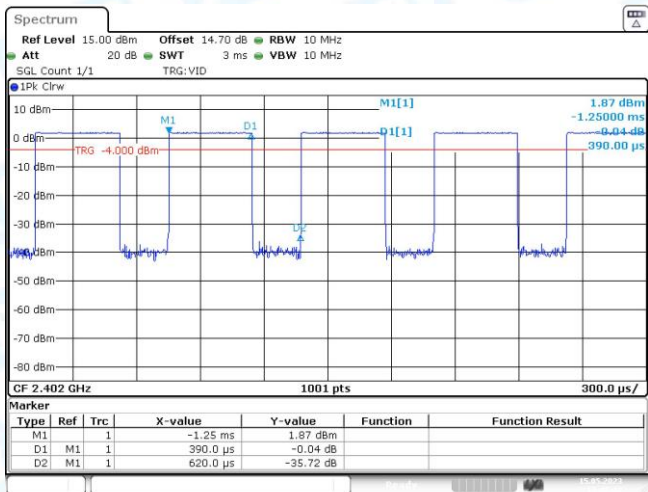
Duty Cycle					
Test Mode	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T [kHz]
BLE_1M	2402	0.39	0.62	62.90	2.56
	2440	0.39	0.62	62.90	2.56
	2480	0.39	0.62	62.90	2.56
BLE_2M	2402	0.21	0.62	33.87	4.76
	2440	0.21	0.62	33.87	4.76
	2480	0.21	0.62	33.87	4.76

Note: 1/T=1/(Transmission Duration)

Test Mode	Channel	EIRP [dBm]	Gain [dBi]	Conducted power [dBm]	Limit[dBm]	Verdict
BLE_1M	2402	2.09	0.85	1.24	≤30	PASS
	2440	2.44	0.85	1.59	≤30	PASS
	2480	2.09	0.85	1.24	≤30	PASS
BLE_2M	2402	1.73	0.85	0.88	≤30	PASS
	2440	2.21	0.85	1.36	≤30	PASS
	2480	2.11	0.85	1.26	≤30	PASS

