

RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
EUT Name:	Busy Bar
Model:	BB.1
Sample ID:	HC-C-202505-0207-01-01-2#
Test Standard:	FCC Part 15.247&RSS 247 Issue 4
Environmental Conditions	
Ambient Temperature:	25°C
Ambient Humidity:	45%RH
Test Power Supply:	DC 3.6V
Test Engineer:	Rick. chen
Note: For a more detailed features description, please refer to the report TBR-C-202505-0207-22	

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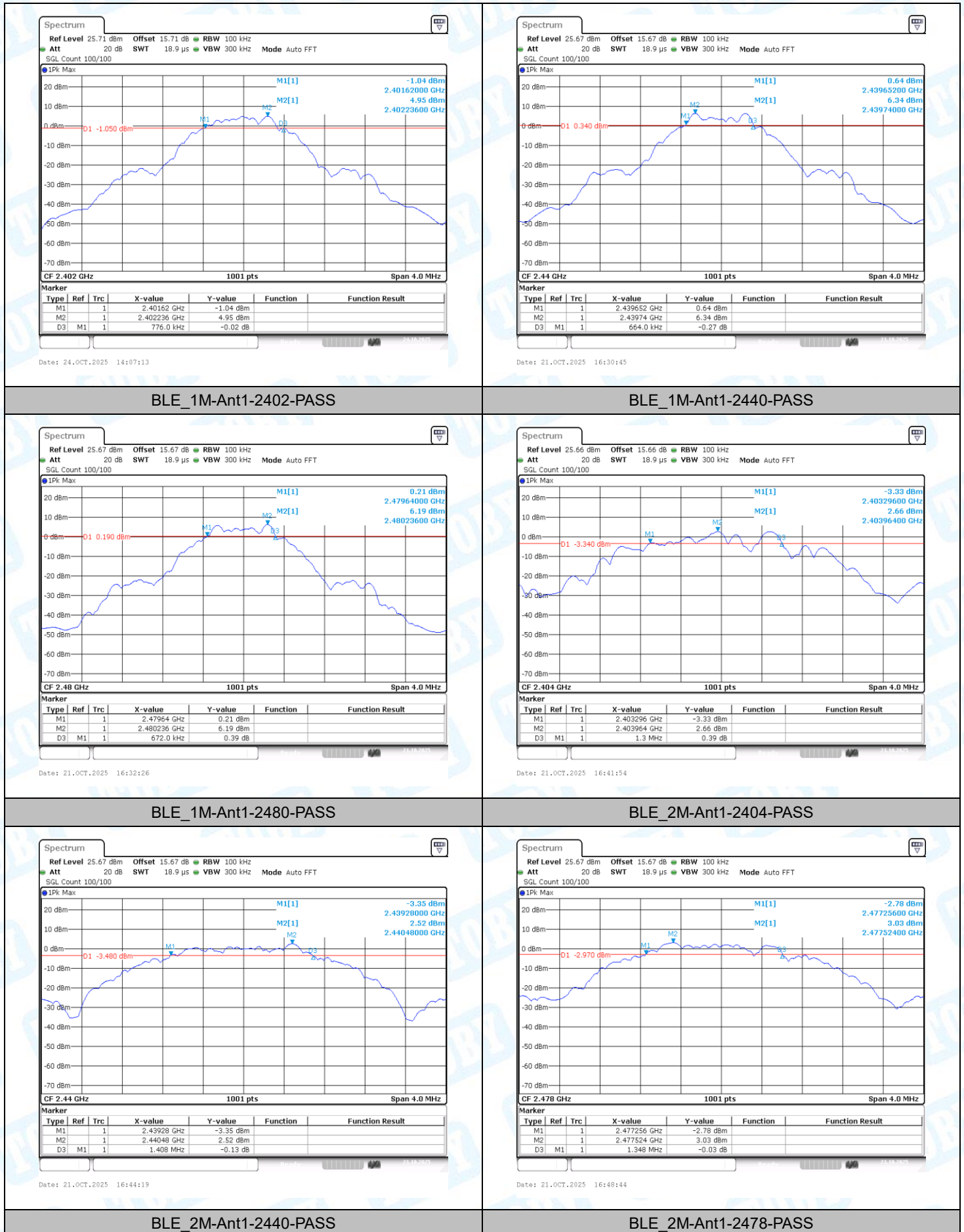
1: DTS Bandwidth

1.1 Test Result

Test Mode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.78	2401.62	2402.40	0.5	PASS
BLE_1M	Ant1	2440	0.66	2439.65	2440.32	0.5	PASS
BLE_1M	Ant1	2480	0.67	2479.64	2480.31	0.5	PASS
BLE_2M	Ant1	2404	1.30	2403.30	2404.60	0.5	PASS
BLE_2M	Ant1	2440	1.41	2439.28	2440.69	0.5	PASS
BLE_2M	Ant1	2478	1.35	2477.26	2478.60	0.5	PASS

Note: RF Conducted test Offset= cable loss+ Attenuator(3dB).

