TEST REPORT

Report No. .....:	**CTC2025018009**
FCC ID.....:	**2BNWDCVR-655-128C**
Applicant .....:	**Avantis Education Limited**
Address.....:	Unit 2 & 3 Jessop Court, Waterwells Business Park, Quedgeley, Gloucester, GL2 2AP UK
Manufacturer.....:	SHENZHEN SKYWORTH NEW WORLD TECHNOLOGY CO.,LTD.
Address.....:	508, Block A,SKYWORTH Building, Gaoxin AVE. 1.S Nanshan District, ShenZhen, China.
Product Name .....:	**VR Headset**
Trade Mark .....:	CLASSVR
Model/Type reference.....:	CVR-655-128C
Listed Model(s) .....:	CVR-655-128
Standard .....:	**FCC CFR Title 47 Part 15 Subpart C Section 15.247**
Test Report Form No .....:	CTC-TR-058_A1
Master TRF.....:	Dated 2024-09-20
Date of receipt of test sample.....:	Feb. 24, 2025
Date of testing.....:	Feb. 24, 2025 ~ Mar.21, 2025
Date of issue.....:	Mar. 26, 2025
Result.....:	**PASS**

Compiled by: (Printed name+signature)	Lucy Lan	Lucy Lan
Supervised by: (Printed name+signature)	Eric Zhang	Eric Zhang
Approved by: (Printed name+signature)	Totti Zhao	Totti Zhao

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1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.247: Operation within the bands 902–928MHz, 2400–2483.5MHz, and 5725–5850MHz.

ANSI C63.10-2013: American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

1.2. Report Version

Revised No.	Report No.	Date of issue	Description
01	CTC2025018009	Mar. 26, 2025	Original

1.3. Test Description

FCC Part 15 Subpart C (15.247)			
Test Item	**Standard Section**	**Result**	**Test Engineer**
Antenna Requirement	15.203	Pass	Marrow
Conducted Emission	15.207	Pass	Marrow
Conducted Band Edge and Spurious Emissions	15.247(d)	Pass	Marrow
Radiated Band Edge and Spurious Emissions	15.205&15.209& 15.247(d)	Pass	Marrow
6dB Bandwidth	15.247(a)(2)	Pass	Marrow
Conducted Max Output Power	15.247(b)(3)	Pass	Marrow
Power Spectral Density	15.247(e)	Pass	Marrow
Transmitter Radiated Spurious	15.209&15.247(d)	Pass	Marrow

Note:

1. The measurement uncertainty is not included in the test result.
2. N/A: means this test item is not applicable for this device according to the technology characteristic of device.

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1.4. Test Facility

Address of the report laboratory

CTC Laboratories, Inc.

Add: Room 101 of Building B, Room 107, 108, 207, 208 of Building A, No. 7, Lanqing 1st Road, Luhu Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China

Laboratory accreditation

The test facility is recognized, certified, or accredited by the following organizations:

A2LA-Lab Cert. No.: 4340.01

CTC Laboratories, Inc. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

Industry Canada (Registration No.: 9783A, CAB Identifier: CN0029)

CTC Laboratories, Inc. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 9783A on Jan, 2016.

FCC (Registration No.: 951311, Designation Number CN1208)

CTC Laboratories, Inc. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 951311, Aug 26, 2017.

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1.5. Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01 “Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1” and TR-100028-02 “Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2” and is documented in the CTC Laboratories, Inc. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Below is the best measurement capability for CTC Laboratories, Inc.

Test Items	Measurement Uncertainty	Notes
DTS Bandwidth	±0.0196%	(1)
Maximum Conducted Output Power	±0.686 dB	(1)
Maximum Power Spectral Density Level	±0.743 dB	(1)
Band-edge Compliance	±1.328 dB	(1)
Unwanted Emissions In Non-restricted Freq Bands	9kHz-1GHz: ±0.746dB 1GHz-26GHz: ±1.328dB	(1)
Conducted Emissions 9kHz~30MHz	±3.08 dB	(1)
Radiated Emissions 30~1000MHz	±4.51 dB	(1)
Radiated Emissions 1~18GHz	±5.84 dB	(1)
Radiated Emissions 18~40GHz	±6.12 dB	(1)

Note (1): This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.6. Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15 °C to 35 °C
Relative Humidity:	20 % to 75 %
Air Pressure:	101 kPa

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2. GENERAL INFORMATION

2.1. Client Information

Applicant:	Avantis Education Limited
Address:	Unit 2 & 3 Jessop Court, Waterwells Business Park, Quedgeley, Gloucester, GL2 2AP UK
Manufacturer:	SHENZHEN SKYWORTH NEW WORLD TECHNOLOGY CO.,LTD.
Address:	508, Block A,SKYWORTH Building, Gaoxin AVE. 1.S Nanshan District, ShenZhen, China.
Factory:	Shenzhen Skyworth Digital Technology Co.,LTD. Baoan Factory
Address:	2-5F,Integration Multi-Storied Building, Skyworth Science and Technology Industrial Park, Tangtou Industrial Zone, Shiyan Street, Baoan District, Shenzhen city, China.

2.2. General Description of EUT

Product Name:	VR Headset
Trade Mark:	CLASSVR
Model/Type reference:	CVR-655-128C
Listed Model(s):	CVR-655-128
Model Difference:	All models are same with electrical parameters, internal circuit structure, product appearance, PCB layout, Bom and Antenna. But only differ in model name.
Sample ID:	CTC250114-016-S002
Power Supply:	DC 5V/3A, 9V/2A from Adapter
Adapter Model	PDT-003 Input: 100-240V~ 50/60Hz 4.5A max USB-C1 Output:3.3V-21V⎓5A or 5V⎓3A or 9V⎓3A or 15V⎓3A or 20V⎓5A (100W Max) USB-C2/C3 Output: 5V⎓3A or 9V⎓3A or 12V⎓2.5A or 15V⎓2A or 20V⎓1.5A (30W Max) USB-C4/C5/C6/C7 Output: 5V⎓ 3A or 9V⎓2.22A or 12V ⎓ 1.67A (20W Max) USB-A Output: 5V⎓3A or 9V⎓2A or 10V⎓2.25A OR 12⎓1.5A (22.5W Max) USB-C1+USB-C2/C3 Output: 100W+30W USB-C1+USB-C4/C5/C6/C7 Output: 100W+20W (USB-C2+USB-C3) + (USB-C4+US-C5) Output:15W USB-C6+USB-C7+USB-A Output:15W USB-C1+USB-C2/C3+USB-C4/C5+USB-C6/C7/USB-A:100W+30W+20W+20W Total Output:170W (Max)
Hardware Version:	5800-2AVQ920
Software Version:	VQ920-AVN-V1.8.0

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

Bluetooth 5.0 / BLE	
Modulation:	GFSK
Operation Frequency:	2402MHz~2480MHz
Channel Number:	40
Channel Separation:	2MHz
Data Rate:	1Mbps, 2Mbps
RF Module 1:	WCN6851
Antenna Type:	FPC Antenna
Antenna Gain:	1.71dBi
RF Module 2:	nRF52832
Antenna Type:	FPC Antenna
Antenna Gain:	4.84dBi

2.3. Accessory Equipment Information

Equipment Information			
Name	Model	S/N	Manufacturer
Notebook	ThinkPad T460s	/	Lenovo
Cable Information			
Name	Shielded Type	Ferrite Core	Length
USB Cable	Unshielded	NO	150cm
Test Software Information			
Name	Version	/	/
QRCT4	/	/	/
nRF	V2.4.0		

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2.4. Operation State

Operation Frequency List: The EUT has been tested under typical operating condition. The Applicant provides communication tools software to control the EUT for staying in continuous transmitting and receiving mode for testing. BT BLE, 40 channels are provided to the EUT. Channels 00/19/39 were selected for testing.

Operation Frequency List:

Channel	Frequency (MHz)
00	**2402**
01	2404
⋮	⋮
18	2438
19	**2440**
20	2442
⋮	⋮
38	2478
39	**2480**

Note: The display in grey were the channel selected for testing.

Test Mode:

For RF test items:
The engineering test program was provided and enabled to make EUT continuous transmit.
For AC power line conducted emissions:
The EUT was set to connect with the Bluetooth instrument under large package sizes transmission.
For Radiated spurious emissions test item:
The engineering test program was provided and enabled to make EUT continuous transmit. The EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

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2.5. Measurement Instruments List

Radiated emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9163	01026	Dec. 24, 2025
2	Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-647	Sep. 25, 2025
3	Test Receiver	Keysight	N9038A	MY56400071	Dec. 12, 2025
4	Broadband Amplifier	Schwarzbeck	BBV9743B	259	Dec. 12, 2025
5	Mirowave Broadband Amplifier	Schwarzbeck	BBV9718C	111	Dec. 12, 2025
6	3m chamber 3	YIHENG	EE106	/	Aug. 28, 2026
7	Test Software	FARA	EZ-EMC	FA-03A2	/

Conducted emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	LISN	R&S	ENV216	101112	Dec. 12, 2025
2	LISN	R&S	ENV216	101113	Dec. 12, 2025
3	EMI Test Receiver	R&S	ESCI	100524	Dec. 12, 2025
4	ISN CAT6	Schwarzbeck	NTFM 8158	CAT6-8158-0046	Dec. 12, 2025
5	ISN CAT5	Schwarzbeck	NTFM 8158	CAT5-8158-0046	Dec. 12, 2025
6	Test Software	R&S	EMC32	6.10.10	/

RF Test System - SRD					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until
1	Spectrum Analyzer	R&S	FSV40-N	101654	Aug. 06, 2025
2	RF Control Unit	Tonscend	JS0806-2	/	Aug. 21, 2025
3	Test Software	Tonscend	JS1120-3	V3.3.38	/

Note: 1. The Cal. Interval was one year.
2. The Cal. Interval was three years of the antenna.
3. The cable loss has been calculated in test result which connection between each test instruments.

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

3. TEST ITEM AND RESULTS

3.1. Conducted Emission

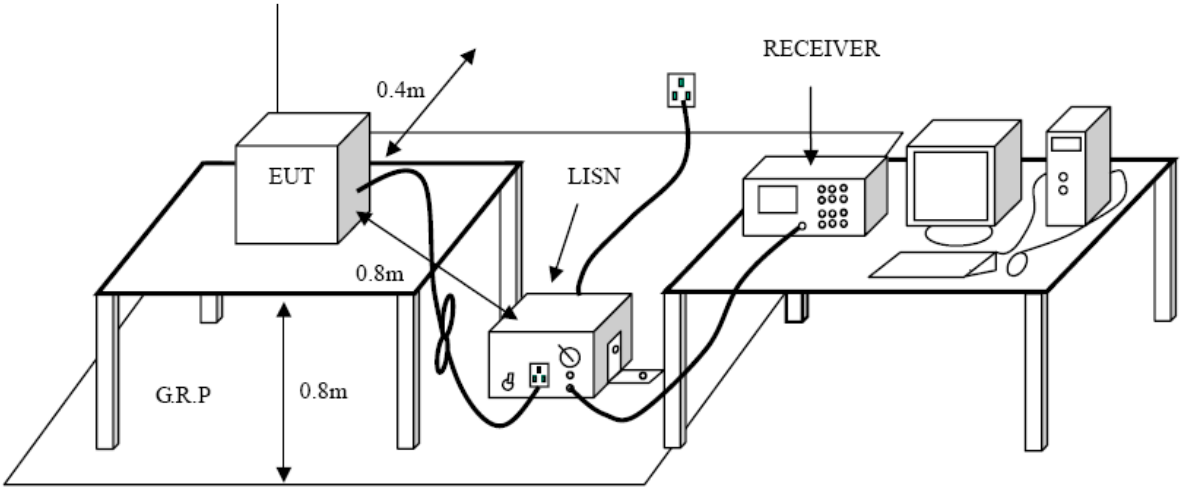
Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.207

Frequency (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46 *
0.5 - 5	56	46
5 - 30	60	50

* Decreases with the logarithm of the frequency.

Test Configuration



Test Procedure

1. The EUT was setup according to ANSI C63.10:2013 requirements.
2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
3. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm / 50 μH coupling impedance for the measuring equipment.
4. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
5. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
6. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
7. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
8. During the above scans, the emissions were maximized by cable manipulation.

Test Mode

Please refer to the clause 2.4.

