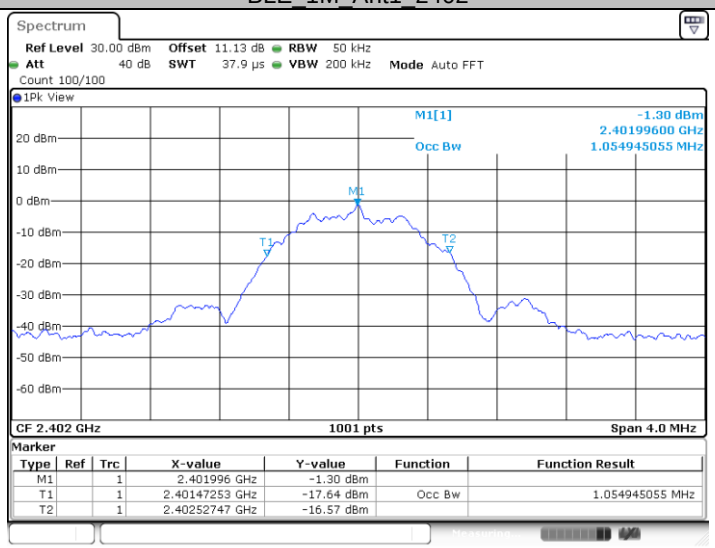
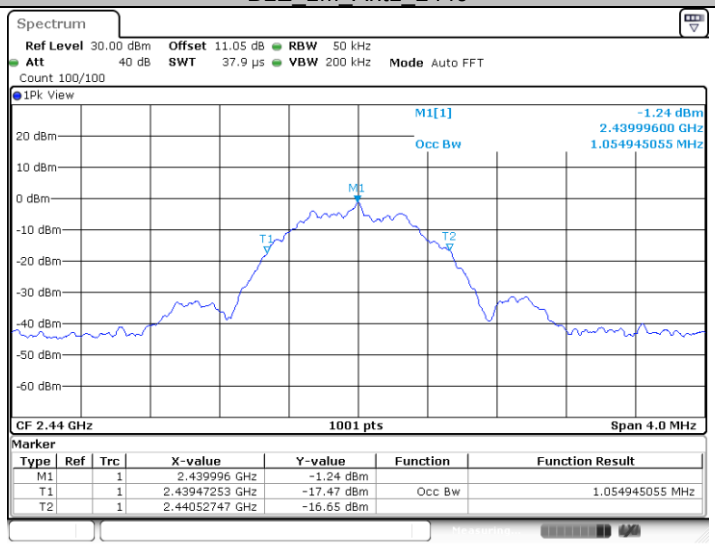
RF Module 2: nRF52832

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



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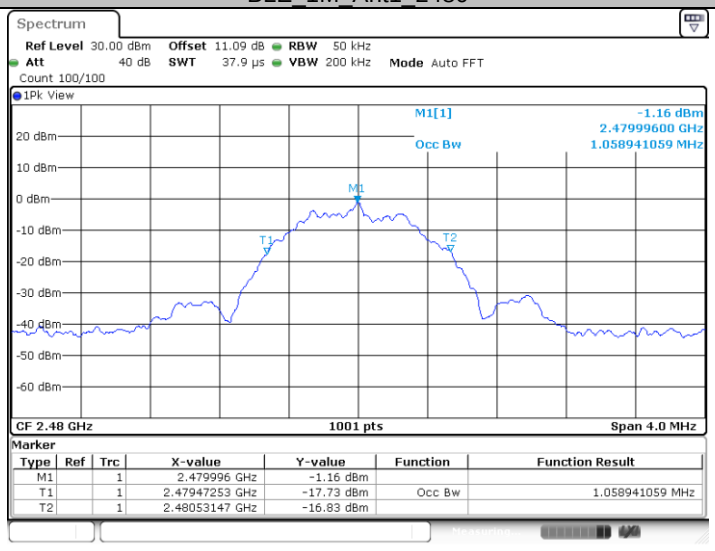
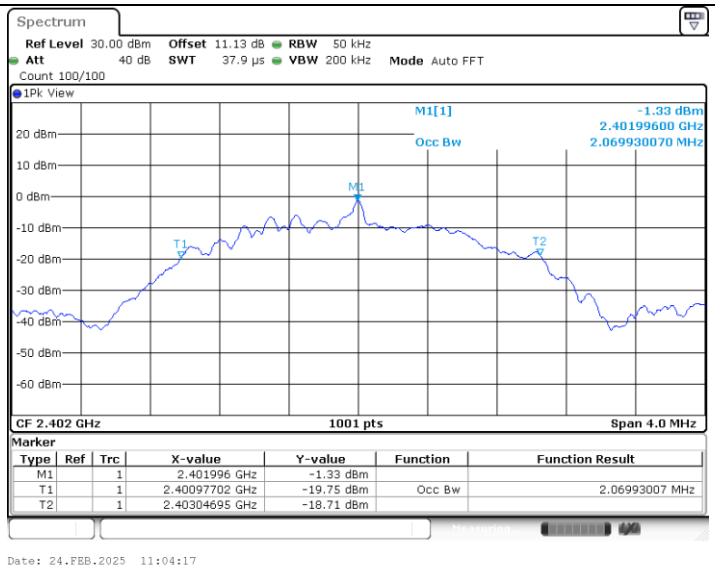


BLE_2M_Ant1_2402

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



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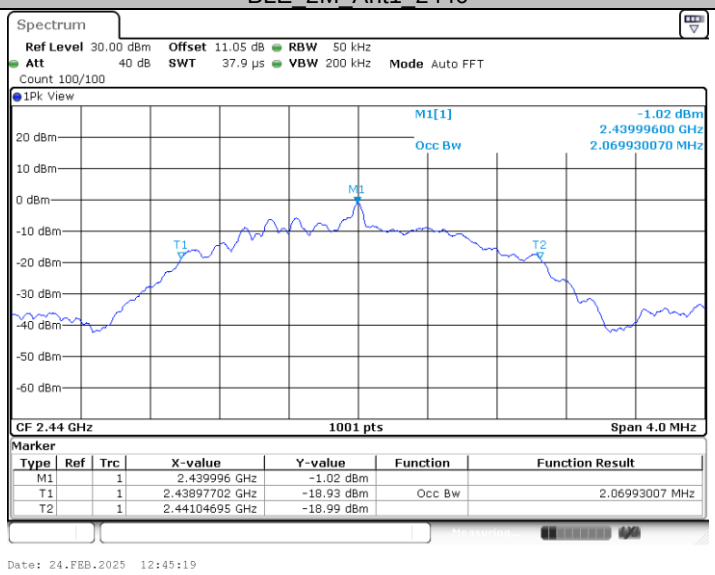
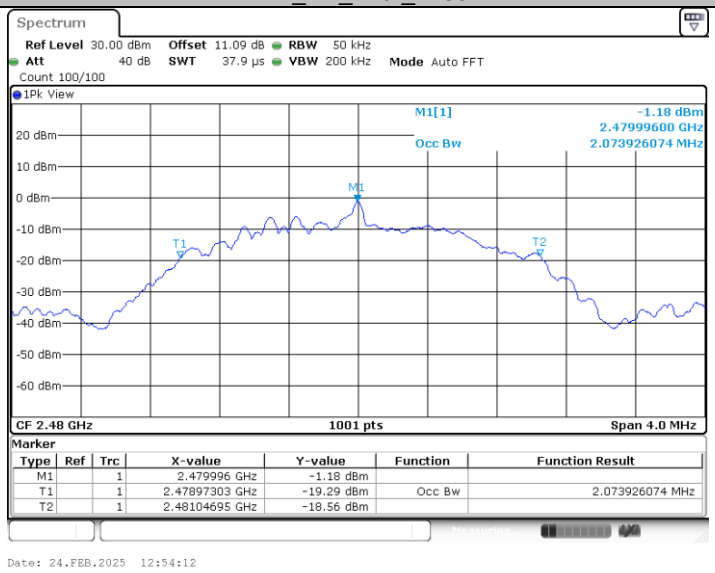