1.2 Test Graphs



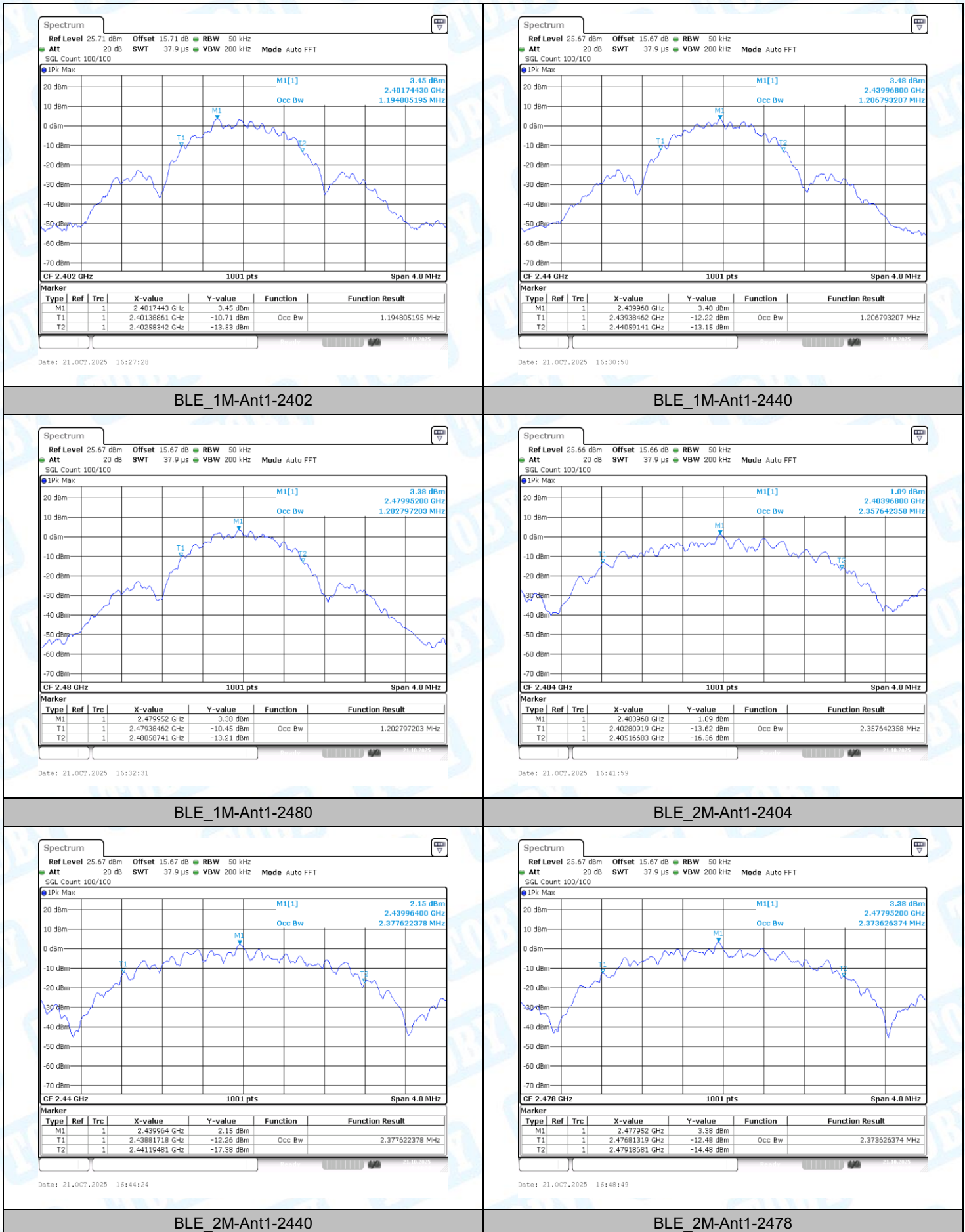
2: Occupied Channel Bandwidth

2.1 Test Result

Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.1948	2401.3886	2402.5834	---	---
BLE_1M	Ant1	2440	1.2068	2439.3846	2440.5914	---	---
BLE_1M	Ant1	2480	1.2028	2479.3846	2480.5874	---	---
BLE_2M	Ant1	2404	2.3576	2402.8092	2405.1668	---	---
BLE_2M	Ant1	2440	2.3776	2438.8172	2441.1948	---	---
BLE_2M	Ant1	2478	2.3736	2476.8132	2479.1868	---	---

Note: RF Conducted test Offset= cable loss+ Attenuator(3dB).