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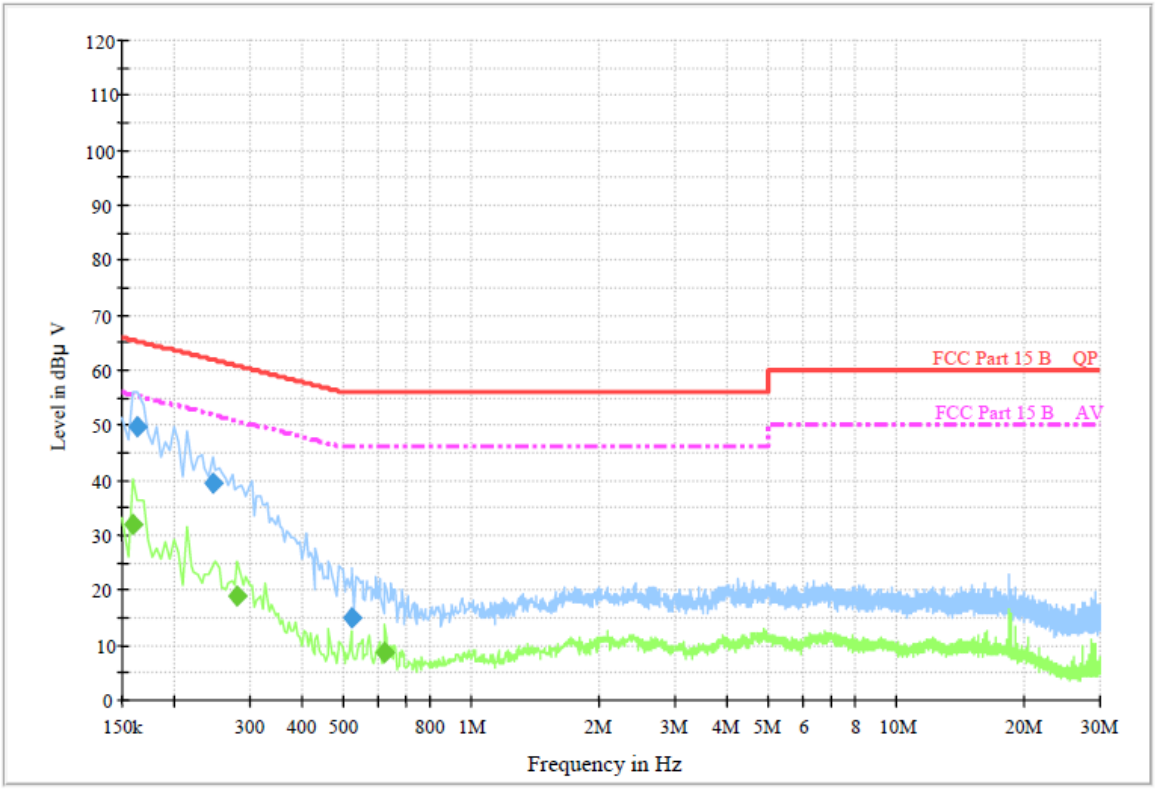
Test Result

Test Voltage:	AC 120V/60Hz
Test Mode:	WCN6851 Module BLE 1M 2402
Terminal:	Line
Remark:	Only worse case is reported



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.163500	49.5	1000.00	9.000	On	L1	9.5	15.8	65.3	
0.244500	39.4	1000.00	9.000	On	L1	9.5	22.5	61.9	
0.523500	14.8	1000.00	9.000	On	L1	9.4	41.2	56.0	

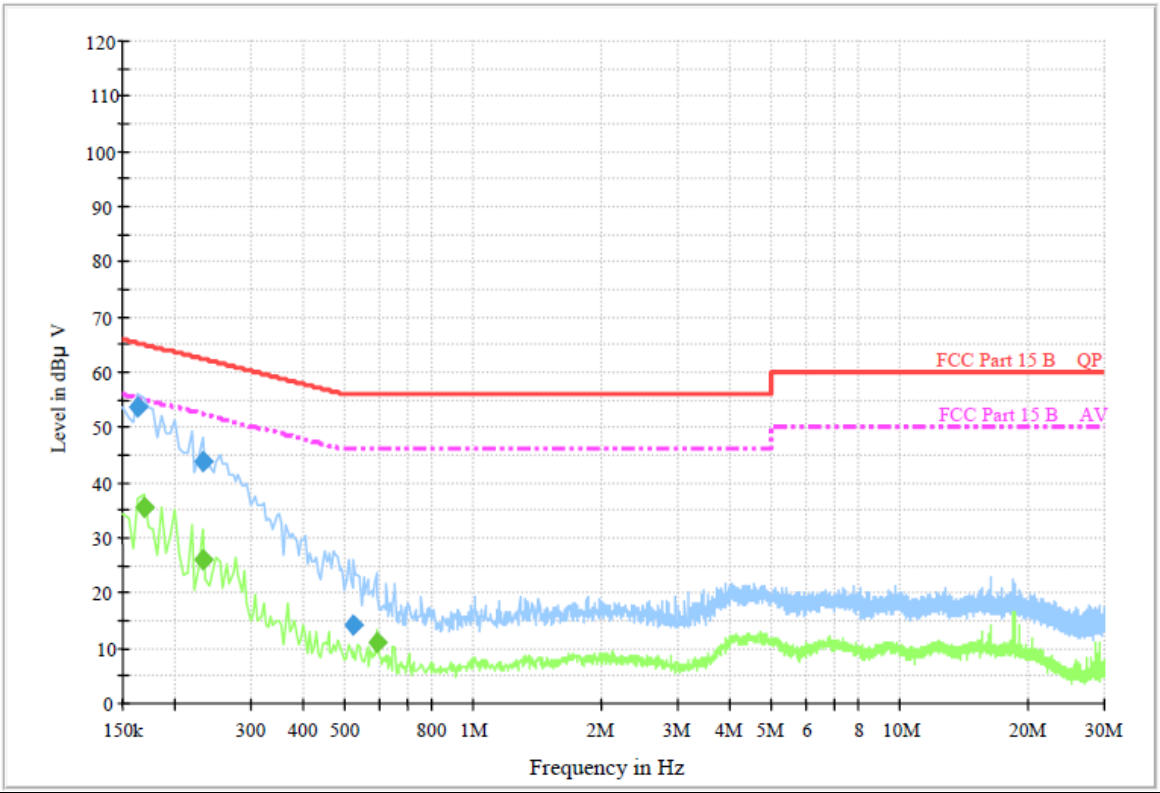
Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.159000	31.9	1000.00	9.000	On	L1	9.4	23.6	55.5	
0.280500	19.1	1000.00	9.000	On	L1	9.5	31.7	50.8	
0.622500	8.5	1000.00	9.000	On	L1	9.5	37.5	46.0	

Emission Level = Read Level + Correct Factor

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

Test Voltage:	AC 120V/60Hz
Test Mode:	WCN6851 Module BLE 1M 2402
Terminal:	Neutral
Remark:	Only worse case is reported



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.163500	53.6	1000.00	9.000	On	N	9.4	11.7	65.3	
0.231000	43.8	1000.00	9.000	On	N	9.4	18.6	62.4	
0.523500	14.2	1000.00	9.000	On	N	9.6	41.8	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.168000	35.5	1000.00	9.000	On	N	9.4	19.6	55.1	
0.231000	25.9	1000.00	9.000	On	N	9.4	26.5	52.4	
0.591000	11.0	1000.00	9.000	On	N	9.5	35.0	46.0	

Emission Level = Read Level + Correct Factor

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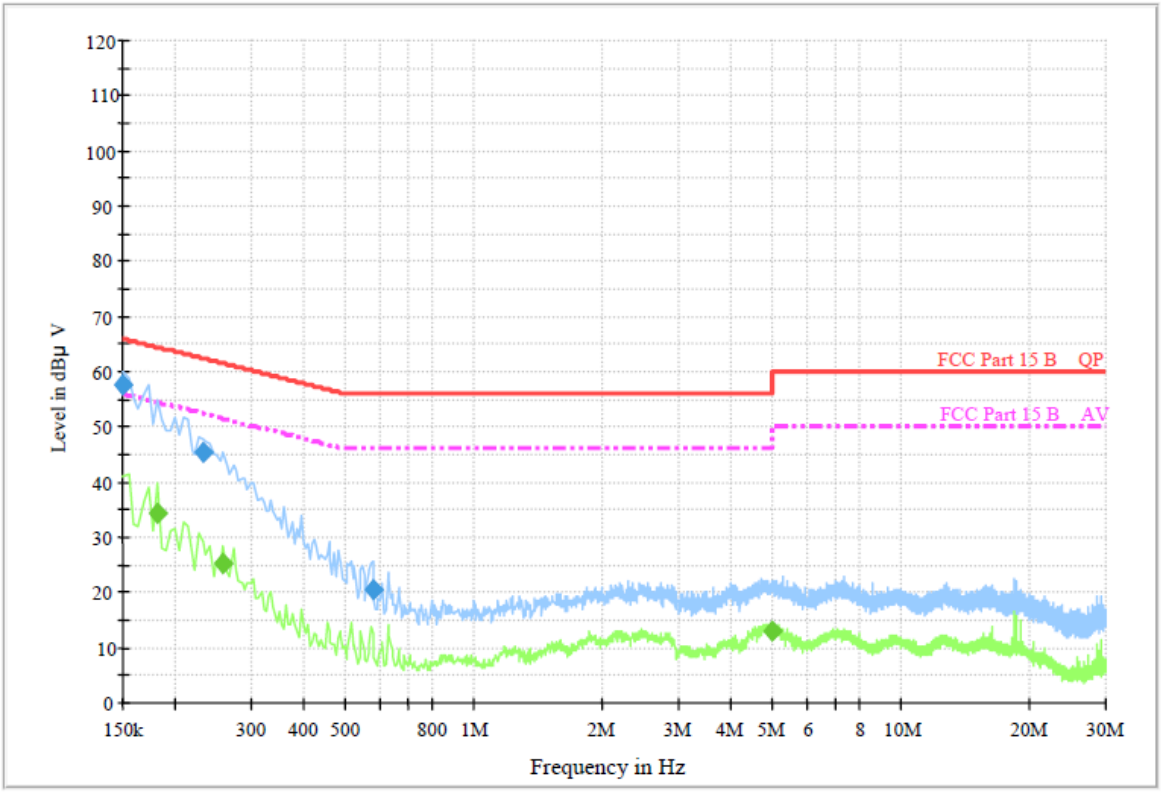
Test Voltage:	AC 120V/60Hz
Test Mode:	nRF52832 Module BLE 1M 2402
Terminal:	Line
Remark:	Only worse case is reported



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.150000	57.5	1000.00	9.000	On	L1	9.4	8.5	66.0	
0.231000	45.2	1000.00	9.000	On	L1	9.5	17.2	62.4	
0.577500	20.7	1000.00	9.000	On	L1	9.5	35.3	56.0	

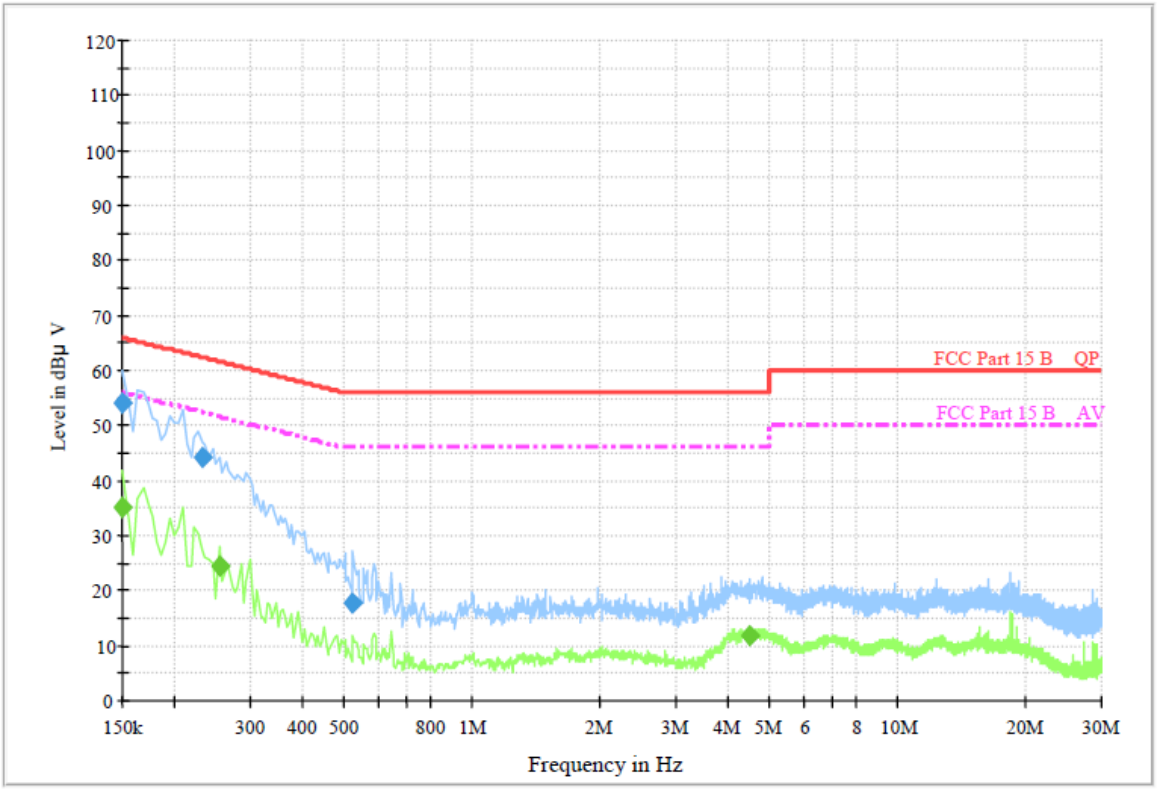
Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.181500	34.2	1000.00	9.000	On	L1	9.5	20.2	54.4	
0.258000	25.2	1000.00	9.000	On	L1	9.5	26.3	51.5	
4.947000	12.9	1000.00	9.000	On	L1	9.4	33.1	46.0	