BLE_2M_Ant1_2480

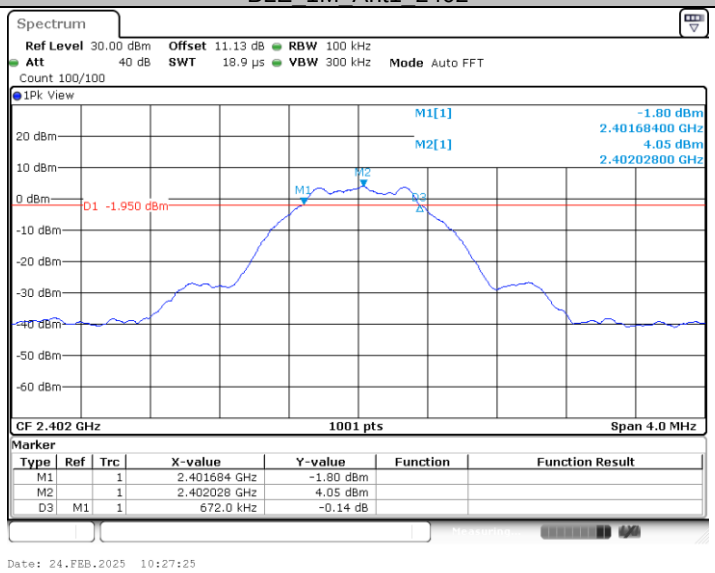


For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

DTS Bandwidth:

RF Module 1: WCN6851

BLE_1M_Ant1_2402



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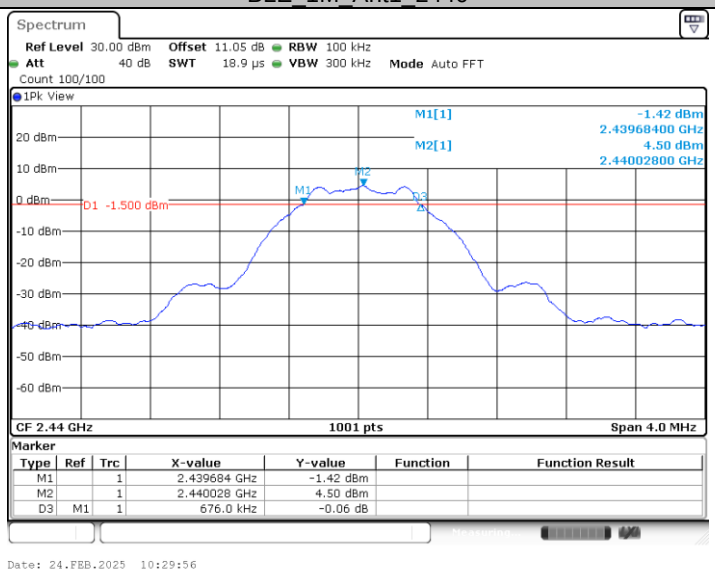

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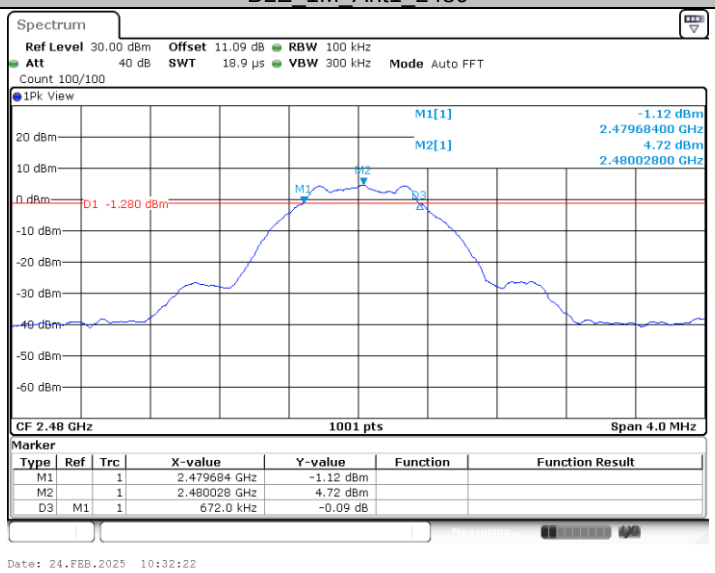

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

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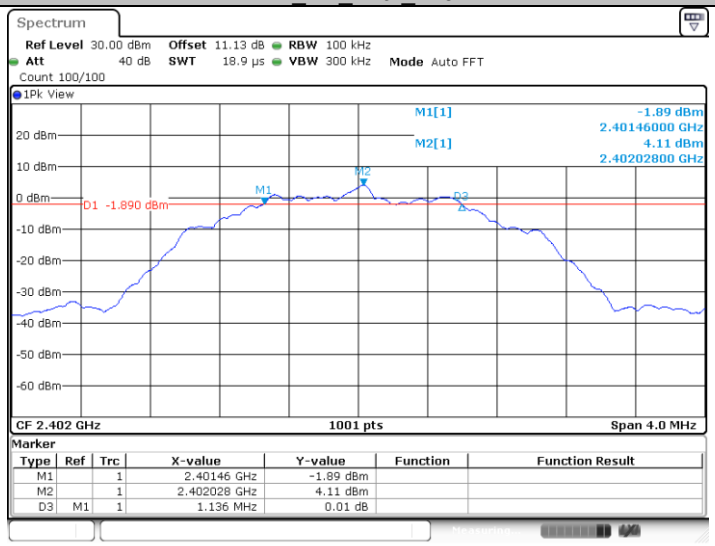
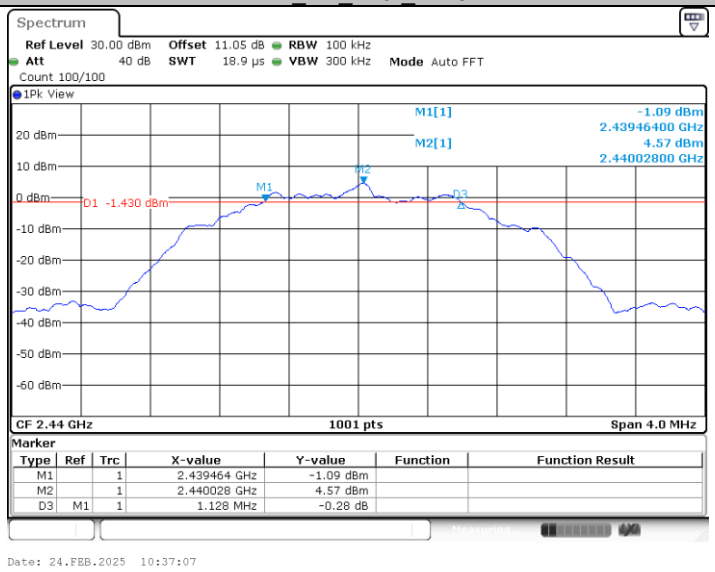
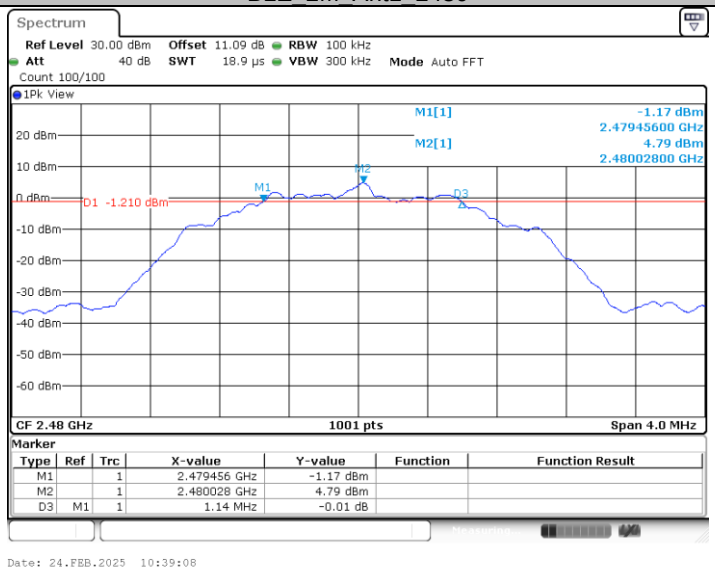