2.2 Test Graphs



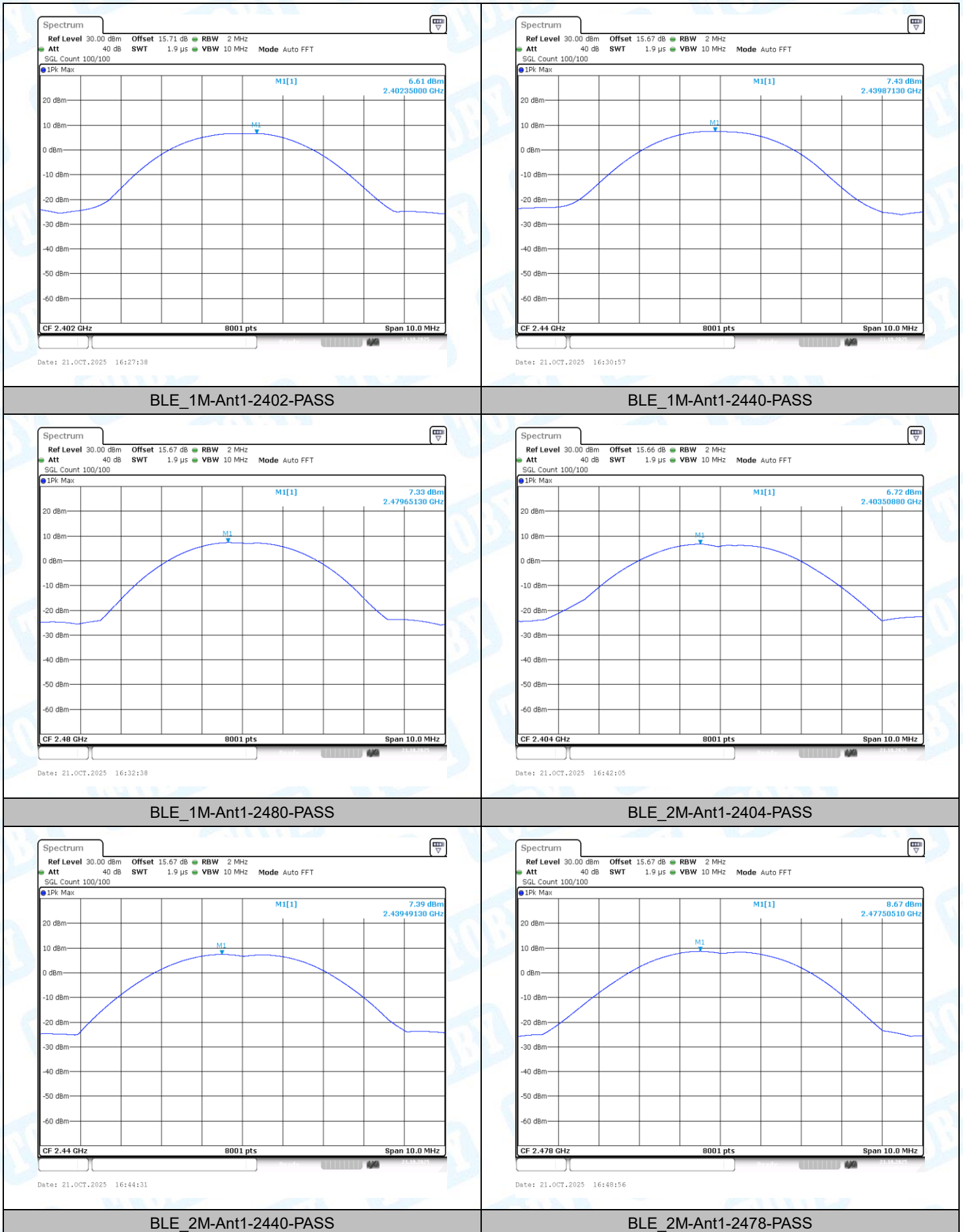
3: Maximum conducted output power

3.1 Test Result Peak

Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Gain [dBi]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
BLE_1M	Ant1	2402	6.61	≤30	1.50	8.11	≤36	PASS
BLE_1M	Ant1	2440	7.43	≤30	1.50	8.93	≤36	PASS
BLE_1M	Ant1	2480	7.33	≤30	1.50	8.83	≤36	PASS
BLE_2M	Ant1	2404	6.72	≤30	1.50	8.22	≤36	PASS
BLE_2M	Ant1	2440	7.39	≤30	1.50	8.89	≤36	PASS
BLE_2M	Ant1	2478	8.67	≤30	1.50	10.17	≤36	PASS

Note: RF Conducted test Offset= cable loss+ Attenuator(3dB).

3.2 Test Graphs Peak



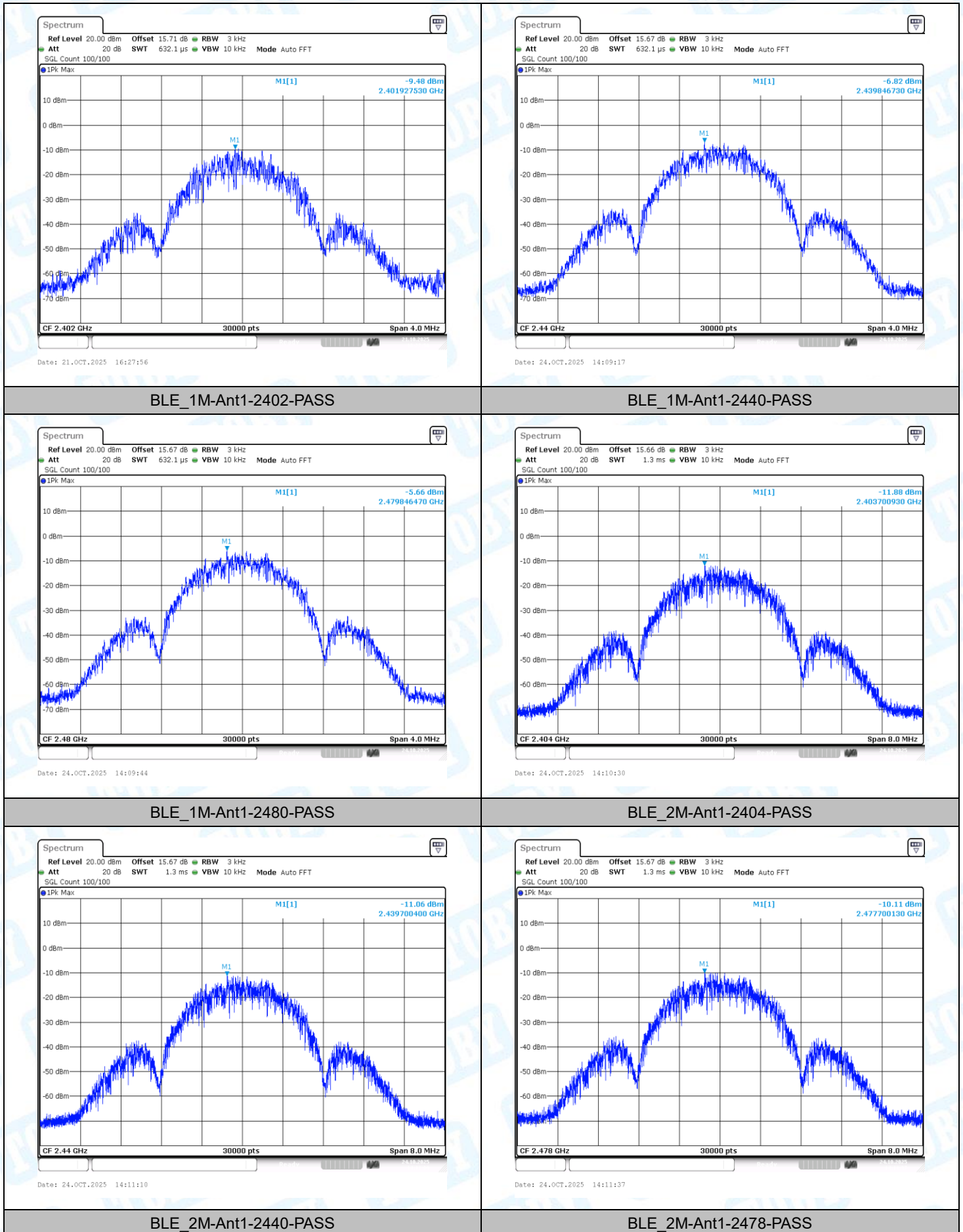
4: Maximum power spectral density

4.1 Test Result

Test Mode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-9.48	≤8.00	PASS
BLE_1M	Ant1	2440	-6.82	≤8.00	PASS
BLE_1M	Ant1	2480	-5.66	≤8.00	PASS
BLE_2M	Ant1	2404	-11.88	≤8.00	PASS
BLE_2M	Ant1	2440	-11.06	≤8.00	PASS
BLE_2M	Ant1	2478	-10.11	≤8.00	PASS

Note: RF Conducted test Offset= cable loss+ Attenuator(3dB).