Emission Level = Read Level + Correct Factor

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

Test Voltage:	AC 120V/60Hz
Test Mode:	nRF52832 Module BLE 1M 2402
Terminal:	Neutral
Remark:	Only worse case is reported



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.150000	54.0	1000.00	9.000	On	N	9.4	12.0	66.0	
0.231000	44.3	1000.00	9.000	On	N	9.4	18.1	62.4	
0.523500	17.7	1000.00	9.000	On	N	9.6	38.3	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.150000	35.1	1000.00	9.000	On	N	9.4	20.9	56.0	
0.253500	24.6	1000.00	9.000	On	N	9.4	27.0	51.6	
4.474500	11.9	1000.00	9.000	On	N	9.5	34.1	46.0	

Emission Level = Read Level + Correct Factor

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3.2. Radiated Emission

Limit

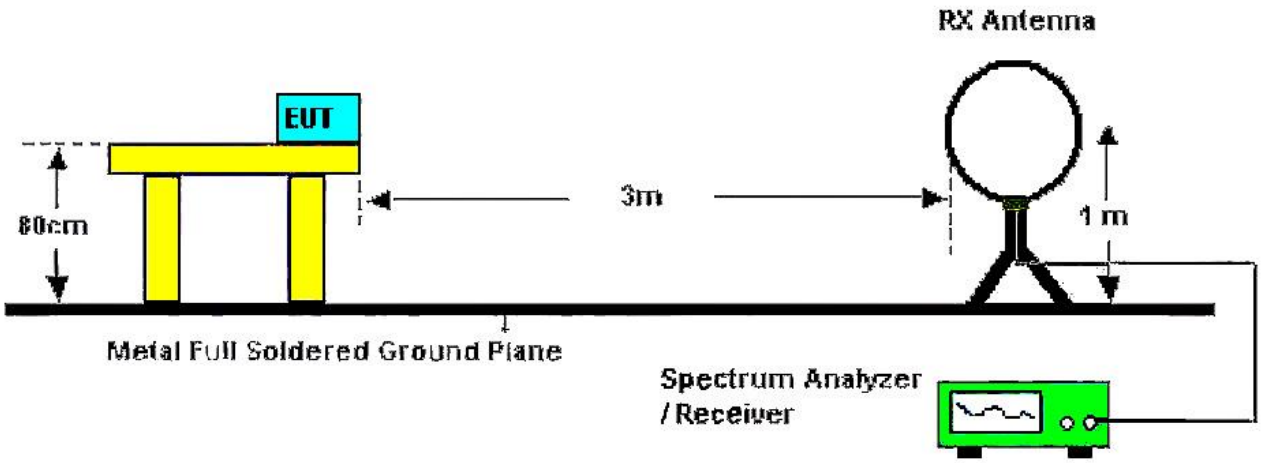
FCC CFR Title 47 Part 15 Subpart C Section 15.209

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F (kHz)	300
0.490~1.705	24000/F (kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

Frequency Range (MHz)	dBμV/m (at 3 meters)	
	Peak	Average
Above 1000	74	54

Note:
(1) The tighter limit applies at the band edges.
(2) Emission Level (dBμV/m)=20log Emission Level (μV/m).

Test Configuration



Below 30MHz Test Setup

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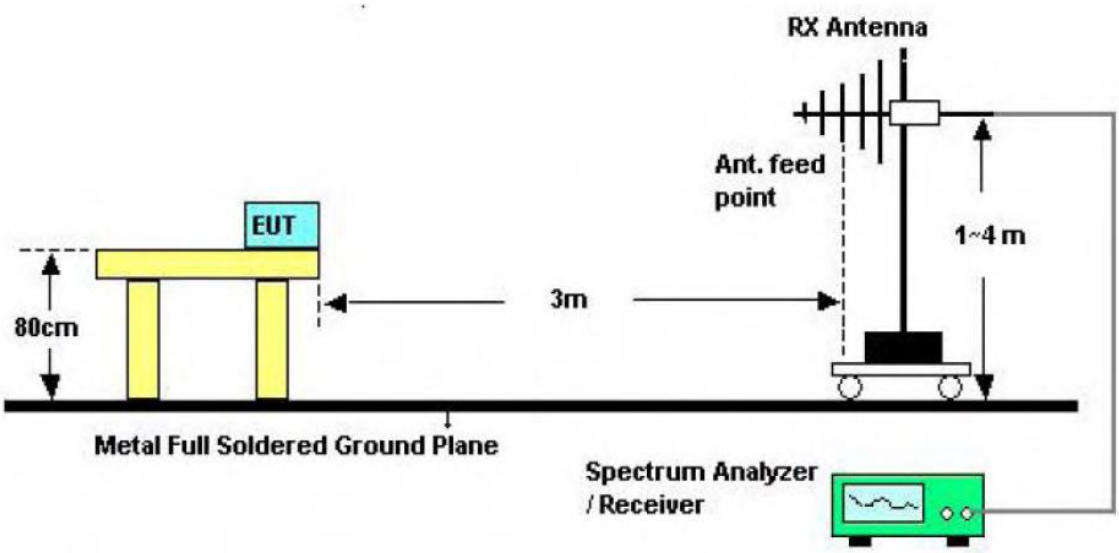
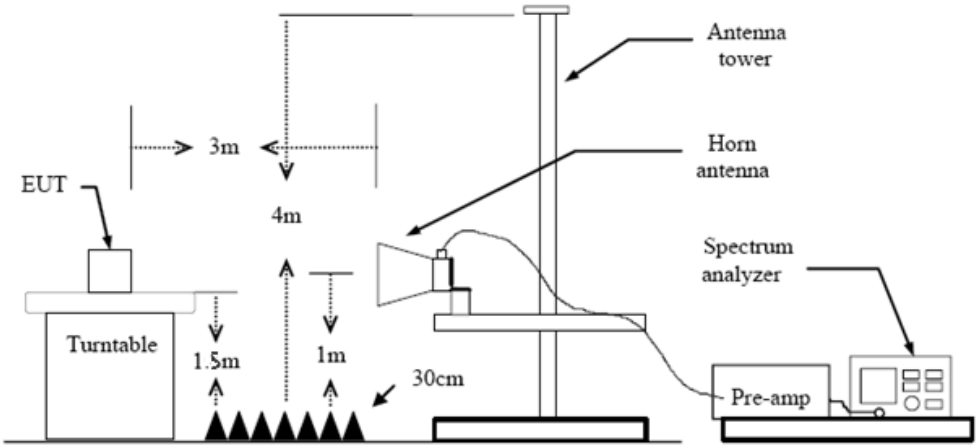


30-1000MHz Test Setup



Above 1GHz Test Setup

Test Procedure

1. The EUT was setup and tested according to ANSI C63.10:2013.
2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
5. Set to the maximum power setting and enable the EUT transmit continuously.
6. Use the following spectrum analyzer settings

(1) Span shall wide enough to fully capture the emission being measured;
(2) 9k – 150kHz:
RBW=300 Hz, VBW=1 kHz, Sweep=auto, Detector function=peak, Trace=max hold
(3) 0.15M – 30MHz:
RBW=10 kHz, VBW=30 kHz, Sweep=auto, Detector function=peak, Trace=max hold
(4) 30M - 1 GHz:
RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold

If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

(5) From 1 GHz to 10th harmonic:

RBW=1MHz, VBW=3MHz Peak detector for Peak value.

RBW=1MHz, VBW see note 1 with Peak Detector for Average Value.

Note 1: For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 3.8 Duty Cycle.

Test Mode

Please refer to the clause 2.4.

Test Result

9 kHz~30 MHz

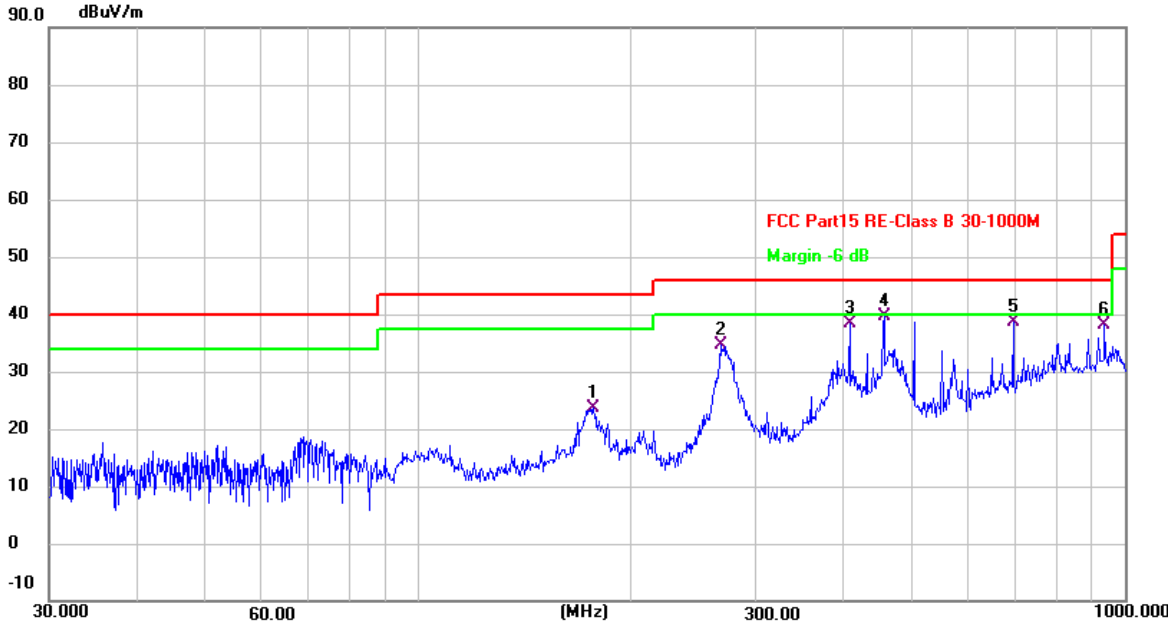
From 9 kHz to 30 MHz: The conclusion is PASS.

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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

30MHz-1GHz

Ant. Pol.	Horizontal
RF Module 1:	WCN6851
Test Mode:	TX BLE 1M Mode 2402MHz
Remark:	Only worse case is reported.