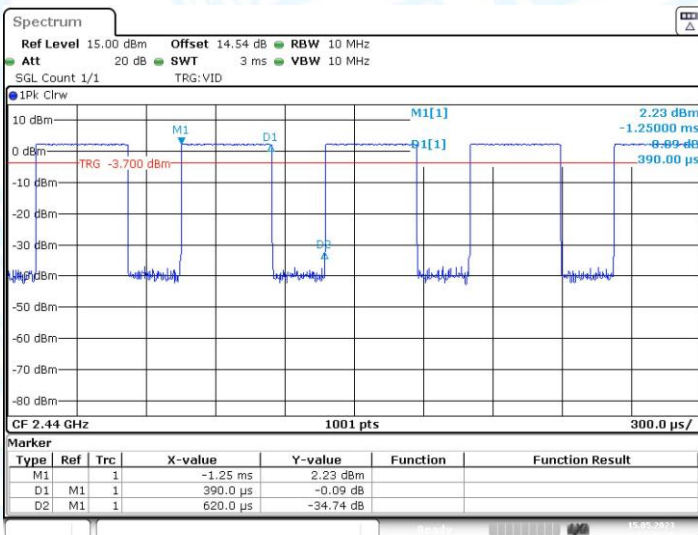
Note: Conducted Power=EIRP-Gain





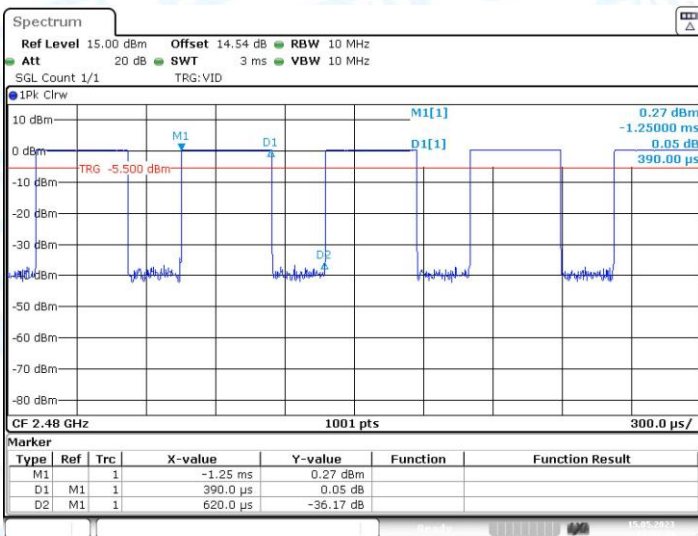
Date: 15.MAY.2023 11:47:42

BLE_1M_2402



Date: 15.MAY.2023 11:49:35

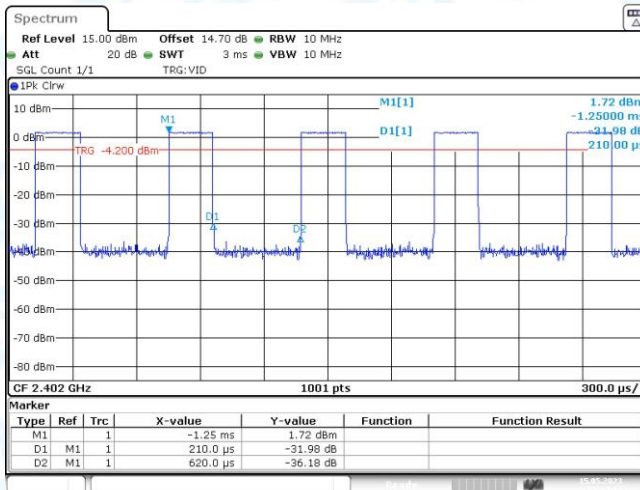
BLE_1M_2440



Date: 15.MAY.2023 11:55:34

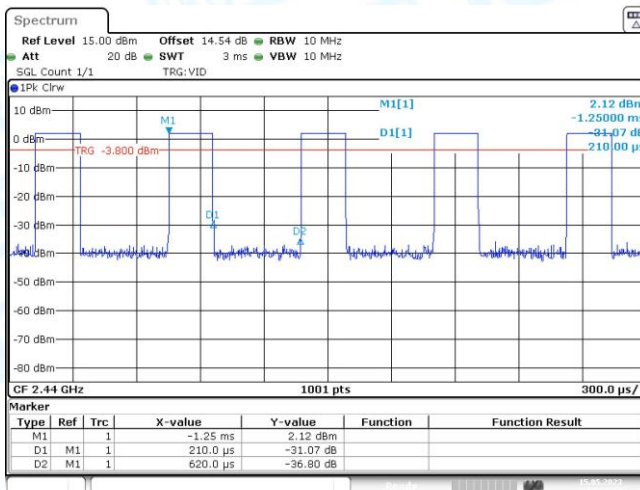


BLE_1M_2480



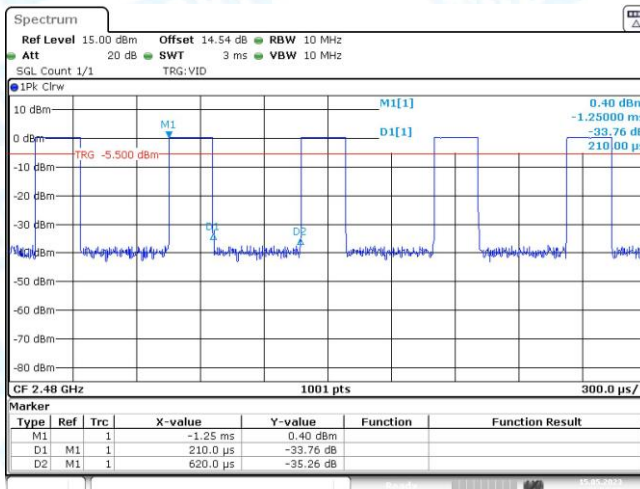
Date: 15.MAY.2023 12:14:43

BLE_2M_2402



Date: 15.MAY.2023 12:16:09

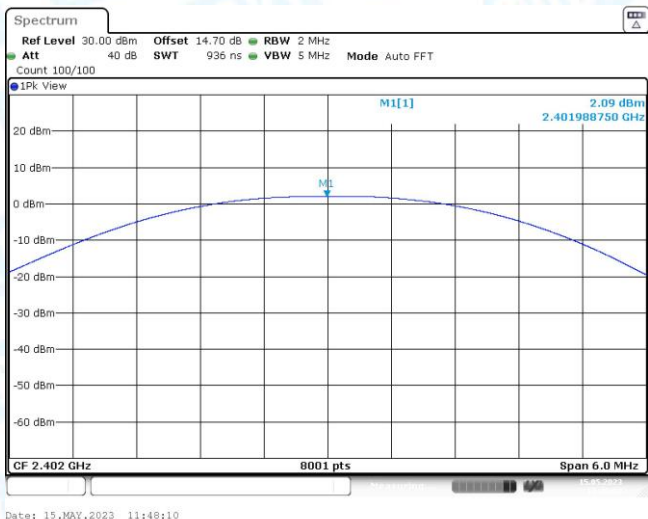
BLE_2M_2440



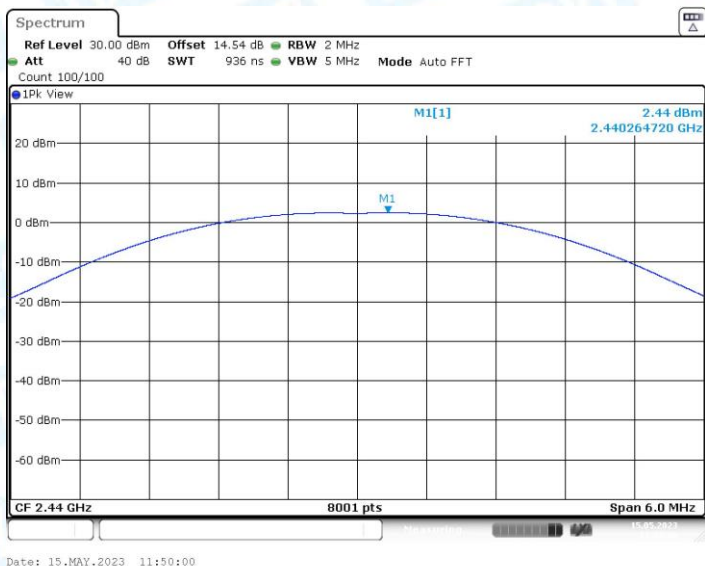
Date: 15.MAY.2023 11:58:52

BLE_2M_2480

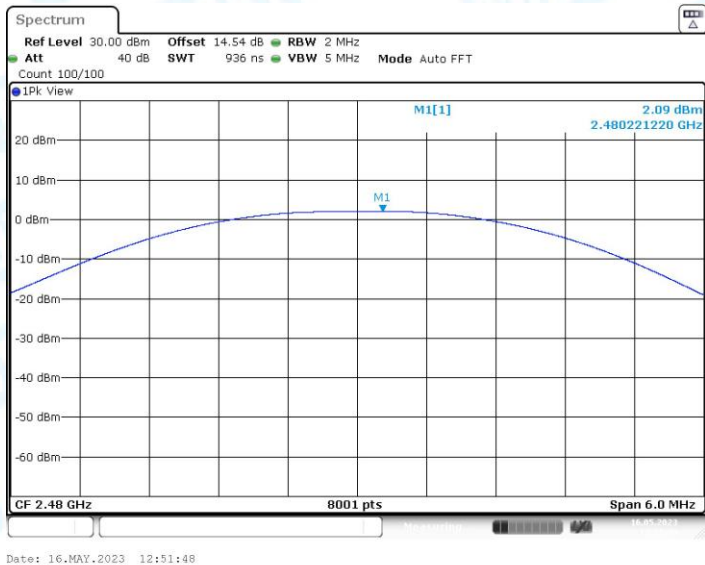