4.2 Test Graphs



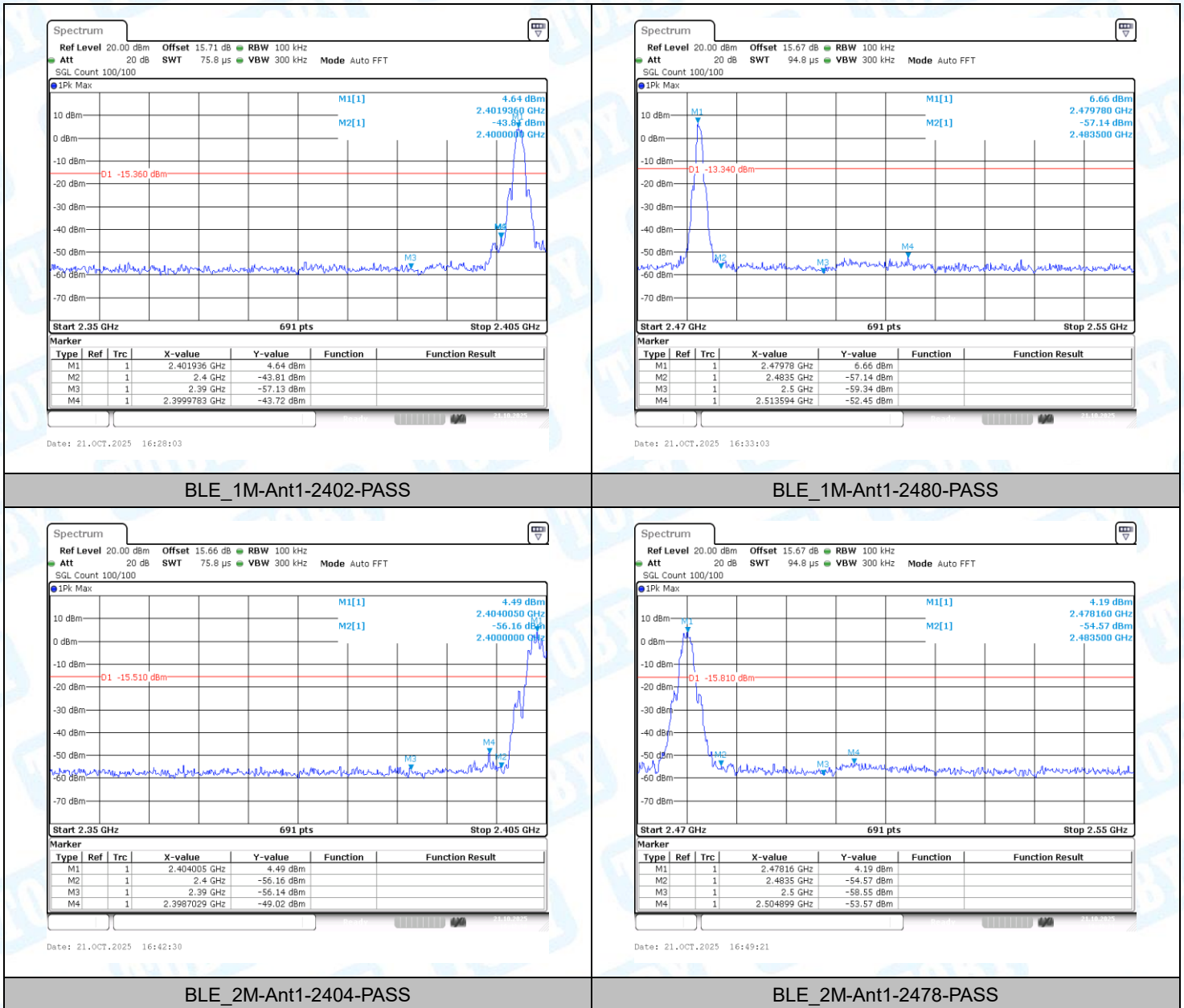
5: Band edge measurements

5.1 Test Result

Test Mode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	4.64	-43.72	≤-15.36	PASS
BLE_1M	Ant1	High	2480	6.66	-52.45	≤-13.34	PASS
BLE_2M	Ant1	Low	2404	4.49	-49.02	≤-15.51	PASS
BLE_2M	Ant1	High	2478	4.19	-53.57	≤-15.81	PASS

Note: RF Conducted test Offset= cable loss+ Attenuator(3dB).