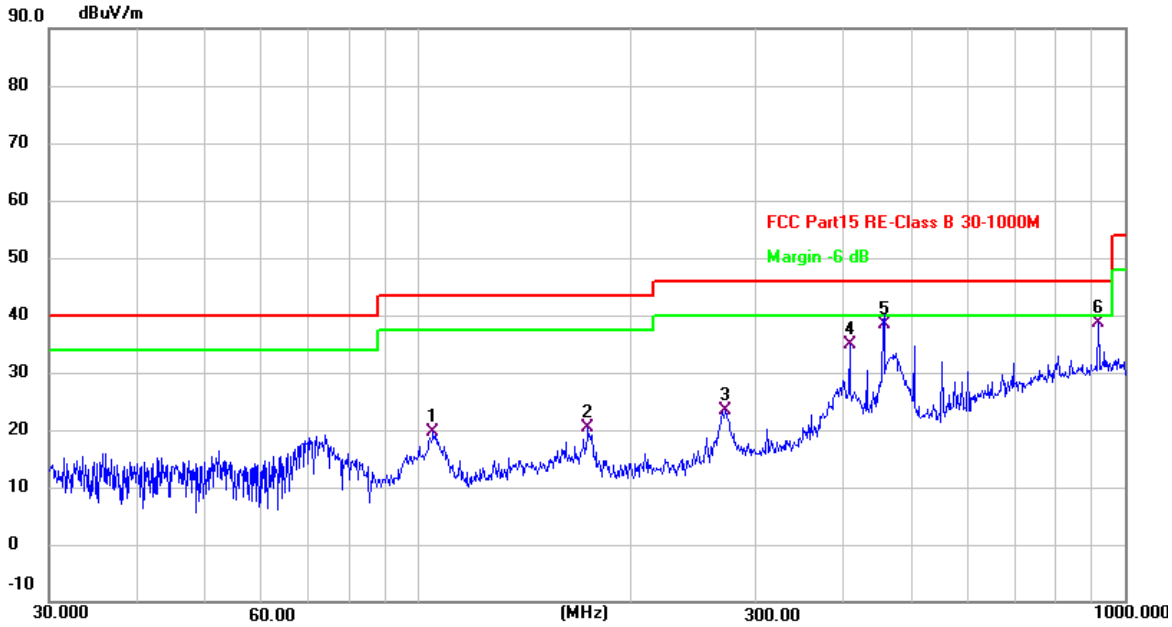


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	176.8878	41.29	-17.73	23.56	43.50	-19.94	QP
2	267.5454	51.46	-16.83	34.63	46.00	-11.37	QP
3	407.5144	50.81	-12.39	38.42	46.00	-7.58	QP
4 *	455.9058	50.47	-10.95	39.52	46.00	-6.48	QP
5	694.4174	44.36	-5.76	38.60	46.00	-7.40	QP
6	935.5463	39.67	-1.66	38.01	46.00	-7.99	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Vertical
RF Module 1:	WCN6851
Test Mode:	TX BLE 1M Mode 2402MHz
Remark:	Only worse case is reported.

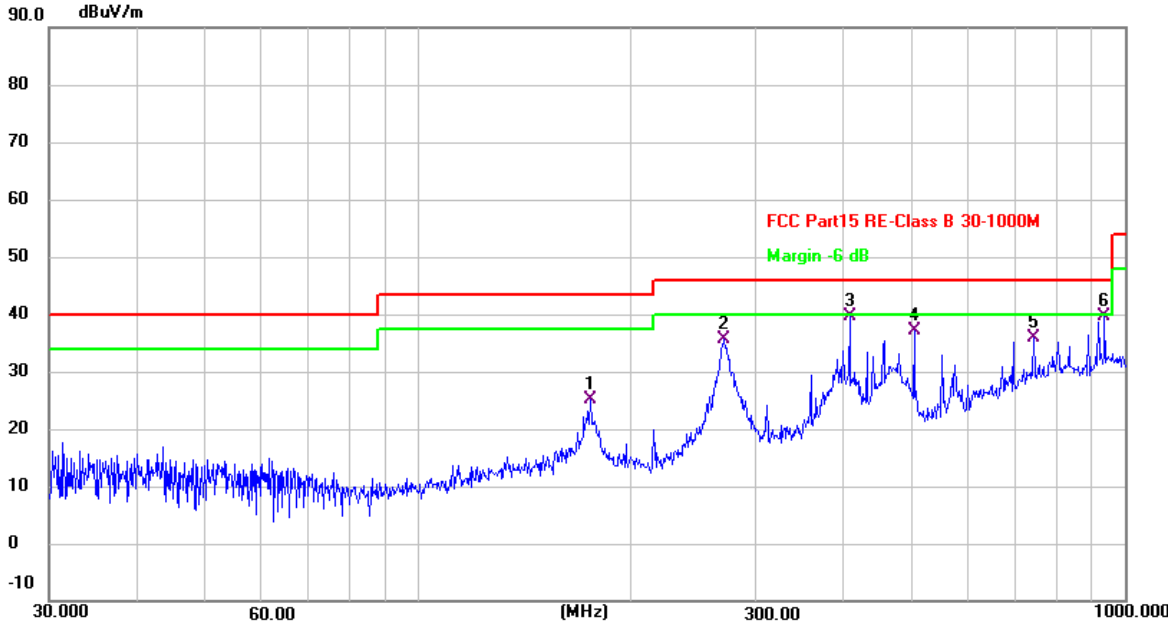


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	104.9033	39.35	-19.74	19.61	43.50	-23.89	QP
2	173.8135	37.76	-17.32	20.44	43.50	-23.06	QP
3	271.3246	40.11	-16.66	23.45	46.00	-22.55	QP
4	407.5145	47.36	-12.39	34.97	46.00	-11.03	QP
5	455.9058	49.39	-10.95	38.44	46.00	-7.56	QP
6 *	916.0687	40.79	-2.04	38.75	46.00	-7.25	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	nRF52832
Test Mode:	TX BLE 1M Mode 2402MHz
Remark:	Only worse case is reported.

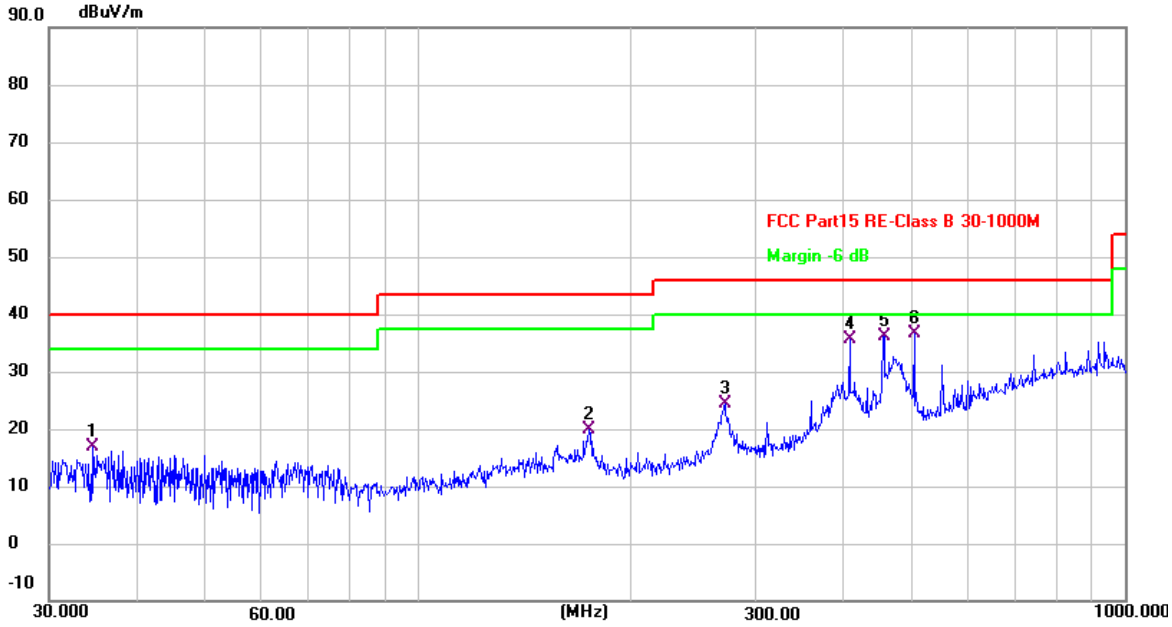


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	175.0367	42.60	-17.47	25.13	43.50	-18.37	QP
2	270.3748	52.26	-16.70	35.56	46.00	-10.44	QP
3 *	407.5144	52.12	-12.39	39.73	46.00	-6.27	QP
4	502.9395	47.11	-10.01	37.10	46.00	-8.90	QP
5	742.2587	40.78	-4.81	35.97	46.00	-10.03	QP
6	935.5463	41.32	-1.66	39.66	46.00	-6.34	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Vertical
RF Module 1:	nRF52832
Test Mode:	TX BLE 1M Mode 2402MHz
Remark:	Only worse case is reported.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	34.5173	32.82	-15.88	16.94	40.00	-23.06	QP
2	174.4241	37.21	-17.40	19.81	43.50	-23.69	QP
3	271.3246	41.12	-16.66	24.46	46.00	-21.54	QP
4	407.5145	47.95	-12.39	35.56	46.00	-10.44	QP
5	455.9058	47.07	-10.95	36.12	46.00	-9.88	QP
6 *	502.9395	46.60	-10.01	36.59	46.00	-9.41	QP

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Above 1GHz

Ant. Pol.	Horizontal
RF Module 1:	WCN6851
Test Mode:	TX BLE 1M Mode 2402MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4804.111	25.55	1.84	27.39	54.00	-26.61	AVG
2	4804.535	39.60	1.84	41.44	74.00	-32.56	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
RF Module 1:	WCN6851
Test Mode:	TX BLE 1M Mode 2402MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4803.331	25.65	1.84	27.49	54.00	-26.51	AVG
2	4804.044	39.60	1.84	41.44	74.00	-32.56	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	WCN6851
Test Mode:	TX BLE 1M Mode 2440MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4879.519	39.96	1.96	41.92	74.00	-32.08	peak
2 *	4880.927	25.94	1.96	27.90	54.00	-26.10	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
RF Module 1:	WCN6851
Test Mode:	TX BLE 1M Mode 2440MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4879.889	25.84	1.96	27.80	54.00	-26.20	AVG
2	4880.542	39.79	1.96	41.75	74.00	-32.25	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	WCN6851
Test Mode:	TX BLE 1M Mode 2480MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4960.109	25.03	2.08	27.11	54.00	-26.89	AVG
2	4960.355	39.44	2.08	41.52	74.00	-32.48	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
RF Module 1:	WCN6851
Test Mode:	TX BLE 1M Mode 2480MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4959.491	39.53	2.08	41.61	74.00	-32.39	peak
2 *	4959.631	25.22	2.08	27.30	54.00	-26.70	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	WCN6851
Test Mode:	TX BLE 2M Mode 2402MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4803.219	39.47	1.84	41.31	74.00	-32.69	peak
2 *	4803.510	25.58	1.84	27.42	54.00	-26.58	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
RF Module 1:	WCN6851
Test Mode:	TX BLE 2M Mode 2402MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4803.225	38.79	1.84	40.63	74.00	-33.37	peak
2 *	4803.236	25.63	1.84	27.47	54.00	-26.53	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	WCN6851
Test Mode:	TX BLE 2M Mode 2440MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4879.363	40.58	1.96	42.54	74.00	-31.46	peak
2 *	4879.619	25.89	1.96	27.85	54.00	-26.15	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
RF Module 1:	WCN6851
Test Mode:	TX BLE 2M Mode 2440MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4880.043	25.59	1.96	27.55	54.00	-26.45	AVG
2	4880.933	39.24	1.96	41.20	74.00	-32.80	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	WCN6851
Test Mode:	TX BLE 2M Mode 2480MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4959.422	40.60	2.08	42.68	74.00	-31.32	peak
2 *	4960.786	25.54	2.08	27.62	54.00	-26.38	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
RF Module 1:	WCN6851
Test Mode:	TX BLE 2M Mode 2480MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4959.819	39.95	2.08	42.03	74.00	-31.97	peak
2 *	4960.623	24.80	2.08	26.88	54.00	-27.12	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	nRF52832
Test Mode:	TX BLE 1M Mode 2402MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4804.122	25.47	1.84	27.31	54.00	-26.69	AVG
2	4804.245	39.48	1.84	41.32	74.00	-32.68	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
RF Module 1:	nRF52832
Test Mode:	TX BLE 1M Mode 2402MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4804.122	25.37	1.84	27.21	54.00	-26.79	AVG
2	4804.841	39.78	1.84	41.62	74.00	-32.38	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	nRF52832
Test Mode:	TX BLE 1M Mode 2440MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4880.108	25.64	1.96	27.60	54.00	-26.40	AVG
2	4880.526	39.37	1.96	41.33	74.00	-32.67	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
RF Module 1:	nRF52832
Test Mode:	TX BLE 1M Mode 2440MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4880.341	25.41	1.96	27.37	54.00	-26.63	AVG
2	4880.806	39.95	1.96	41.91	74.00	-32.09	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	nRF52832
Test Mode:	TX BLE 1M Mode 2480MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4960.611	25.17	2.08	27.25	54.00	-26.75	AVG
2	4960.802	39.62	2.08	41.70	74.00	-32.30	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
RF Module 1:	nRF52832
Test Mode:	TX BLE 1M Mode 2480MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4960.227	25.55	2.08	27.63	54.00	-26.37	AVG
2	4960.441	39.69	2.08	41.77	74.00	-32.23	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	nRF52832
Test Mode:	TX BLE 2M Mode 2402MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4804.331	39.66	1.84	41.50	74.00	-32.50	peak
2 *	4804.420	25.27	1.84	27.11	54.00	-26.89	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
RF Module 1:	nRF52832
Test Mode:	TX BLE 2M Mode 2402MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4804.217	39.22	1.84	41.06	74.00	-32.94	peak
2 *	4804.507	25.84	1.84	27.68	54.00	-26.32	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	nRF52832
Test Mode:	TX BLE 2M Mode 2440MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4879.661	25.46	1.96	27.42	54.00	-26.58	AVG
2	4880.731	40.41	1.96	42.37	74.00	-31.63	peak