BLE_2M_Ant1_2440



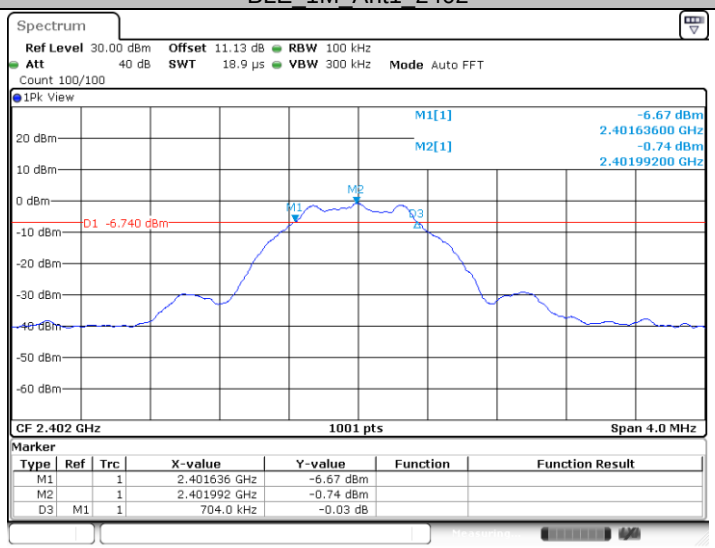
BLE_2M_Ant1_2480



For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

RF Module 2: nRF52832

BLE_1M_Ant1_2402



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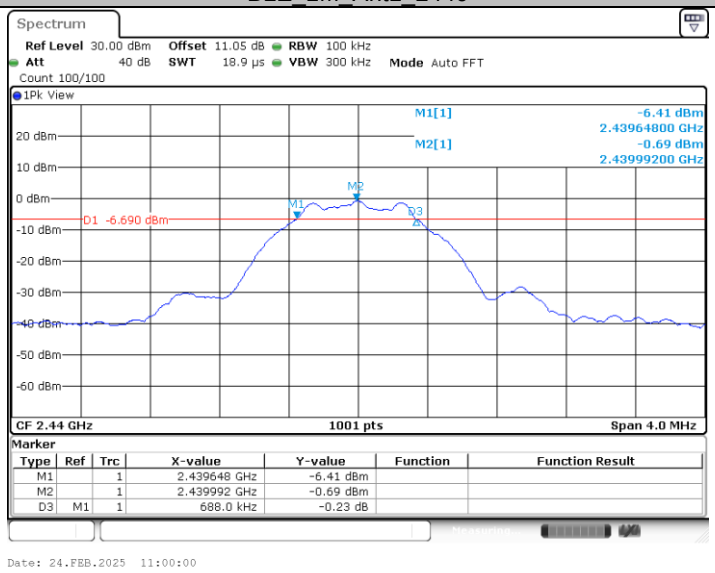

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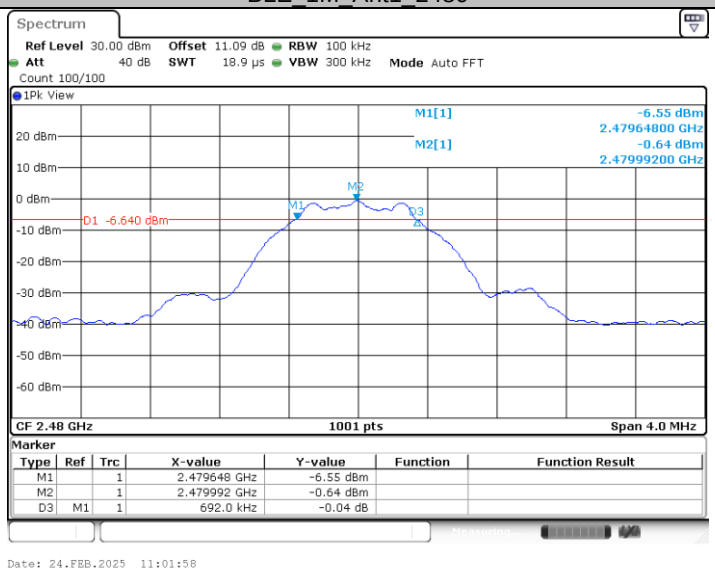
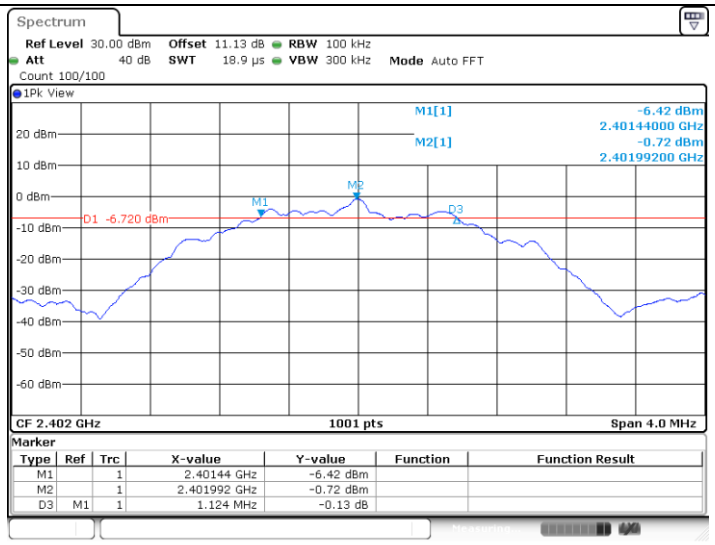


BLE_2M_Ant1_2402

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



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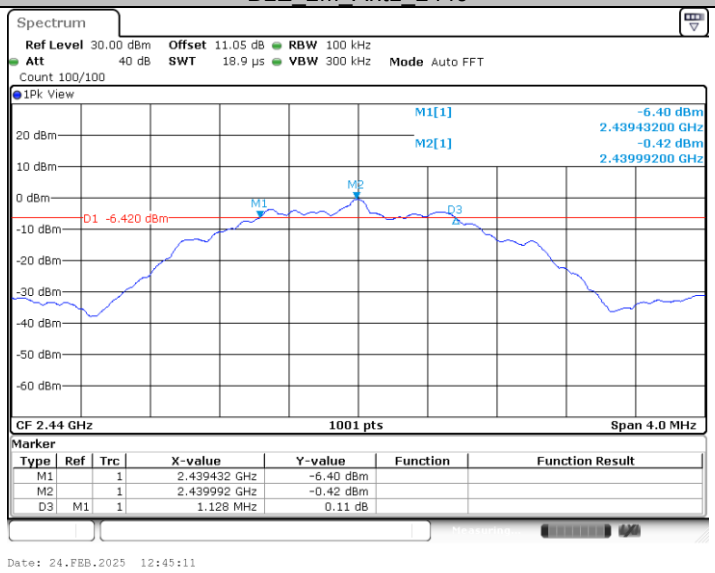
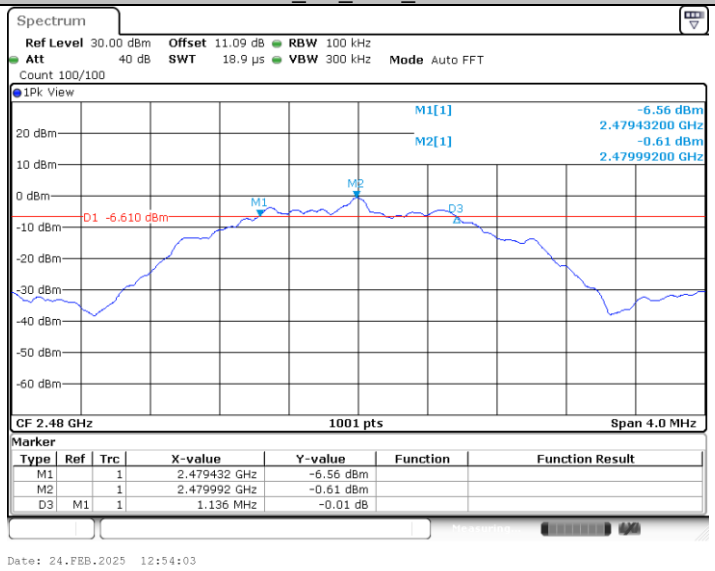