5.2 Test Graphs



6: Conducted Spurious Emission

6.1 Test Result

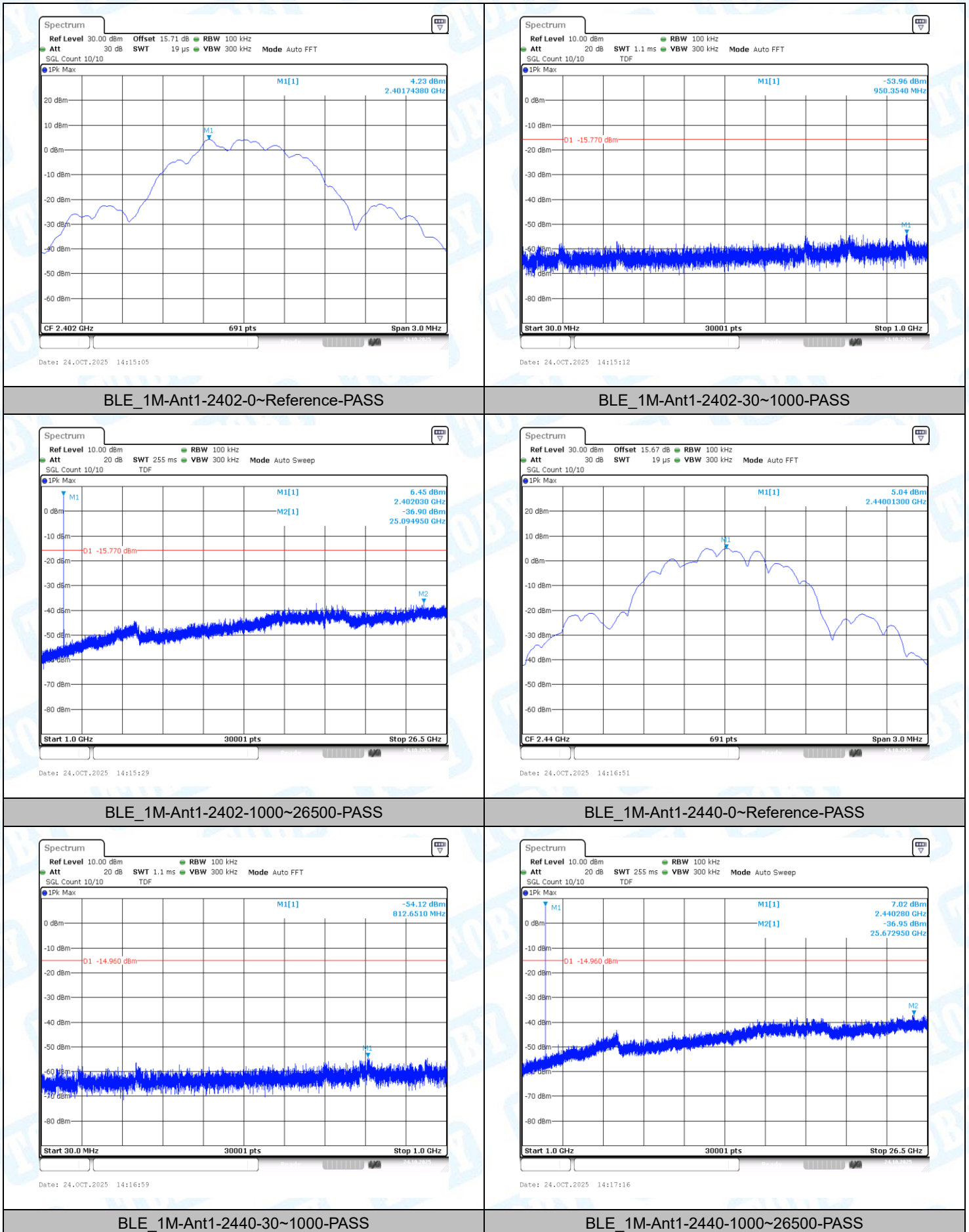
Test Mode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	4.23	4.23	---	PASS
BLE_1M	Ant1	2402	30~1000	4.23	-53.96	≤-15.77	PASS
BLE_1M	Ant1	2402	1000~26500	4.23	-36.9	≤-15.77	PASS
BLE_1M	Ant1	2440	0~Reference	5.04	5.04	---	PASS
BLE_1M	Ant1	2440	30~1000	5.04	-54.12	≤-14.96	PASS
BLE_1M	Ant1	2440	1000~26500	5.04	-36.95	≤-14.96	PASS
BLE_1M	Ant1	2480	0~Reference	6.12	6.12	---	PASS
BLE_1M	Ant1	2480	30~1000	6.12	-53.37	≤-13.88	PASS
BLE_1M	Ant1	2480	1000~26500	6.12	-37.6	≤-13.88	PASS
BLE_2M	Ant1	2404	0~Reference	1.89	1.89	---	PASS
BLE_2M	Ant1	2404	30~1000	1.89	-53.65	≤-18.11	PASS
BLE_2M	Ant1	2404	1000~26500	1.89	-36.88	≤-18.11	PASS
BLE_2M	Ant1	2440	0~Reference	2.49	2.49	---	PASS
BLE_2M	Ant1	2440	30~1000	2.49	-52.39	≤-17.51	PASS
BLE_2M	Ant1	2440	1000~26500	2.49	-36.66	≤-17.51	PASS
BLE_2M	Ant1	2478	0~Reference	4.09	4.09	---	PASS
BLE_2M	Ant1	2478	30~1000	4.09	-53.6	≤-15.91	PASS
BLE_2M	Ant1	2478	1000~26500	4.09	-36.59	≤-15.91	PASS

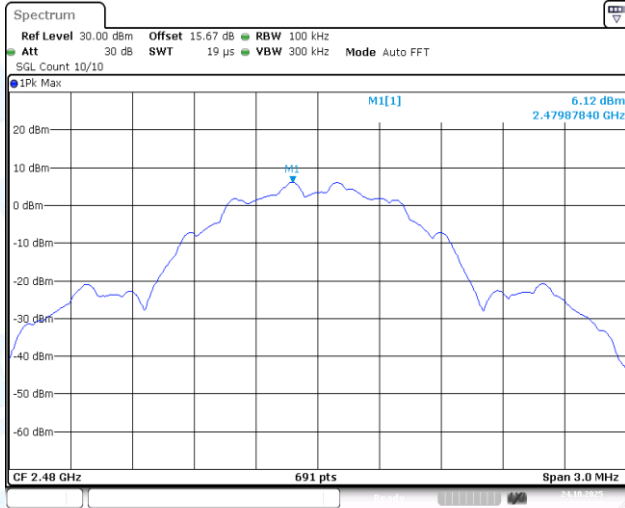
Note: RF Conducted test Offset= cable loss+ Attenuator(3dB).

Remark: Regarding the spurious emissions from 30MHz to 26.5GHz, the cable loss and attenuator factor have been set in the 'TDF' of the Spectrum Analyzer during the test.