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
RF Module 1:	nRF52832
Test Mode:	TX BLE 2M Mode 2440MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4879.552	39.66	1.96	41.62	74.00	-32.38	peak
2 *	4880.621	25.83	1.96	27.79	54.00	-26.21	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	nRF52832
Test Mode:	TX BLE 2M Mode 2480MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4960.433	40.44	2.08	42.52	74.00	-31.48	peak
2 *	4960.601	25.31	2.08	27.39	54.00	-26.61	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

Ant. Pol.	Vertical
RF Module 1:	nRF52832
Test Mode:	TX BLE 2M Mode 2480MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4960.340	40.03	2.08	42.11	74.00	-31.89	peak
2 *	4960.557	24.64	2.08	26.72	54.00	-27.28	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

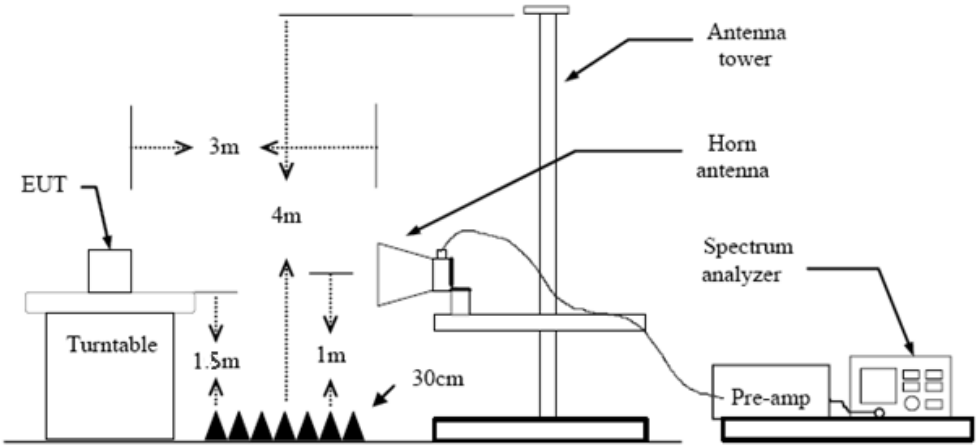
3.3. Band Edge Emissions (Radiated)

Limit

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

Restricted Frequency Band (MHz)	(dBμV/m) (at 3m)	
	Peak	Average
2310 ~ 2390	74	54
2483.5 ~ 2500	74	54

Test Configuration



Test Procedure

1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.
5. The receiver set as follow:

RBW=1MHz, VBW=3MHz Peak detector for Peak value.
RBW=1MHz, VBW see note 1 with Peak Detector for Average Value.

Note 1: For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 3.8 Duty Cycle.

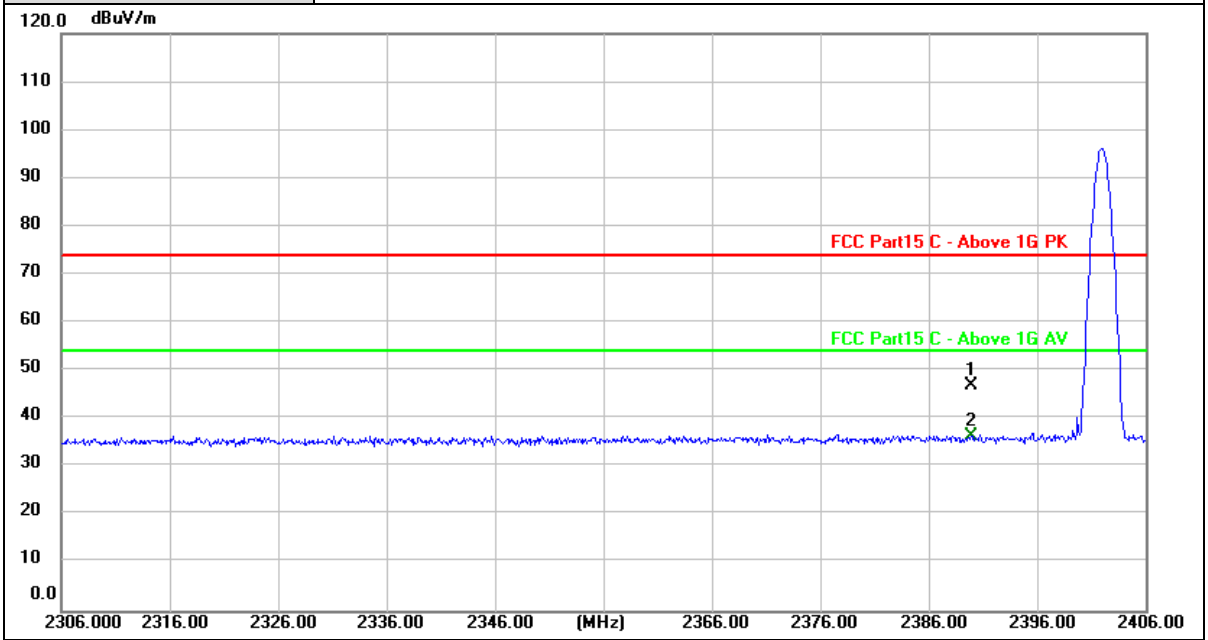
Test Mode

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

Ant. Pol.	Horizontal
RF Module 1:	WCN6851
Test Mode:	TX BLE 1M Mode 2402MHz

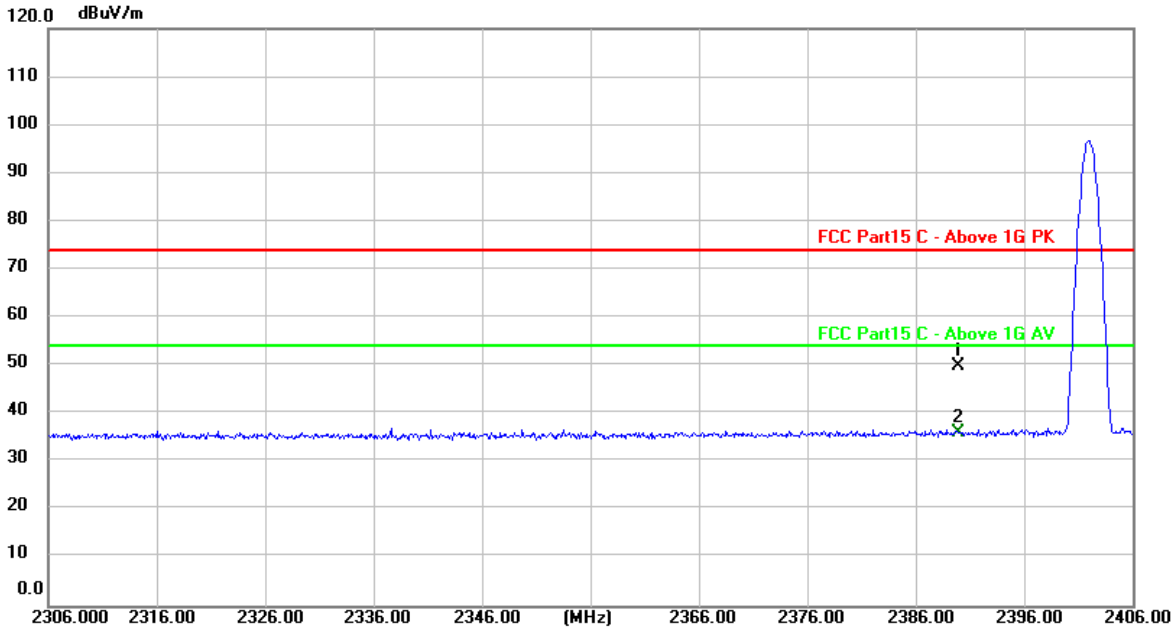


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	15.58	31.31	46.89	74.00	-27.11	peak
2 *	2390.000	5.22	31.31	36.53	54.00	-17.47	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Vertical
RF Module 1:	WCN6851
Test Mode:	TX BLE 1M Mode 2402MHz

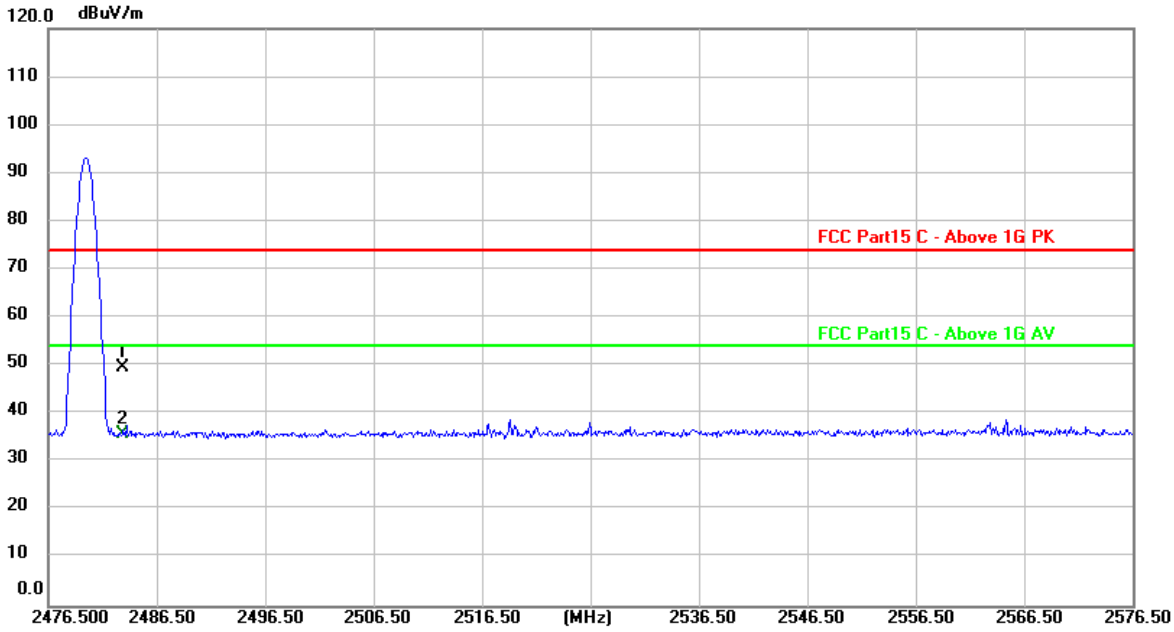


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	18.58	31.31	49.89	74.00	-24.11	peak
2 *	2390.000	4.88	31.31	36.19	54.00	-17.81	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	WCN6851
Test Mode:	TX BLE 1M Mode 2480MHz

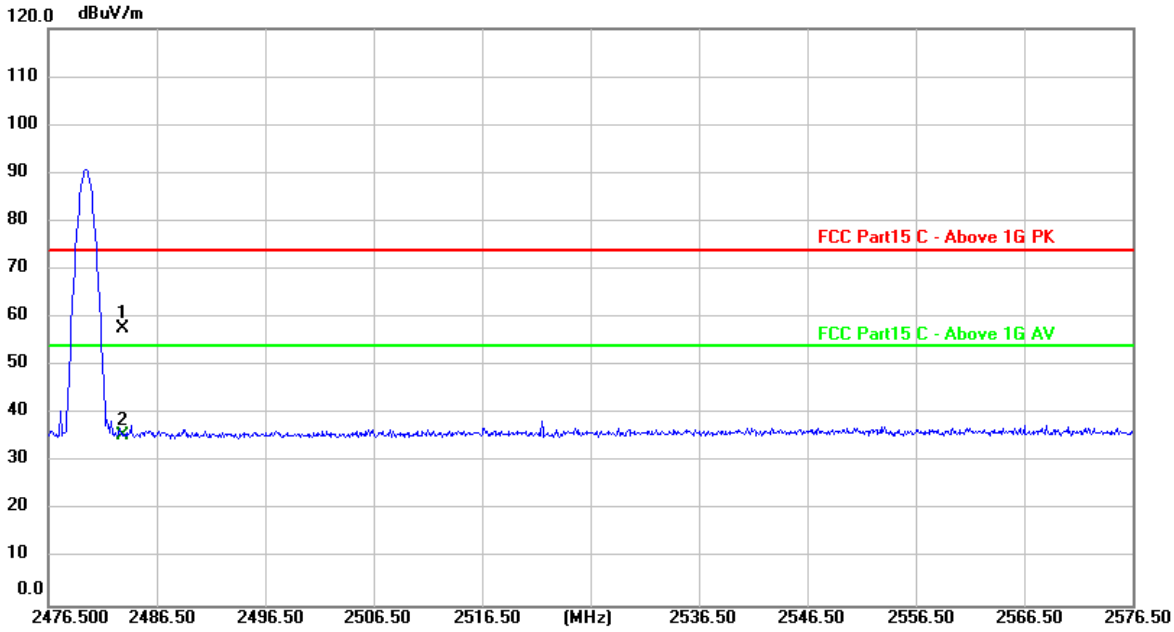


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	18.16	31.50	49.66	74.00	-24.34	peak
2 *	2483.500	4.25	31.50	35.75	54.00	-18.25	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Vertical
RF Module 1:	WCN6851
Test Mode:	TX BLE 1M Mode 2480MHz