BLE_2M_Ant1_2480



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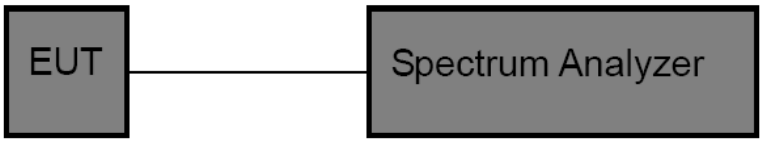
3.6. Peak Output Power

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(3)

Section	Test Item	Limit	Frequency Range (MHz)
FCC CFR 47 Part15.247 (b)(3)	Maximum Conducted Output Power	1 Watt or 30dBm	2400~2483.5

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. Spectrum Setting:
   (1) Set RBW ≥ DTS Bandwidth.
   (2) Set VBW ≥ 3*RBW.
   (3) Set Span ≥ 3*RBW.
   (4) Sweep time = Auto couple.
   (5) Detector = Peak.
   (6) Trace mode = Max hold.
   Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

Test Mode

Please refer to the clause 2.4.

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Test Result

RF Module 1:		WCN6851		
TestMode	Antenna	Freq(MHz)	Conducted Peak Powert[dBm]	Conducted Limit[dBm]
BLE_1M	Ant1	2402	4.55	≤30
		2440	5.00	≤30
		2480	5.16	≤30
BLE_2M	Ant1	2402	4.59	≤30
		2440	4.99	≤30
		2480	5.19	≤30

RF Module 2:		nRF52832		
TestMode	Antenna	Freq(MHz)	Conducted Peak Powert[dBm]	Conducted Limit[dBm]
BLE_1M	Ant1	2402	1.20	≤30
		2440	1.06	≤30
		2480	1.30	≤30
BLE_2M	Ant1	2402	1.06	≤30
		2440	0.96	≤30
		2480	1.13	≤30

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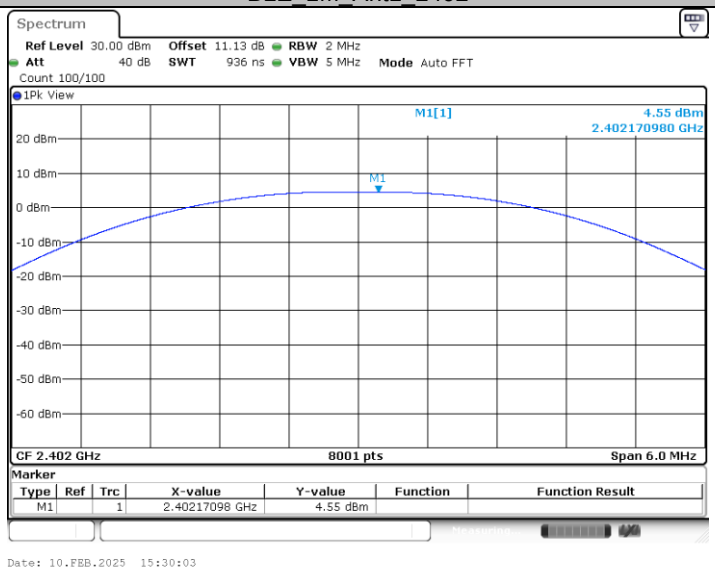
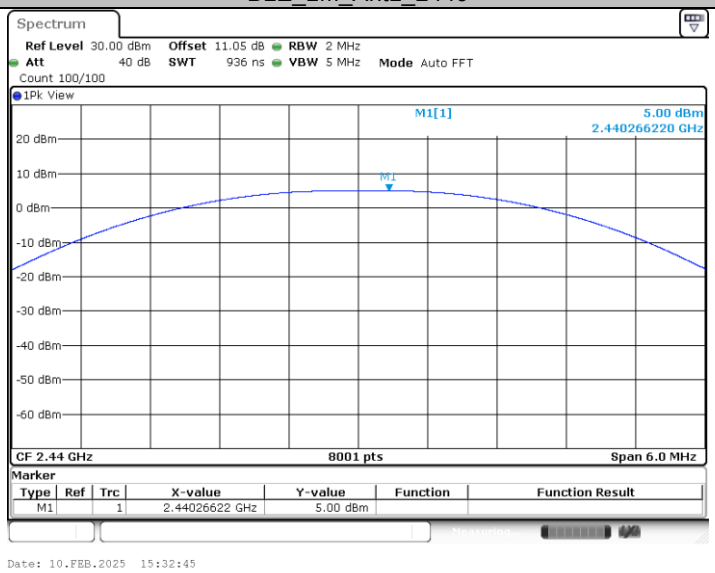
RF Module 1: WCN6851 Test plot as follows:

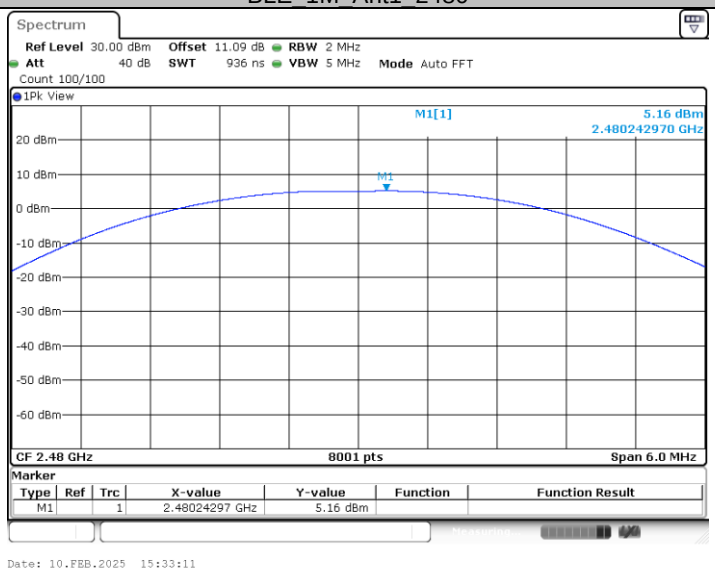
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440