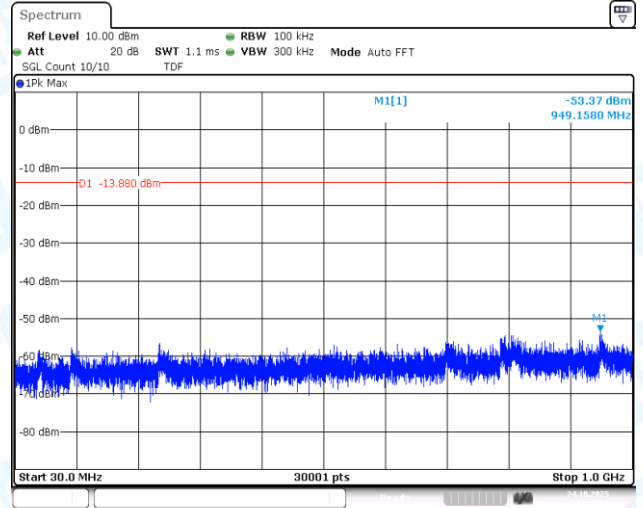
For conducted spurious emission test, 'TDF' is the maximum value in the range of test.

6.2 Test Graphs





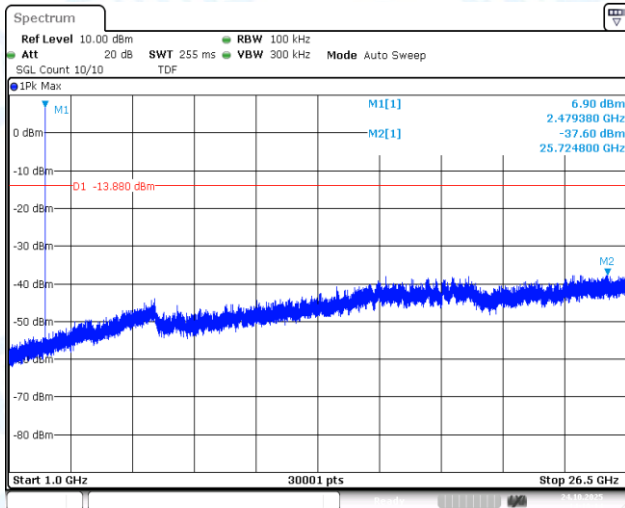
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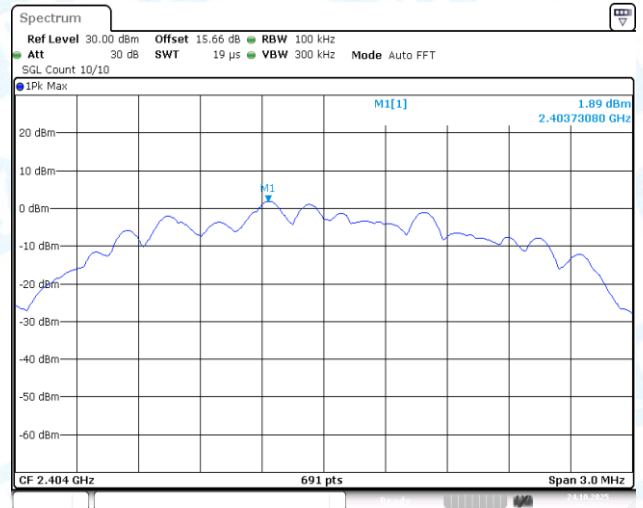
Date: 24.OCT.2025 14:17:56