BLE_1M_2402

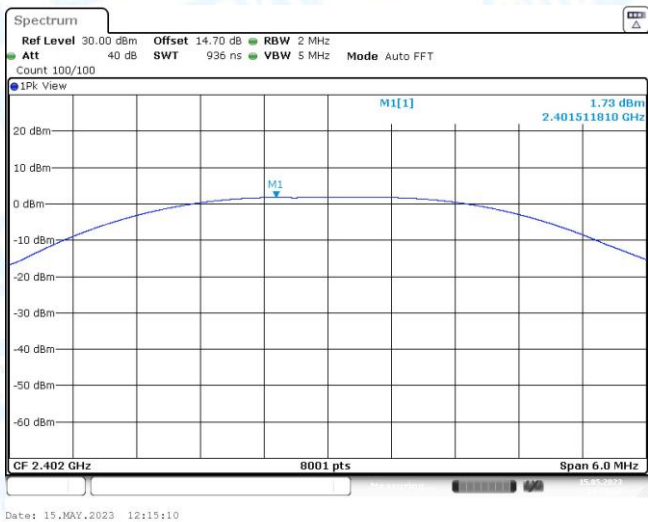


BLE_1M_2440

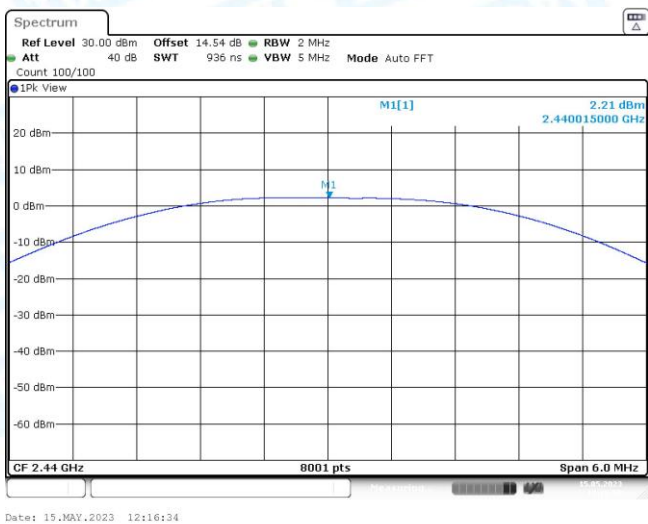


BLE_1M_2480

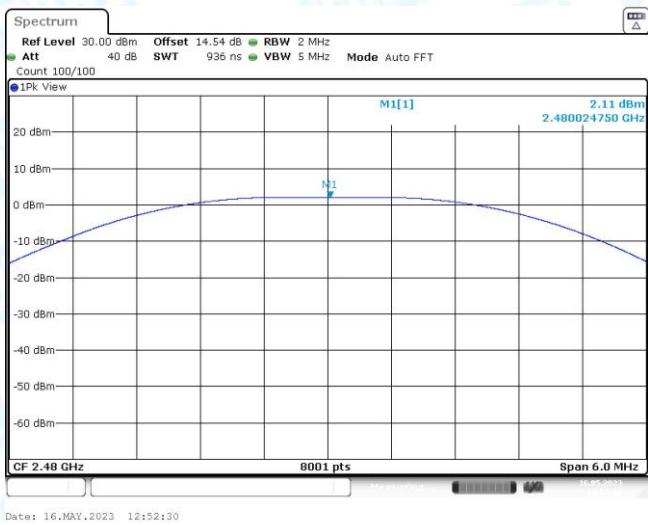




BLE_2M_2402



BLE_2M_2440



BLE_2M_2480



10. Power Spectral Density

10.1 Test Standard and Limit

10.1.1 Test Standard

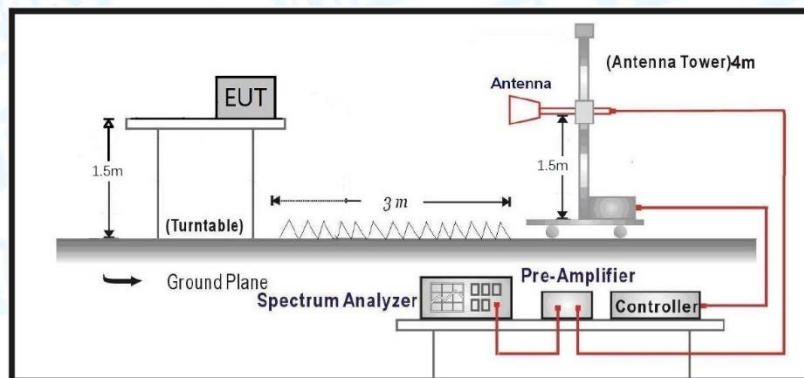
RSS 247 5.2(b)

FCC Part 15.247(e)

10.1.2 Test Limit

Test Item	Limit	Frequency Range(MHz)
Power Spectral Density	8dBm(in any 3 kHz)	2400~2483.5

10.2 Test Setup



10.3 Test Procedure

● The following procedure shall be used if maximum peak conducted output power was used to determine compliance, and it is optional if the maximum conducted (average) output power was used to determine compliance:

- Set analyzer center frequency to DTS channel center frequency.
- Set the span to 1.5 times the DTS bandwidth.
- Set the RBW to $3\text{ kHz} \leq \text{RBW} \leq 100\text{ kHz}$.
- Set the VBW $\geq [3 * \text{RBW}]$.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level within the RBW.
- If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

10.4 Deviation From Test Standard

No deviation

10.5 Antenna Connected Construction

Please refer to the description of test mode.