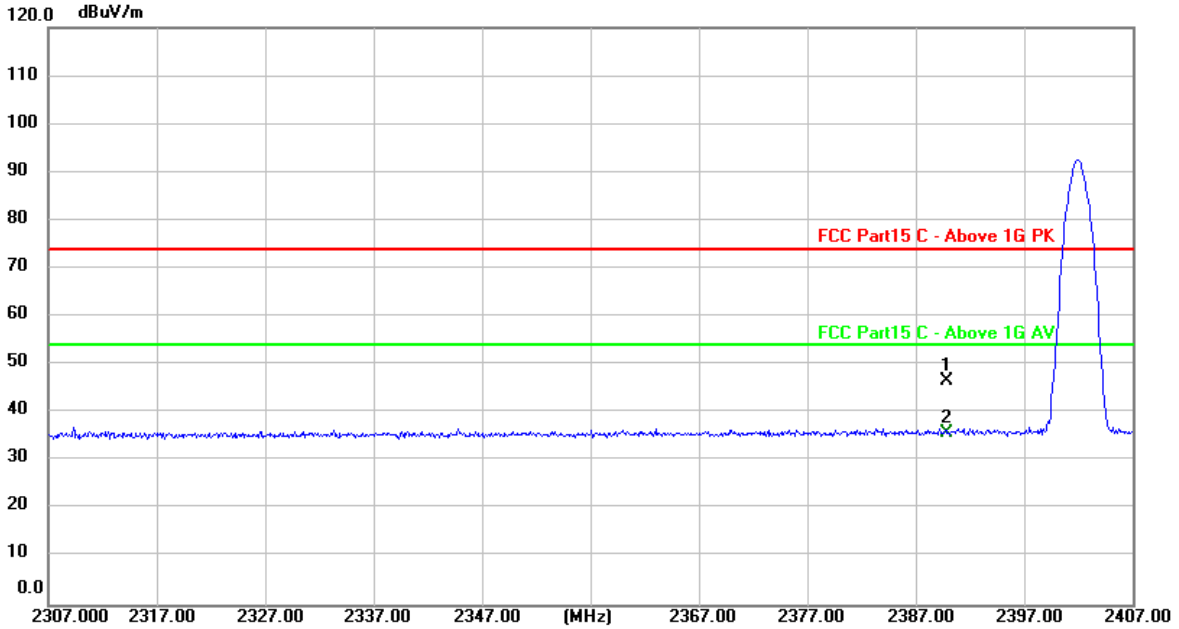


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	2483.500	26.31	31.50	57.81	74.00	-16.19	peak
2	2483.500	4.15	31.50	35.65	54.00	-18.35	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	WCN6851
Test Mode:	TX BLE 2M Mode 2402MHz

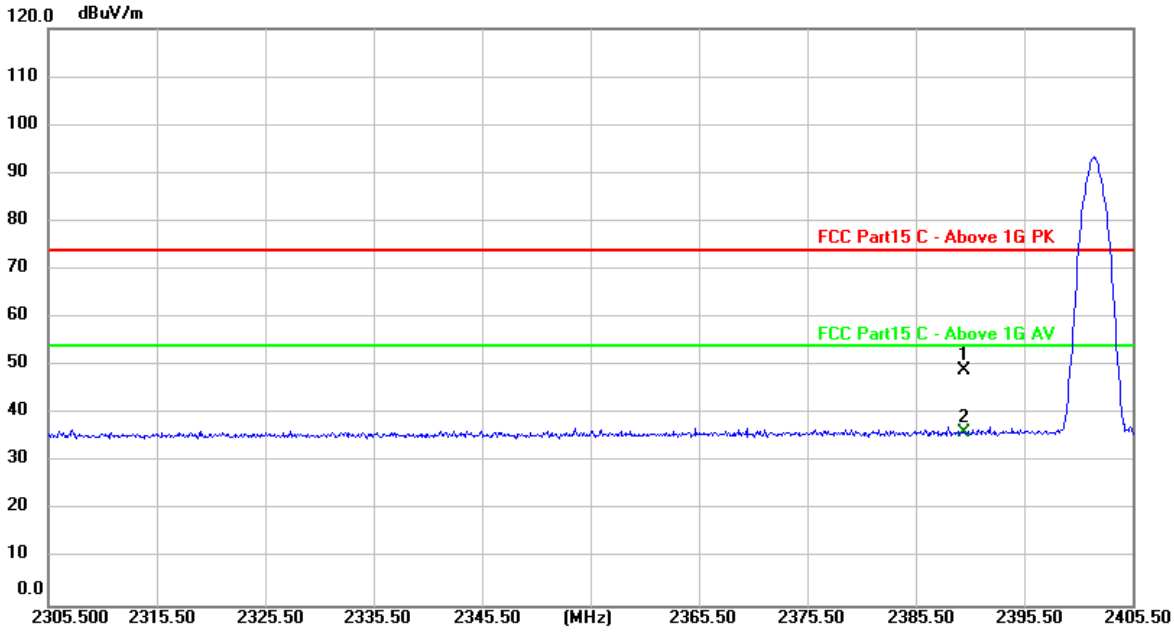


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	15.47	31.31	46.78	74.00	-27.22	peak
2 *	2390.000	4.60	31.31	35.91	54.00	-18.09	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Vertical
RF Module 1:	WCN6851
Test Mode:	TX BLE 2M Mode 2402MHz

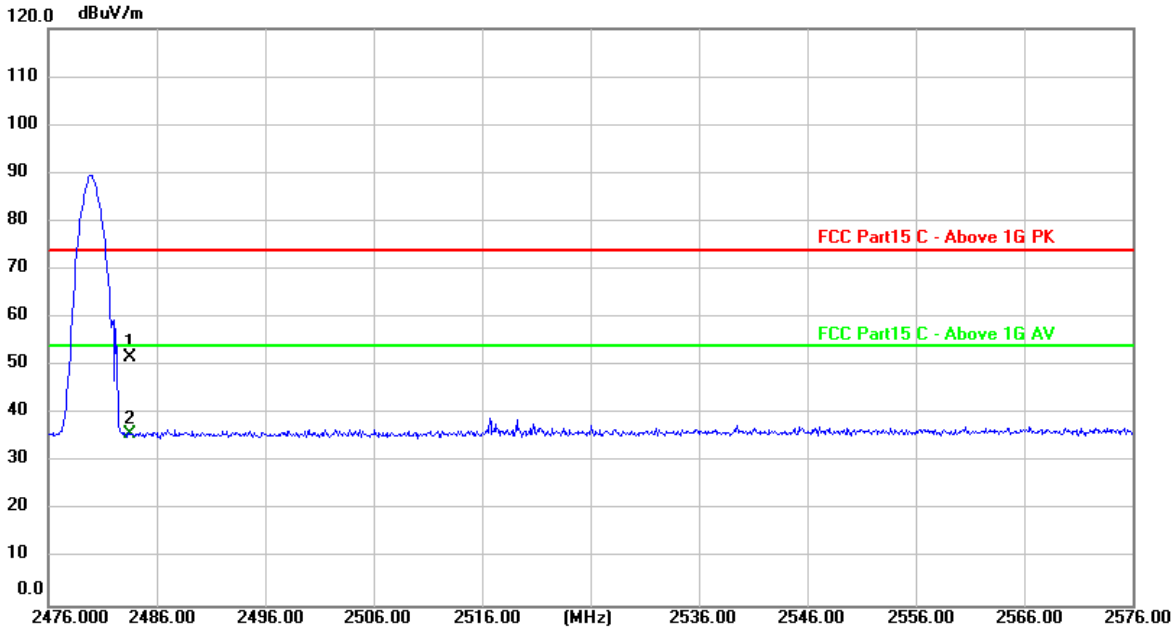


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	17.62	31.31	48.93	74.00	-25.07	peak
2 *	2390.000	4.76	31.31	36.07	54.00	-17.93	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	WCN6851
Test Mode:	TX BLE 2M Mode 2480MHz

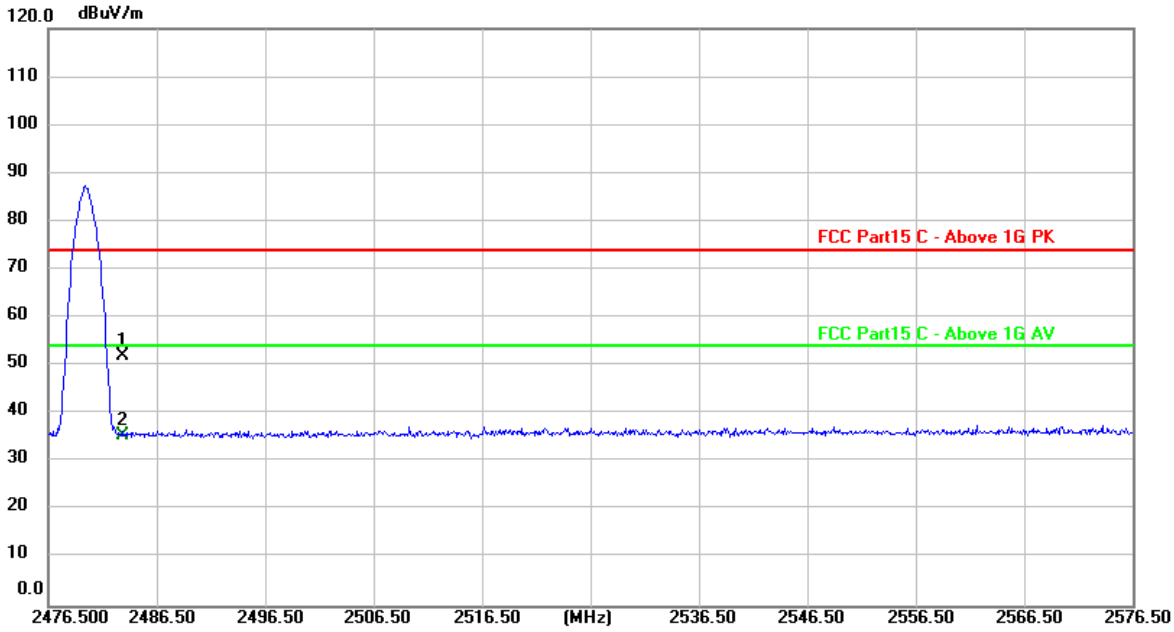


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	20.28	31.50	51.78	74.00	-22.22	peak
2 *	2483.500	4.33	31.50	35.83	54.00	-18.17	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Vertical
RF Module 1:	WCN6851
Test Mode:	TX BLE 2M Mode 2480MHz

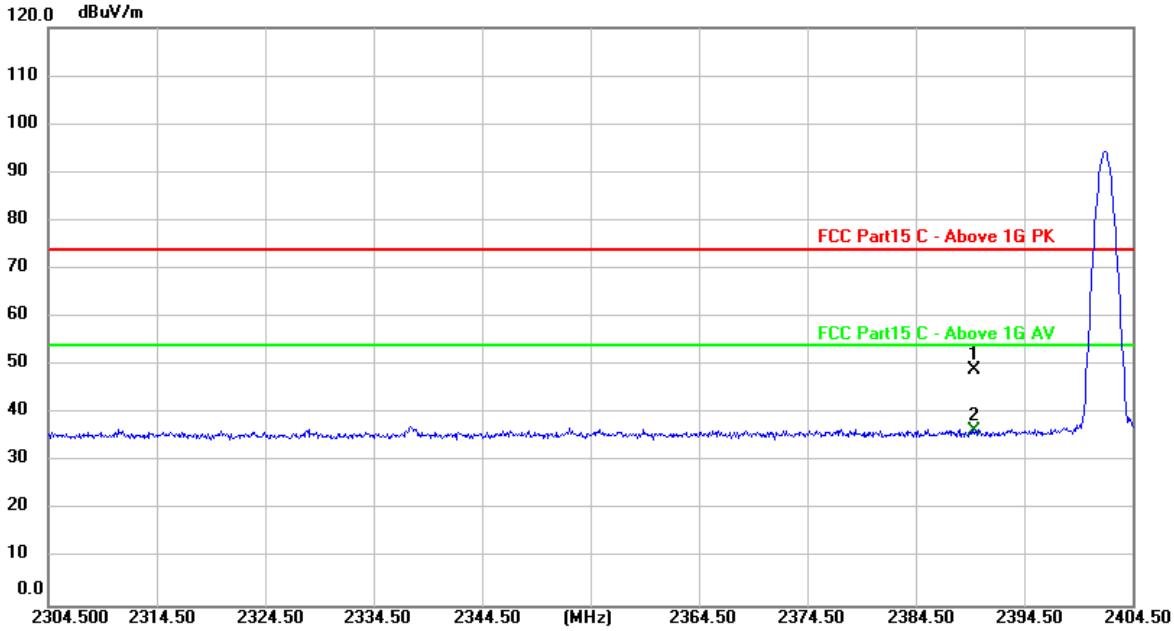


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	20.62	31.50	52.12	74.00	-21.88	peak
2 *	2483.500	3.92	31.50	35.42	54.00	-18.58	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	nRF52832
Test Mode:	TX BLE 1M Mode 2402MHz