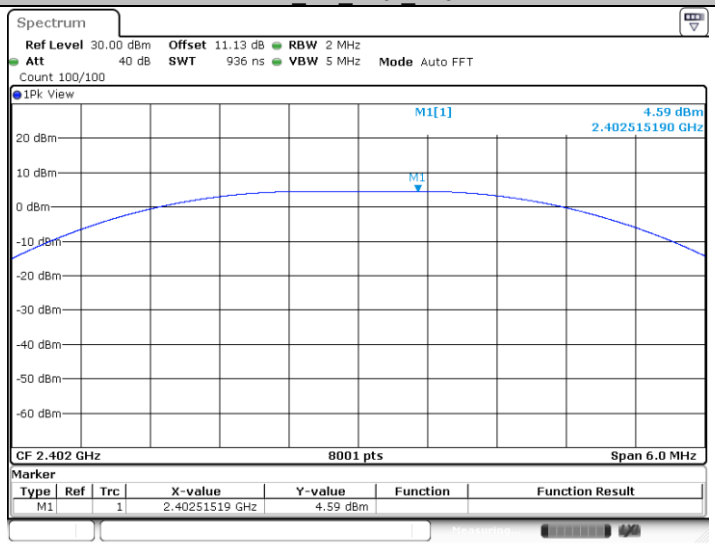


BLE_1M_Ant1_2480



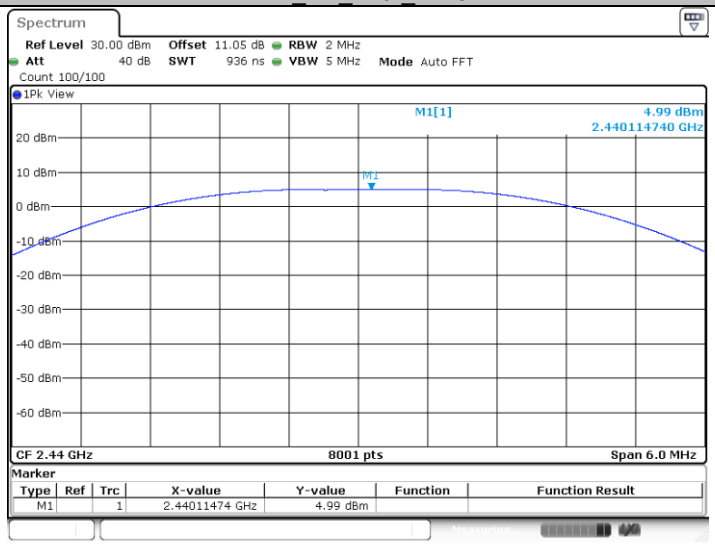
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

BLE_2M_Ant1_2402



Date: 10.FEB.2025 15:39:30

BLE_2M_Ant1_2440



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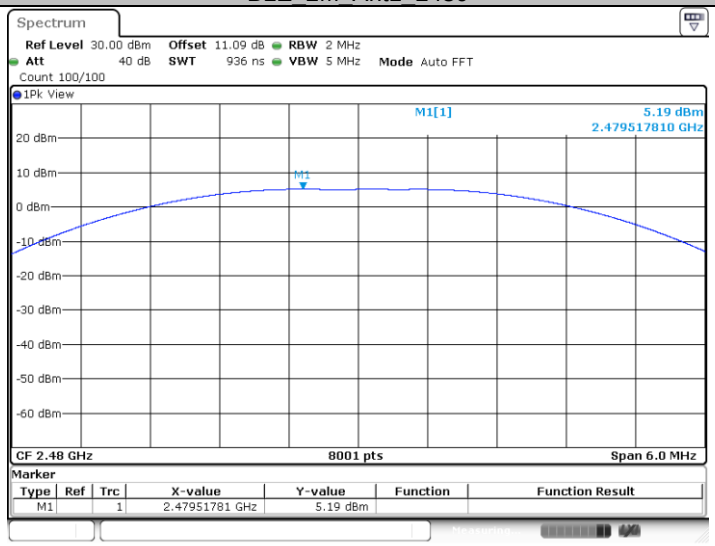
BLE_2M_Ant1_2480



Date: 10.FEB.2025 15:40:08

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

RF Module 2: nRF52832 Test plot as follows:

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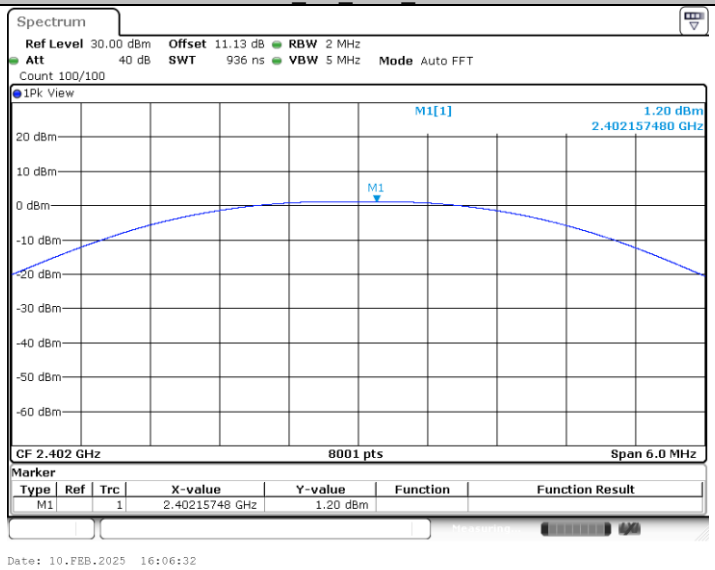
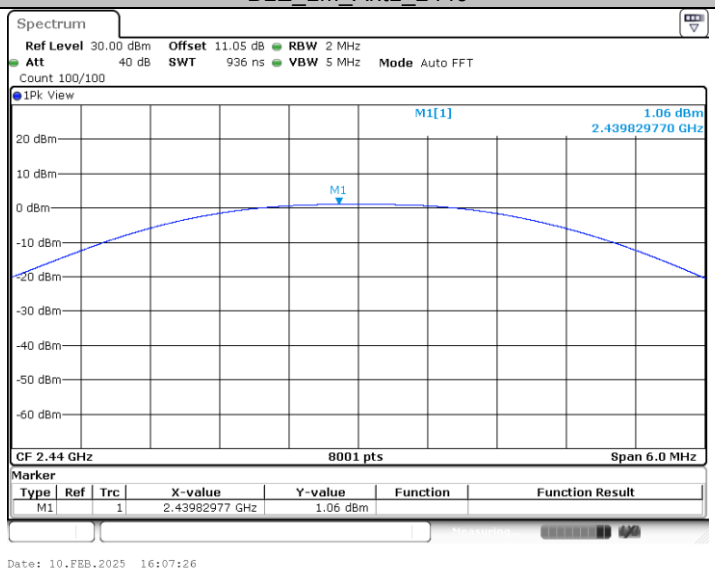
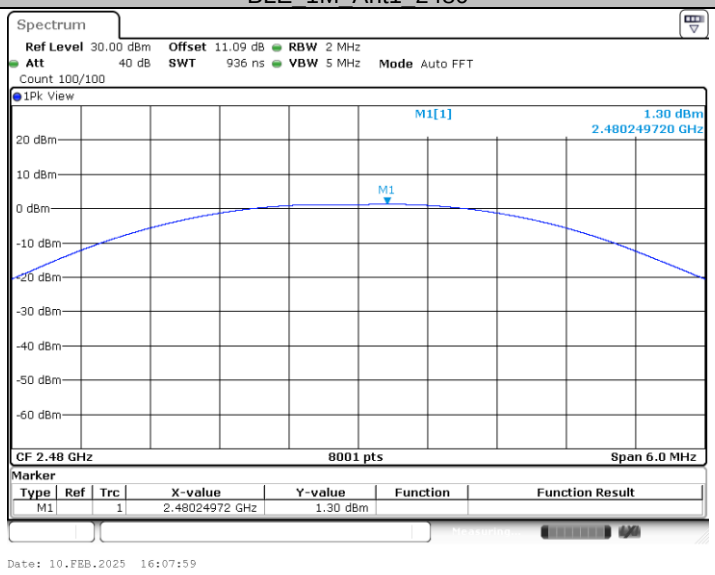