10.6 Test Data

Please refer to the following pages.

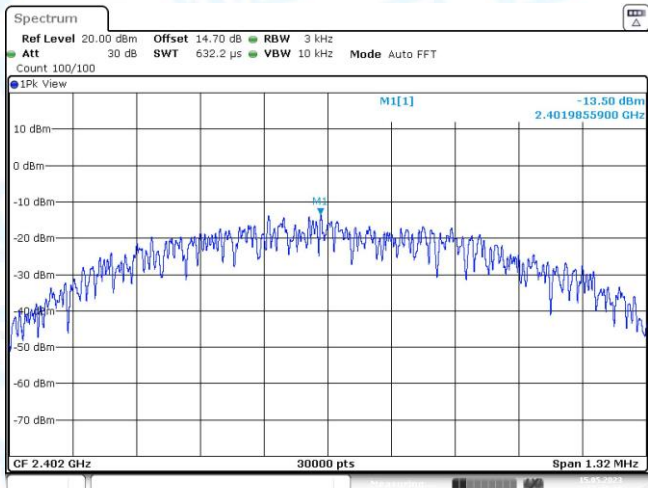


---Power Spectral Density (Radiation Measurements)

Test Mode	Channel	E.I.R.P PSD[dBm/3kHz]	Gain [dBi]	Conducted PSD[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	2402	-13.5	0.85	-14.35	≤8.00	PASS
	2440	-12.06	0.85	-12.91	≤8.00	PASS
	2480	-13.46	0.85	-14.31	≤8.00	PASS
BLE_2M	2402	-16.12	0.85	-16.97	≤8.00	PASS
	2440	-15.72	0.85	-16.57	≤8.00	PASS
	2480	-16.43	0.85	-17.28	≤8.00	PASS