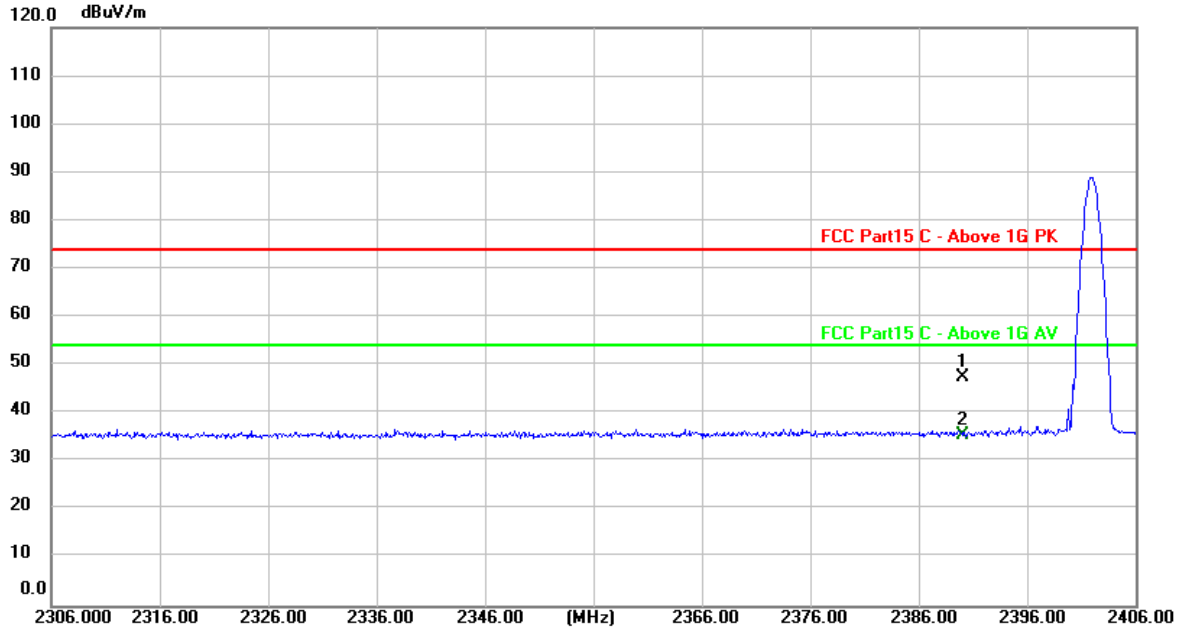


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	17.67	31.31	48.98	74.00	-25.02	peak
2 *	2390.000	5.26	31.31	36.57	54.00	-17.43	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Vertical
RF Module 1:	nRF52832
Test Mode:	TX BLE 1M Mode 2402MHz

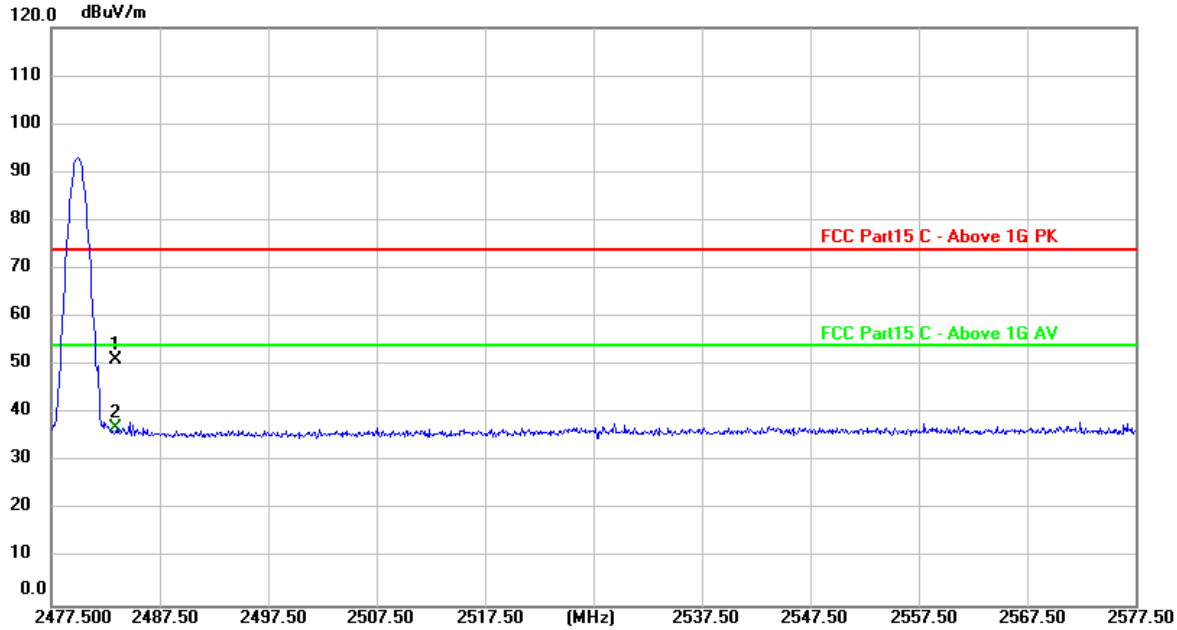


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	16.23	31.31	47.54	74.00	-26.46	peak
2 *	2390.000	4.26	31.31	35.57	54.00	-18.43	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	nRF52832
Test Mode:	TX BLE 1M Mode 2480MHz

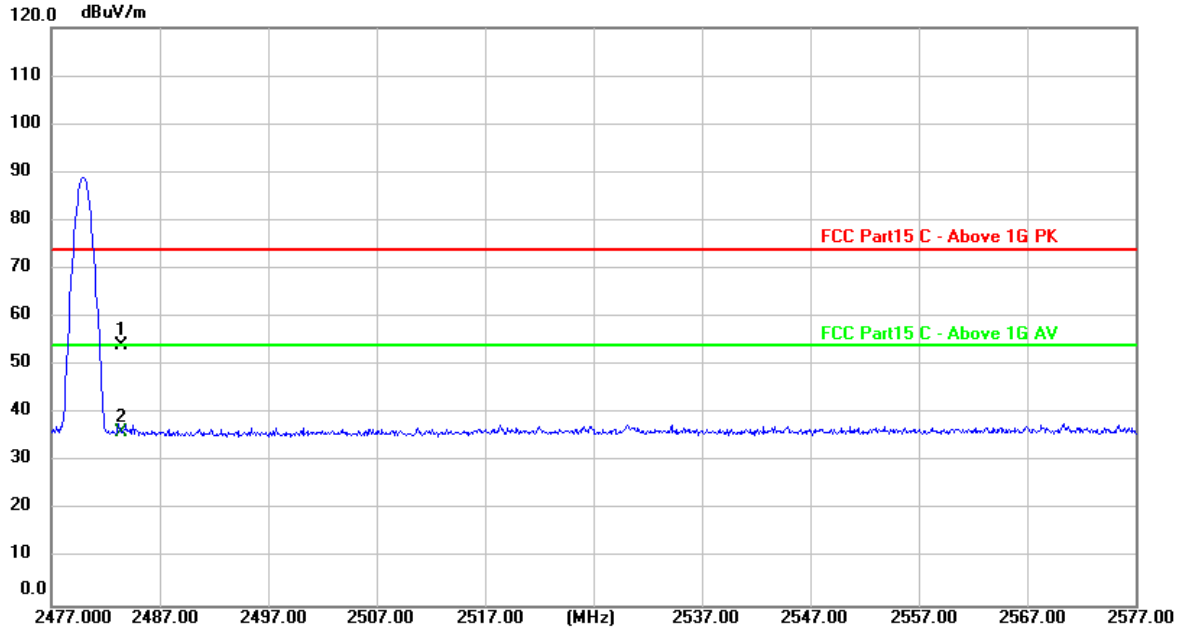


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	19.53	31.50	51.03	74.00	-22.97	peak
2 *	2483.500	5.49	31.50	36.99	54.00	-17.01	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Vertical
RF Module 1:	nRF52832
Test Mode:	TX BLE 1M Mode 2480MHz

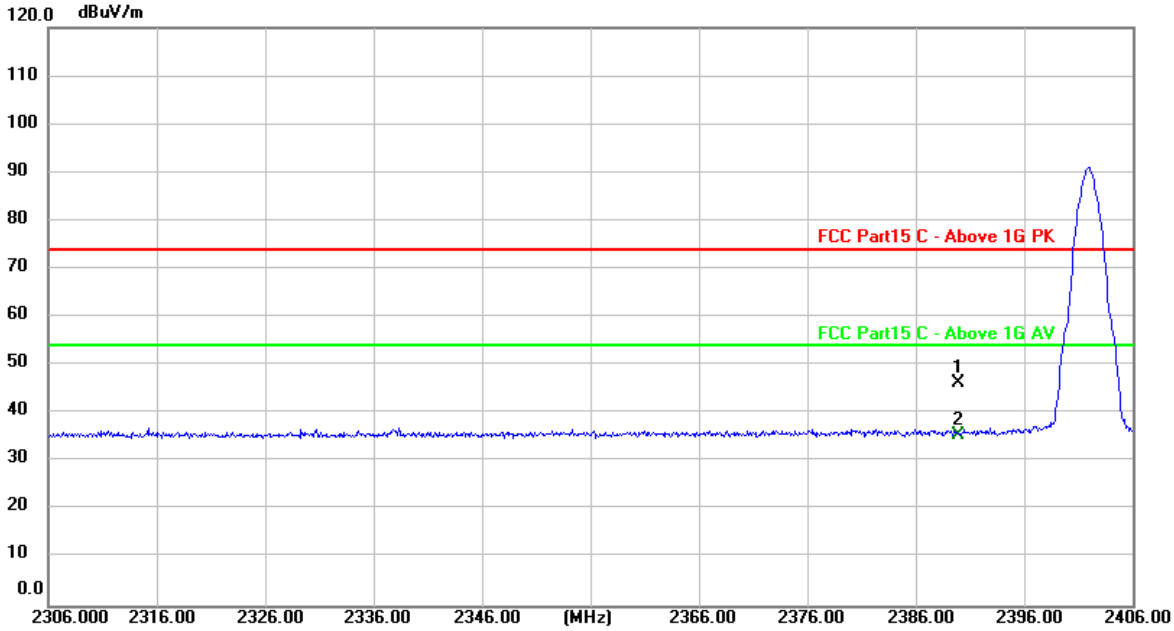


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	22.69	31.50	54.19	74.00	-19.81	peak
2 *	2483.500	4.68	31.50	36.18	54.00	-17.82	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	nRF52832
Test Mode:	TX BLE 2M Mode 2402MHz