BLE_1M_Ant1_2440

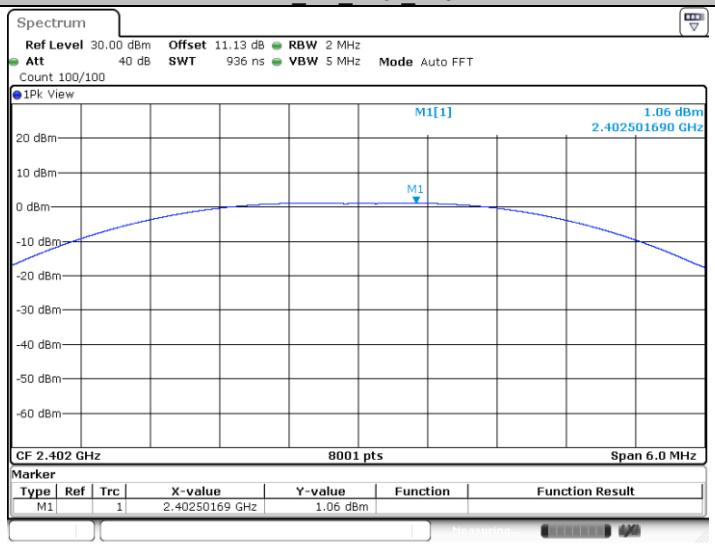


BLE_1M_Ant1_2480

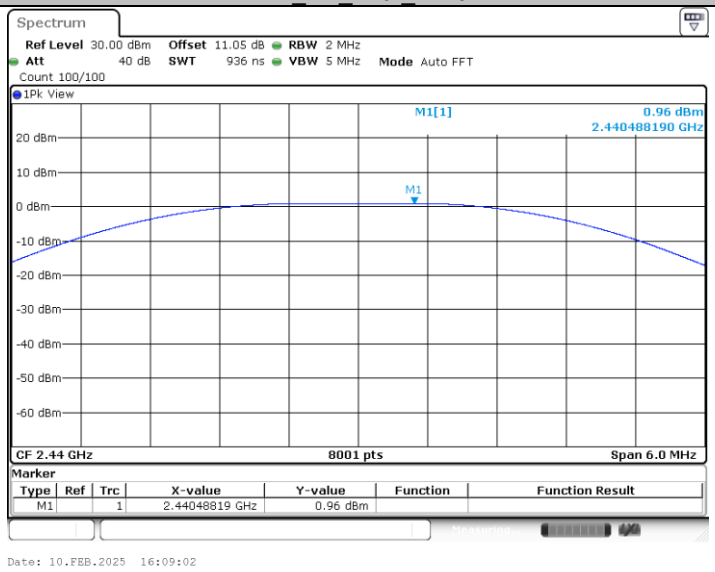


For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

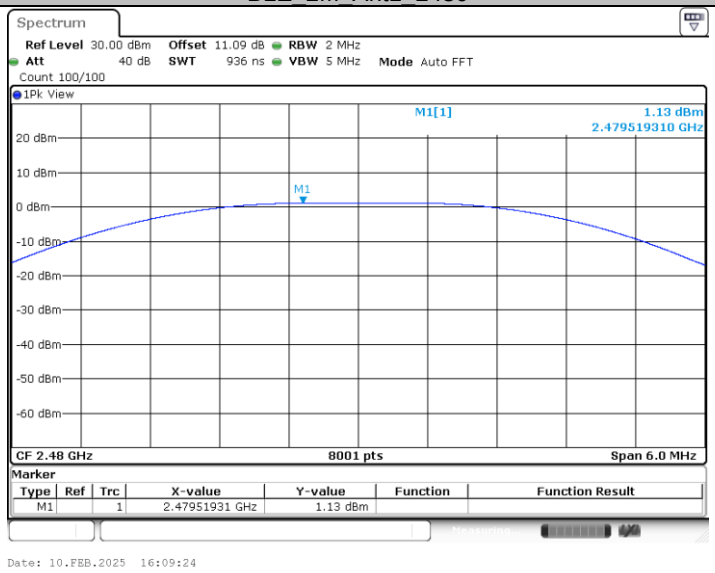
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

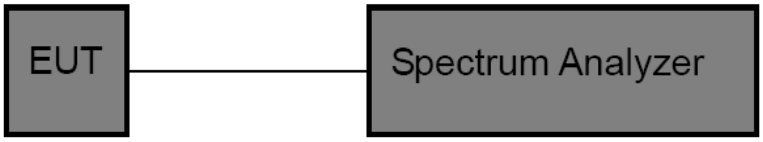
3.7. Power Spectral Density

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (e)

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

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:

Set analyzer center frequency to DTS channel center frequency.
Set the span to 1.5 times the DTS bandwidth.
Set the RBW to: 3 kHz.
Set the VBW to: 10 kHz.
Detector: peak.
Sweep time: auto.
Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

Test Mode

Please refer to the clause 2.4.

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Test Result

RF Module 1:		WCN6851			
TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-10.42	≤8.00	PASS
		2440	-9.96	≤8.00	PASS
		2480	-9.69	≤8.00	PASS
BLE_2M	Ant1	2402	-13.34	≤8.00	PASS
		2440	-12.75	≤8.00	PASS
		2480	-12.61	≤8.00	PASS

RF Module 2:		nRF52832			
TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-16.16	≤8.00	PASS
		2440	-16.16	≤8.00	PASS
		2480	-16.08	≤8.00	PASS
BLE_2M	Ant1	2402	-18.50	≤8.00	PASS
		2440	-18.37	≤8.00	PASS
		2480	-18.46	≤8.00	PASS

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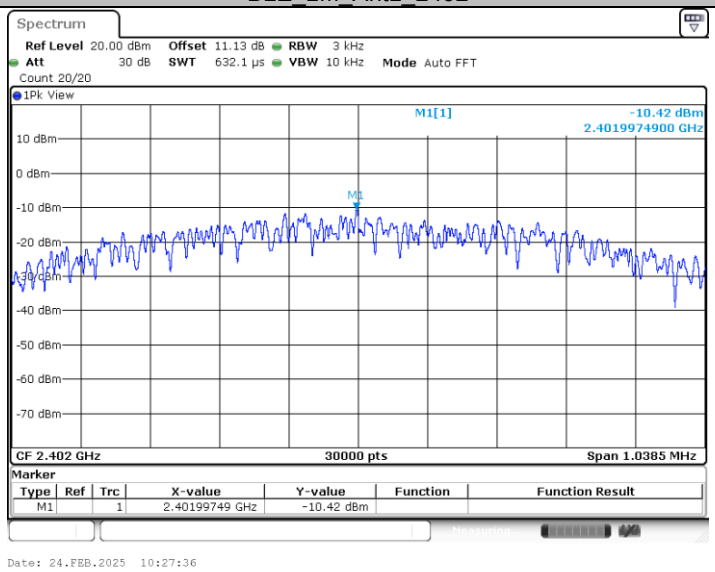
RF Module 1: WCN6851 Test plot as follows:

BLE_1M_Ant1_2402



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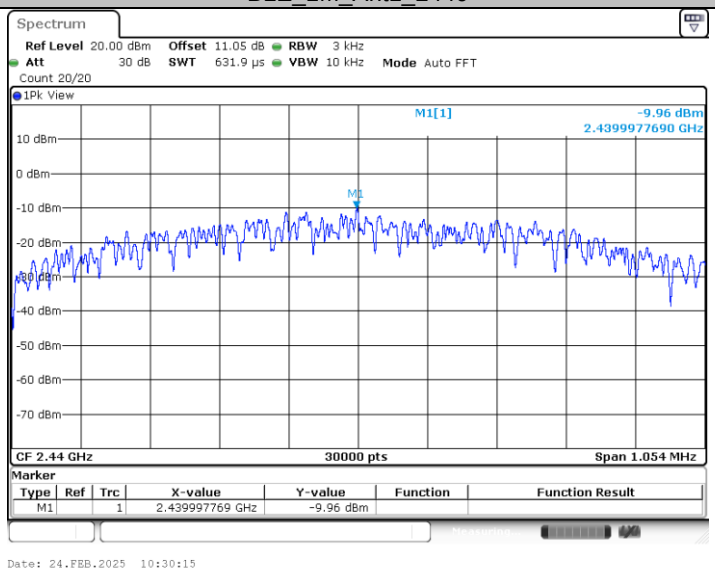