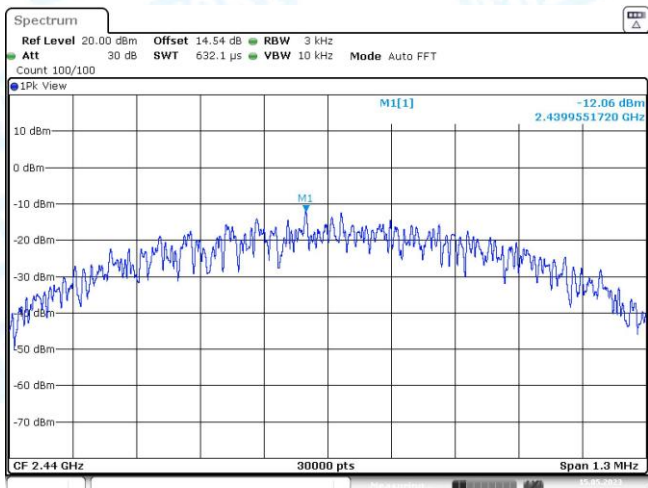
Note: Conducted PSD=E.I.R.P. PSD-Gain





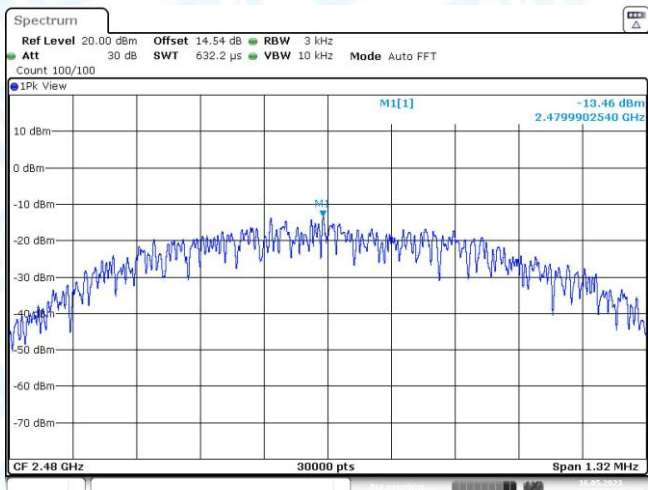
Date: 15.MAY.2023 11:48:20

BLE_1M_2402



Date: 15.MAY.2023 11:50:10

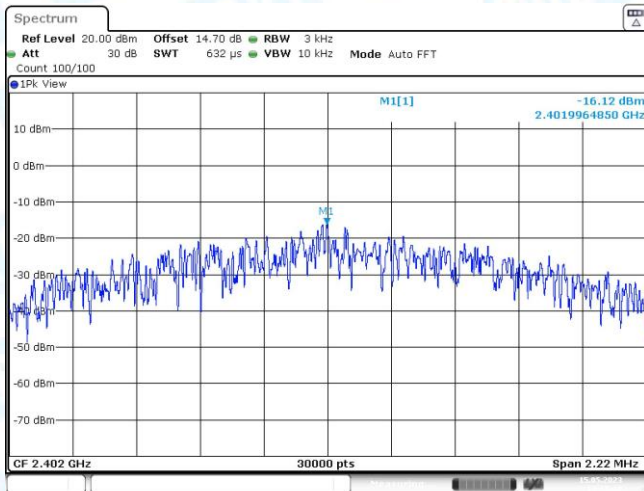
BLE_1M_2440



Date: 16.MAY.2023 12:51:58

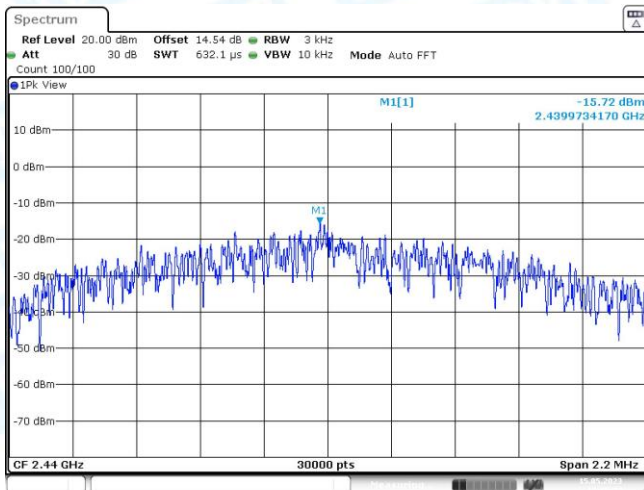
BLE_1M_2480





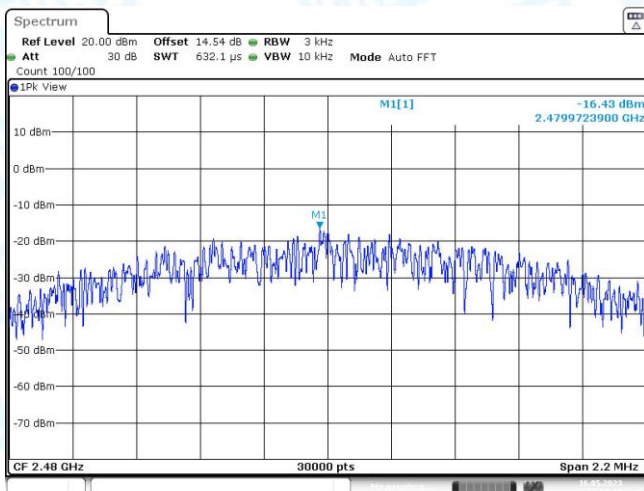
Date: 15.MAY.2023 12:15:20

BLE_2M_2402



Date: 15.MAY.2023 12:16:44

BLE_2M_2440



Date: 16.MAY.2023 12:52:40

BLE_2M_2480



11. Antenna Requirement

11.1 Test Standard and Limit

11.1.1 Test Standard

RSS 247 6.8

FCC Part 15.203

11.1.2 Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

11.2 Deviation From Test Standard

No deviation

11.3 Antenna Connected Construction

The gains of the antenna used for transmitting is 0.85dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

11.4 Test Data

The EUT antenna is a PCB Antenna. It complies with the standard requirement.

Antenna Type
<input checked="" type="checkbox"/> Permanent attached antenna
<input type="checkbox"/> Unique connector antenna
<input type="checkbox"/> Professional installation antenna

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