BLE_1M-Ant1-2480-0~Reference-PASS

BLE_1M-Ant1-2480-30~1000-PASS



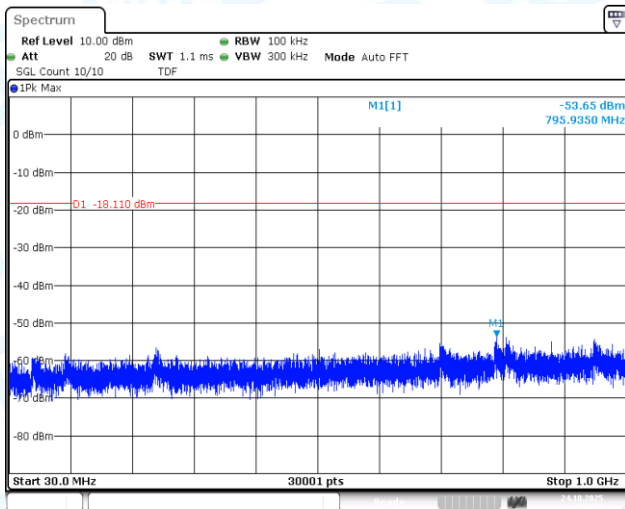
Date: 24.OCT.2025 14:18:13



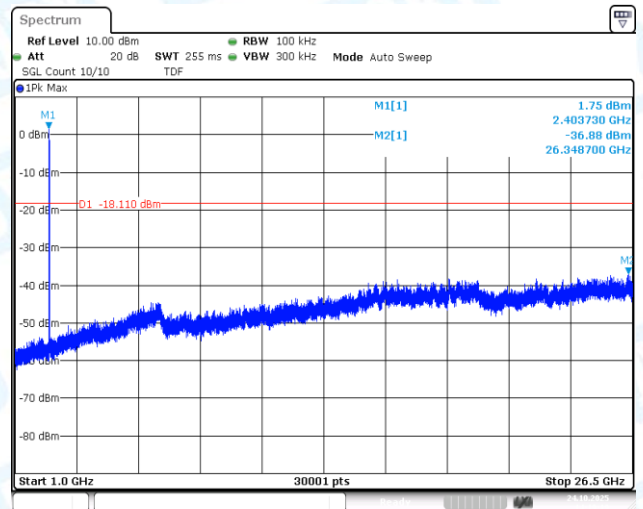
Date: 24.OCT.2025 14:18:54

BLE_1M-Ant1-2480-1000~26500-PASS

BLE_2M-Ant1-2404-0~Reference-PASS



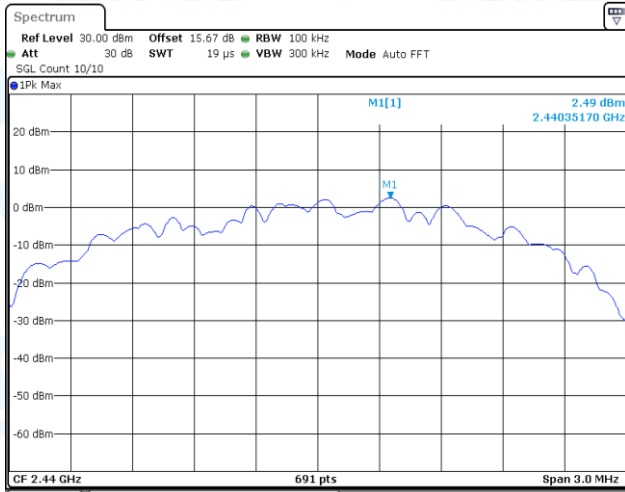
Date: 24.OCT.2025 14:19:02



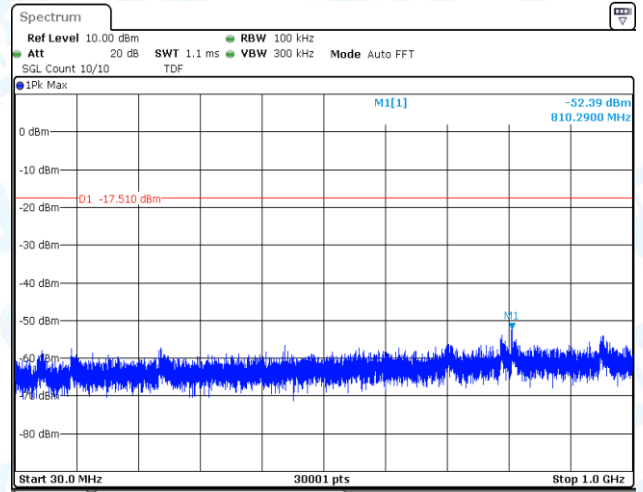
Date: 24.OCT.2025 14:19:19

BLE_2M-Ant1-2404-30~1000-PASS

BLE_2M-Ant1-2404-1000~26500-PASS



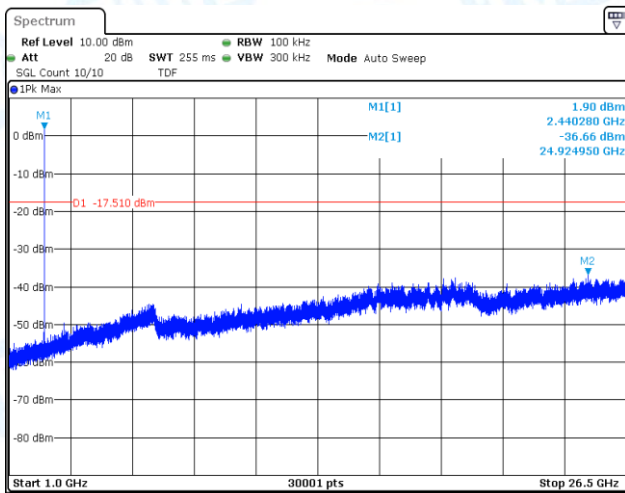
Date: 24.OCT.2025 14:13:09



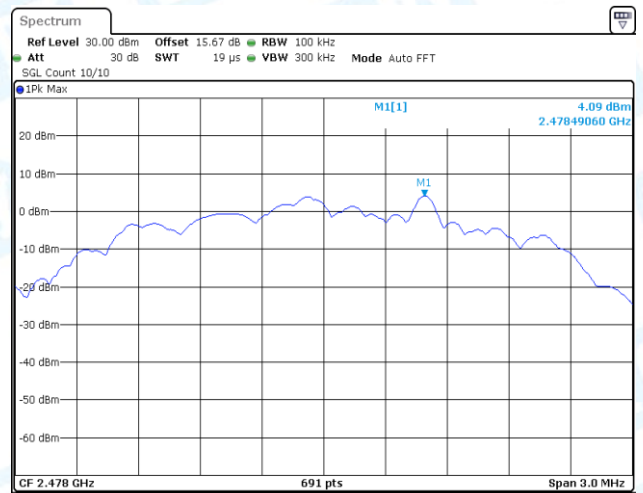
Date: 24.OCT.2025 14:13:16

BLE_2M-Ant1-2440-0~Reference-PASS

BLE_2M-Ant1-2440-30~1000-PASS



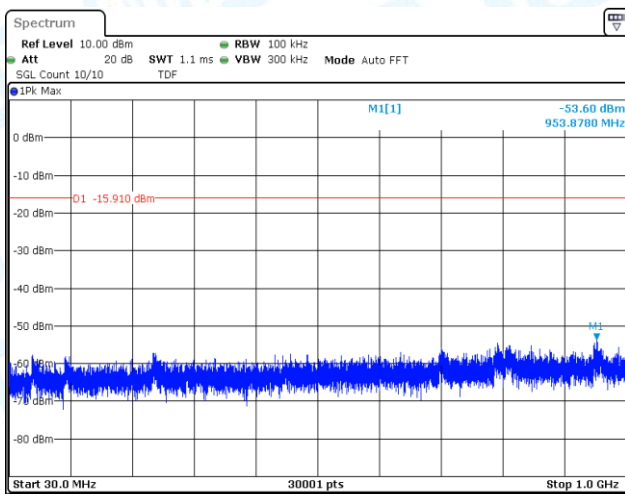
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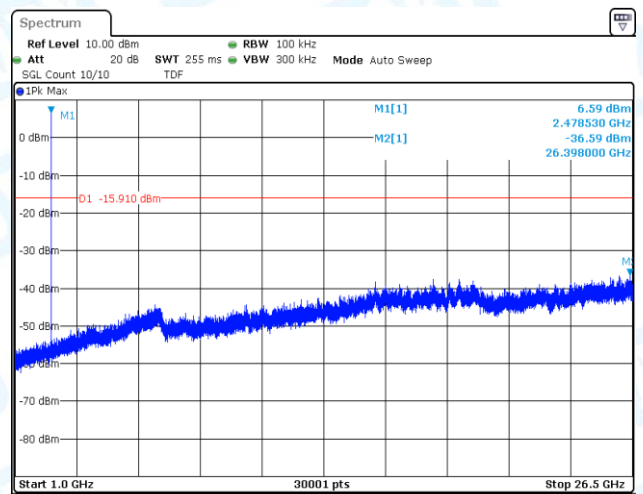
Date: 24.OCT.2025 14:12:09