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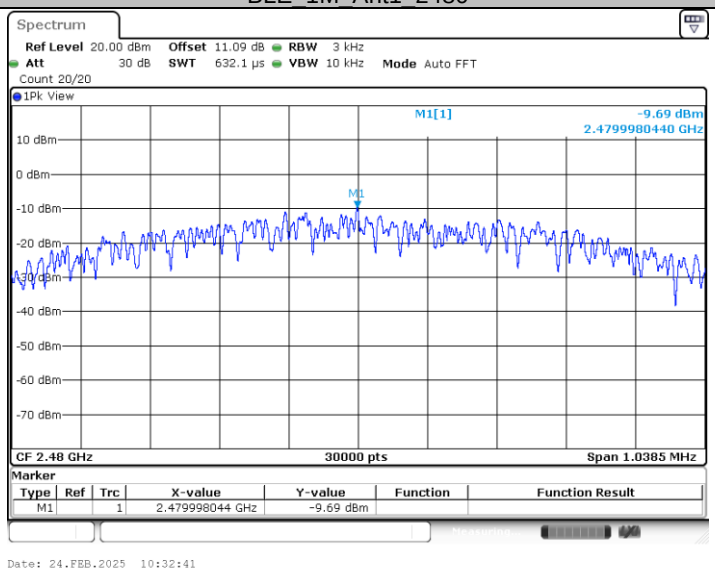

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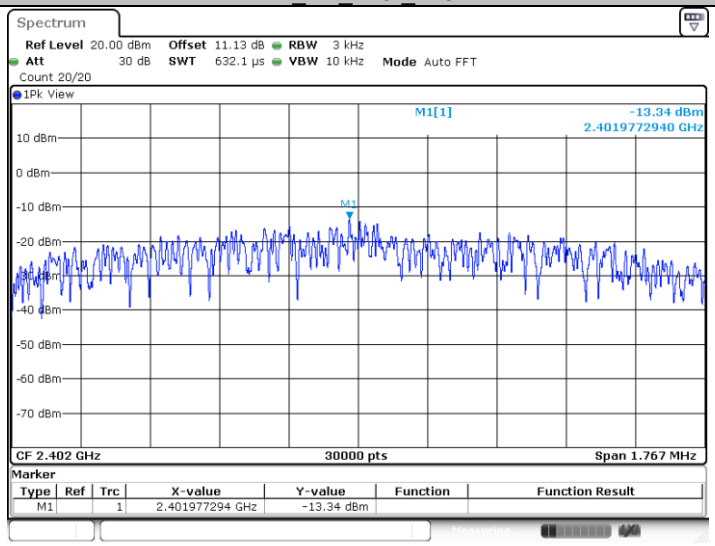
BLE_2M_Ant1_2402



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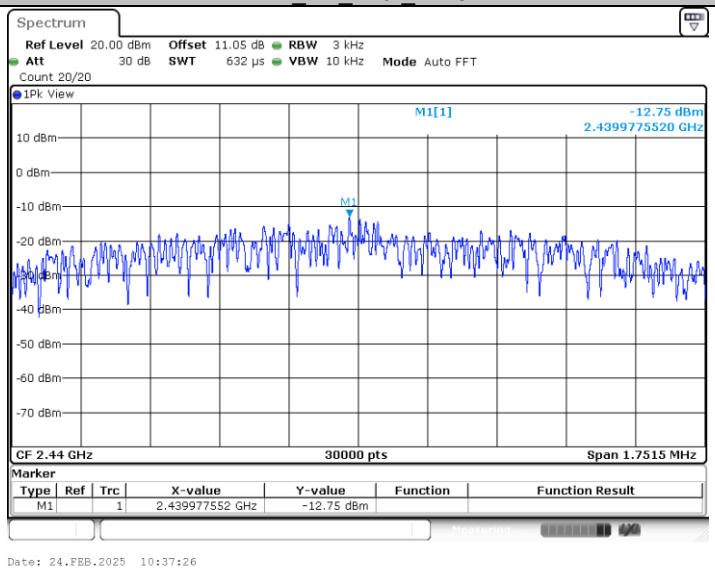

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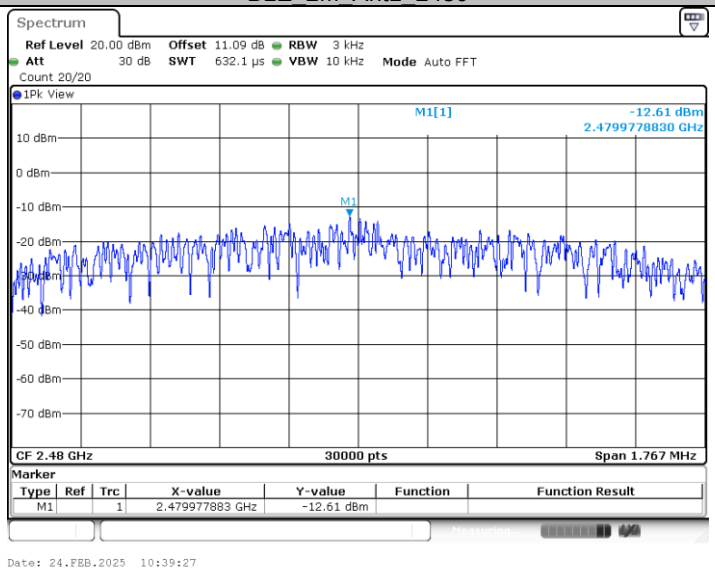

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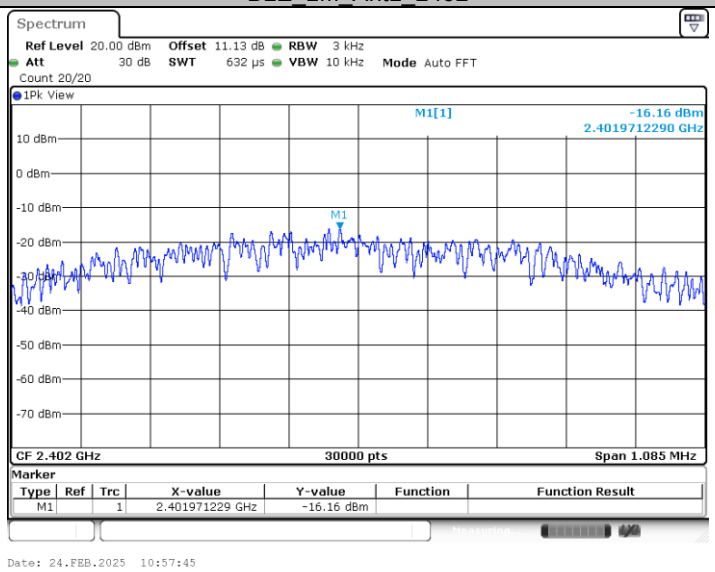
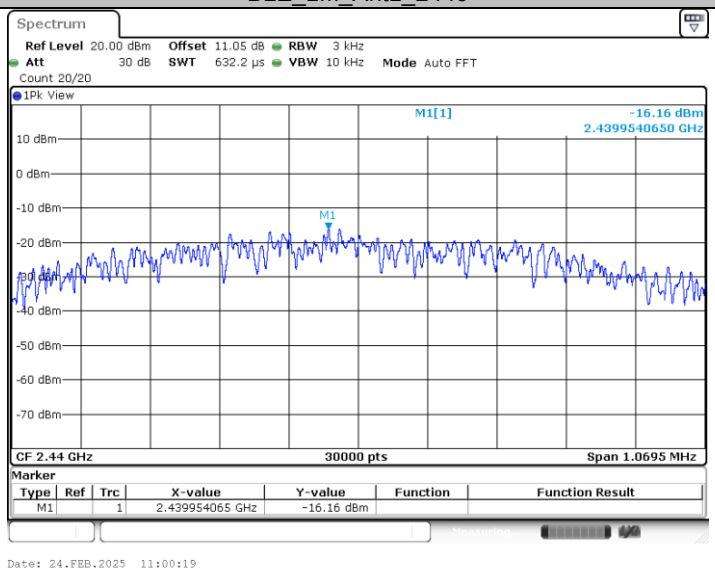
RF Module 2: nRF52832 Test plot as follows:

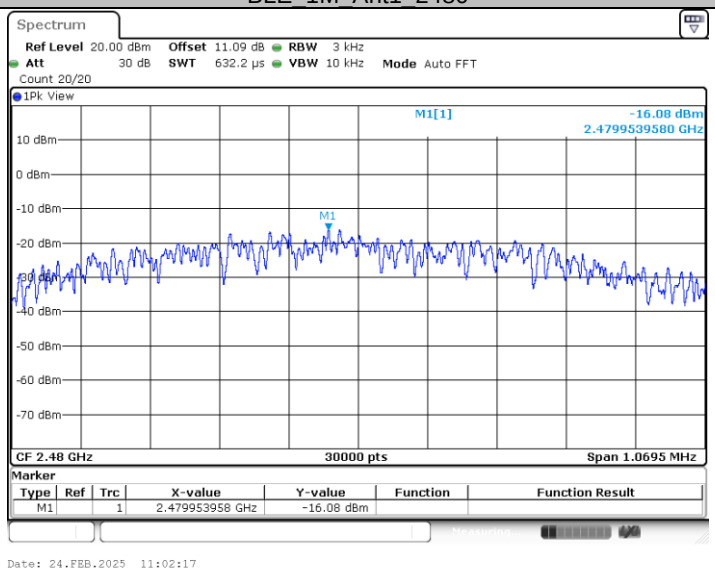
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



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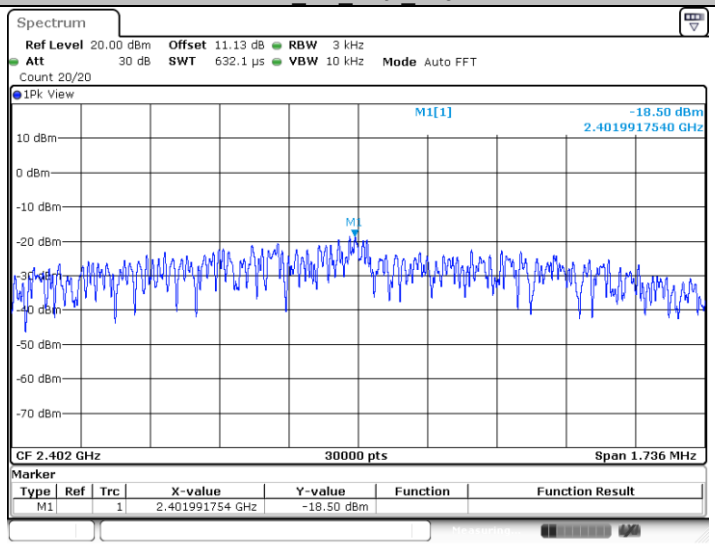
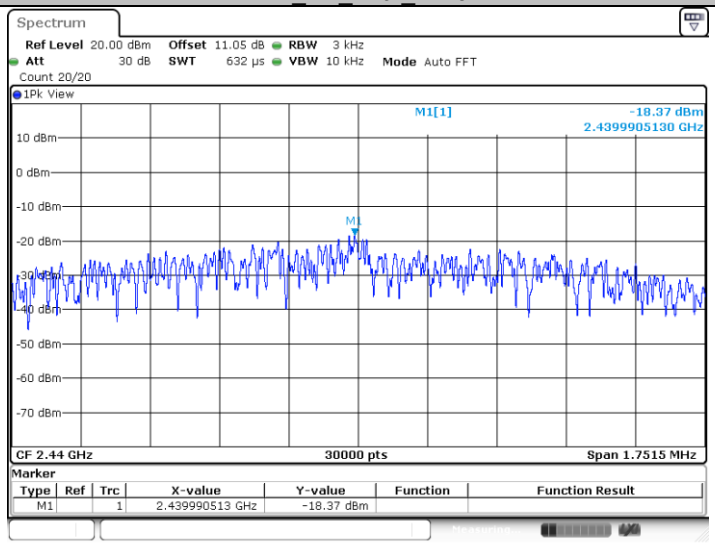
BLE_2M_Ant1_2402



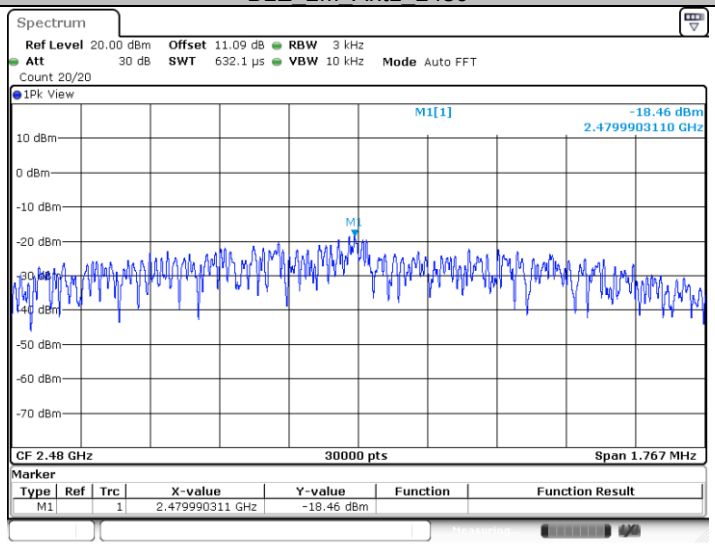
Date: 24.FEB.2025 11:04:28

BLE_2M_Ant1_2440



Date: 24.FEB.2025 12:52:19

BLE_2M_Ant1_2480



Date: 24.FEB.2025 12:54:23

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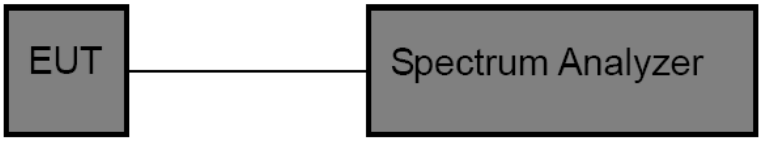
3.8. Duty Cycle

Limit

None, for report purposes only.

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:

Set analyzer center frequency to test channel center frequency.
Set the span to 0Hz.
Set the RBW to 10MHz.
Set the VBW to 10MHz.
Detector: Peak.
Sweep time: Auto.
Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

Test Mode

Please refer to the clause 2.4.

Test Result

RF Module 1:		**WCN6851**				
Test Mode	Frequency (MHz)	Transmission Duration (ms)	Transmission Period (ms)	Duty Cycle (%)	1/T Minimum VBW (kHz)	Final Setting for VBW (kHz)
BLE_1M	2402	0.40	0.63	63.49	2.50	3
	2440	0.40	0.63	63.49	2.50	3
	2480	0.40	0.63	63.49	2.50	3
BLE_2M	2402	0.21	0.62	33.87	4.76	5
	2440	0.21	0.63	33.33	4.76	5
	2480	0.21	0.63	33.33	4.76	5

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RF Module 1:		nRF52832				
Test Mode	Frequency (MHz)	Transmission Duration (ms)	Transmission Period (ms)	Duty Cycle (%)	1/T Minimum VBW (kHz)	Final Setting for VBW (kHz)
BLE_1M	2402	0.39	0.62	62.90	2.56	3
	2440	0.40	0.63	63.49	2.50	3
	2480	0.40	0.63	63.49	2.50	3
BLE_2M	2402	0.21	0.63	33.33	4.76	5
	2440	0.21	0.63	33.33	4.76	5
	2480	0.21	0.63	33.33	4.76	5

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3.9. Antenna Requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C Section 15.203
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 antenna that uses a unique coupling to the intentional radiator, 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.
FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i)
(i) Systems operating in the 2400~2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

Test Result

The directional gain of the antenna is less than 6dBi, please refer to the EUT internal photographs antenna photo.

**********THE END OF REPORT**********

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