BLE_2M-Ant1-2440-1000~26500-PASS

BLE_2M-Ant1-2478-0~Reference-PASS



Date: 24.OCT.2025 14:12:19



Date: 24.OCT.2025 14:12:36

BLE_2M-Ant1-2478-30~1000-PASS

BLE_2M-Ant1-2478-1000~26500-PASS

7: Duty Cycle

7.1 Test Result

TestMode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	DC Factor	1/T [kHz]
BLE_1M	Ant1	2402	0.33	1.25	26.40	5.78	3.03
BLE_1M	Ant1	2440	0.33	1.25	26.40	5.78	3.03
BLE_1M	Ant1	2480	0.33	1.25	26.40	5.78	3.03
BLE_2M	Ant1	2404	0.18	1.26	14.29	8.45	5.56
BLE_2M	Ant1	2440	0.18	1.26	14.29	8.45	5.56
BLE_2M	Ant1	2478	0.18	1.26	14.29	8.45	5.56

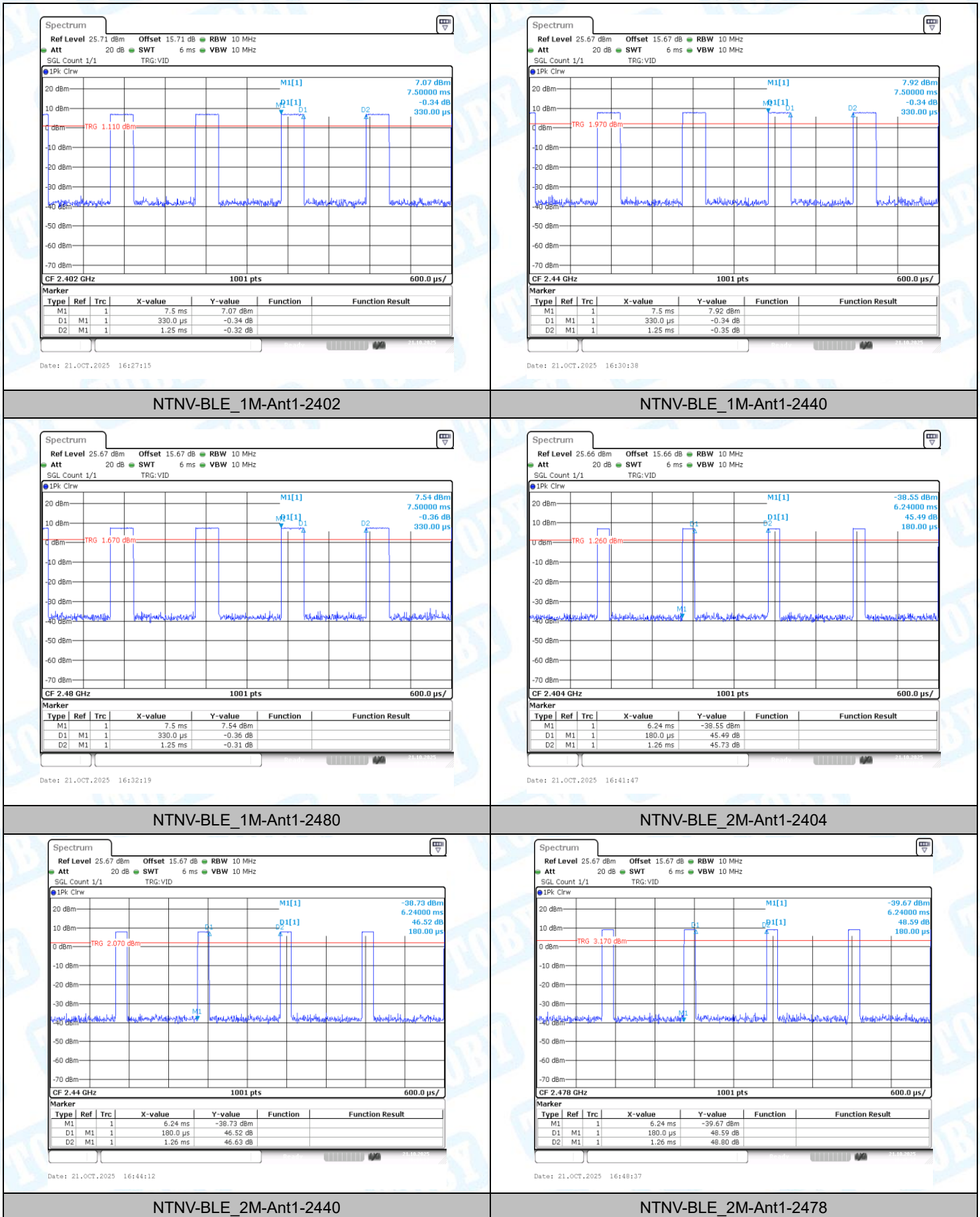
Note: 1, Duty Cycle= Transmission Duration/ Transmission Period

2, DC Factor= $10 \cdot \log_{10}(1/\text{Duty Cycle})$

3, $1/T = 1/\text{Transmission Duration}$

4, RF Conducted test Offset= cable loss+ Attenuator(3dB).

7.2 Test Graphs



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