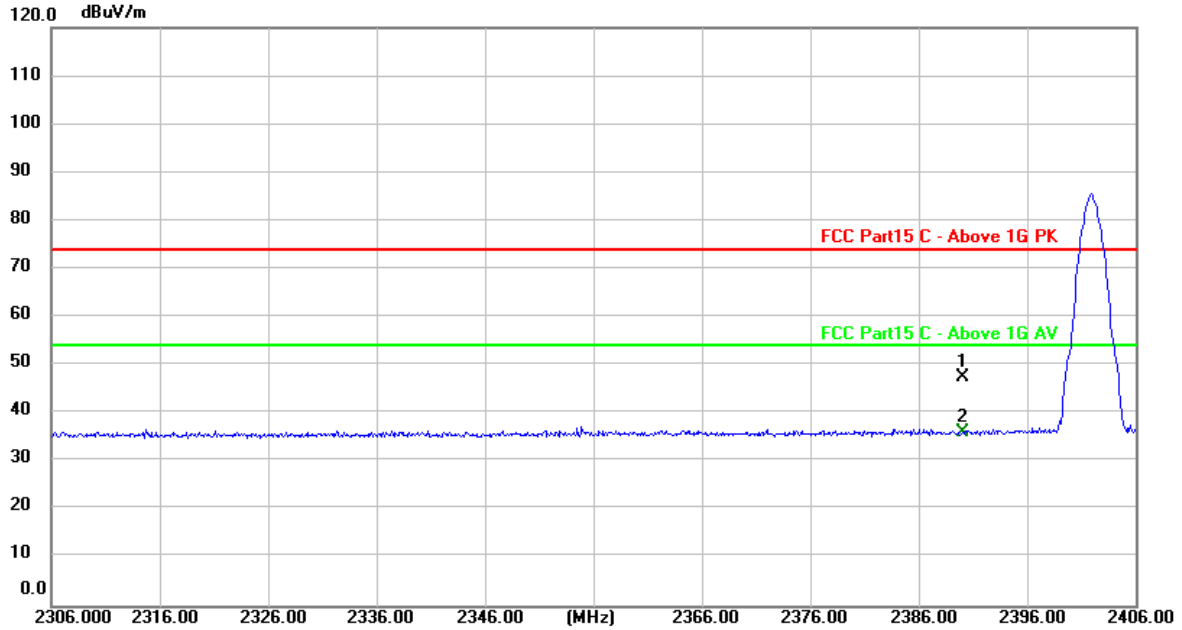


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	15.09	31.31	46.40	74.00	-27.60	peak
2 *	2390.000	4.32	31.31	35.63	54.00	-18.37	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Vertical
RF Module 1:	nRF52832
Test Mode:	TX BLE 2M Mode 2402MHz

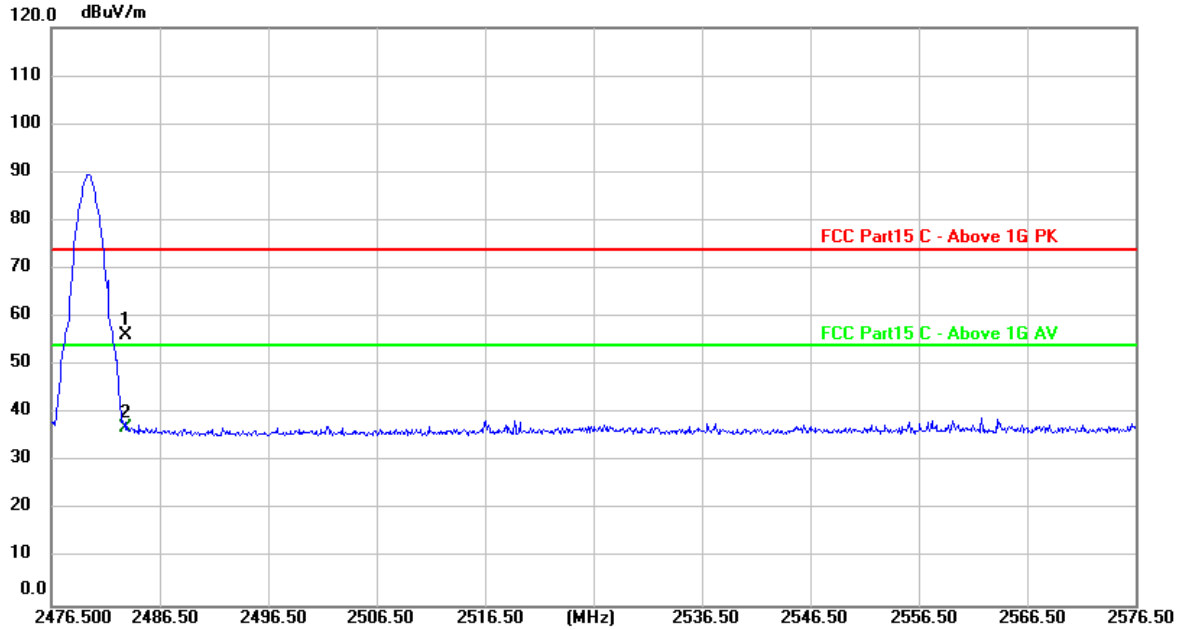


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	16.23	31.31	47.54	74.00	-26.46	peak
2 *	2390.000	4.78	31.31	36.09	54.00	-17.91	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Horizontal
RF Module 1:	nRF52832
Test Mode:	TX BLE 2M Mode 2480MHz

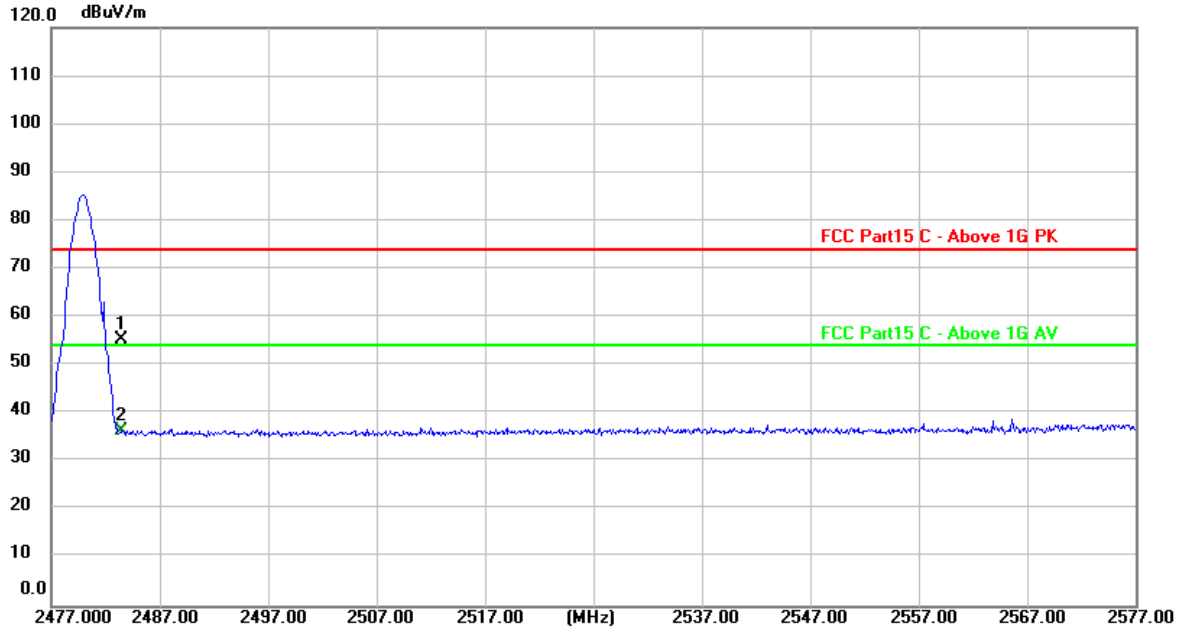


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	24.81	31.50	56.31	74.00	-17.69	peak
2 *	2483.500	5.52	31.50	37.02	54.00	-16.98	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

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

Ant. Pol.	Vertical
RF Module 1:	nRF52832
Test Mode:	TX BLE 2M Mode 2480MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	23.77	31.50	55.27	74.00	-18.73	peak
2 *	2483.500	4.84	31.50	36.34	54.00	-17.66	AVG

Remarks:
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2.Margin value = Level -Limit value

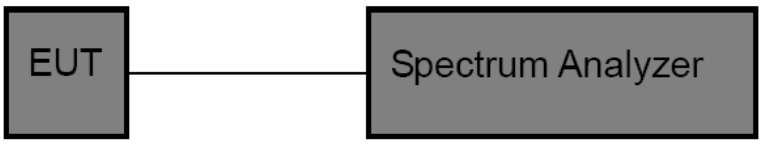
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

3.4. Band Edge and Spurious Emissions (Conducted)

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d)
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

Test Configuration



Test Procedure

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
   RBW = 100 kHz, VBW ≥ RBW, scan up through 10th harmonic.
   Sweep = auto, Detector function = peak, Trace = max hold.
4. Measure and record the results in the test report.

Test Mode

Please refer to the clause 2.4.

Test Result

Band Edge Conducted Test

RF Module 1:		WCN6851					
TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	4.21	-47.37	≤-15.79	PASS
		High	2480	4.77	-45.96	≤-15.23	PASS
BLE_2M	Ant1	Low	2402	4.19	-39.02	≤-15.81	PASS
		High	2480	4.85	-46.88	≤-15.15	PASS

RF Module 2:		nRF52832					
TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.60	-47.52	≤-20.6	PASS
		High	2480	-0.55	-46.4	≤-20.55	PASS
BLE_2M	Ant1	Low	2402	-0.63	-33	≤-20.63	PASS
		High	2480	-0.49	-46.69	≤-20.49	PASS

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

Conducted Spurious Emissions Test

RF Module 1:		WCN6851					
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	4.09	4.09	---	PASS
			30~1000	4.09	-48.01	≤-15.91	PASS
			1000~26500	4.09	-39.43	≤-15.91	PASS
		2440	Reference	4.57	4.57	---	PASS
			30~1000	4.57	-48.66	≤-15.43	PASS
			1000~26500	4.57	-40.61	≤-15.43	PASS
		2480	Reference	4.76	4.76	---	PASS
			30~1000	4.76	-47.57	≤-15.24	PASS
			1000~26500	4.76	-40.5	≤-15.24	PASS
BLE_2M	Ant1	2402	Reference	4.11	4.11	---	PASS
			30~1000	4.11	-47.42	≤-15.89	PASS
			1000~26500	4.11	-41.14	≤-15.89	PASS
		2440	Reference	4.57	4.57	---	PASS
			30~1000	4.57	-47.54	≤-15.43	PASS
			1000~26500	4.57	-41.3	≤-15.43	PASS
		2480	Reference	4.79	4.79	---	PASS
			30~1000	4.79	-48.44	≤-15.21	PASS
			1000~26500	4.79	-40.55	≤-15.21	PASS

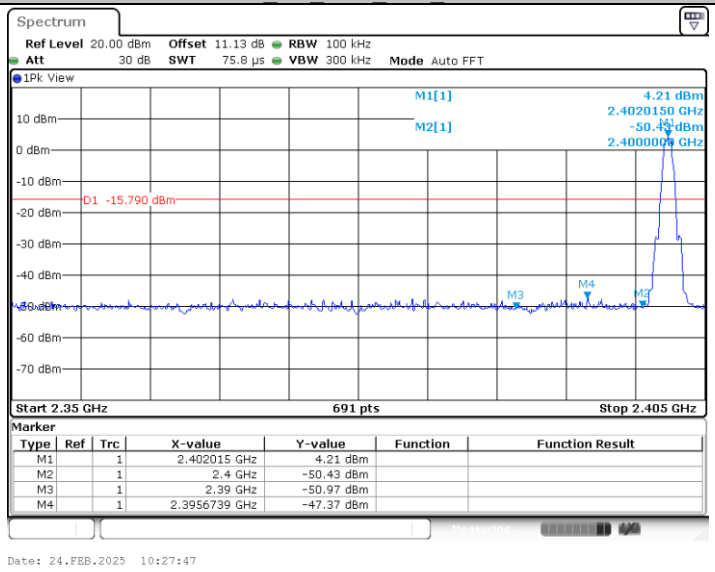
RF Module 2:		nRF52832					
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-0.72	-0.72	---	PASS
			30~1000	-0.72	-47.76	≤-20.72	PASS
			1000~26500	-0.72	-40.56	≤-20.72	PASS
		2440	Reference	-0.71	-0.71	---	PASS
			30~1000	-0.71	-48.17	≤-20.71	PASS
			1000~26500	-0.71	-40.95	≤-20.71	PASS
		2480	Reference	-0.58	-0.58	---	PASS
			30~1000	-0.58	-47.92	≤-20.58	PASS
			1000~26500	-0.58	-40.26	≤-20.58	PASS
BLE_2M	Ant1	2402	Reference	-0.73	-0.73	---	PASS
			30~1000	-0.73	-47.93	≤-20.73	PASS
			1000~26500	-0.73	-40.94	≤-20.73	PASS
		2440	Reference	-0.61	-0.61	---	PASS
			30~1000	-0.61	-46.84	≤-20.61	PASS
			1000~26500	-0.61	-40.89	≤-20.61	PASS
		2480	Reference	-0.54	-0.54	---	PASS
			30~1000	-0.54	-48.06	≤-20.54	PASS
			1000~26500	-0.54	-41.24	≤-20.54	PASS

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

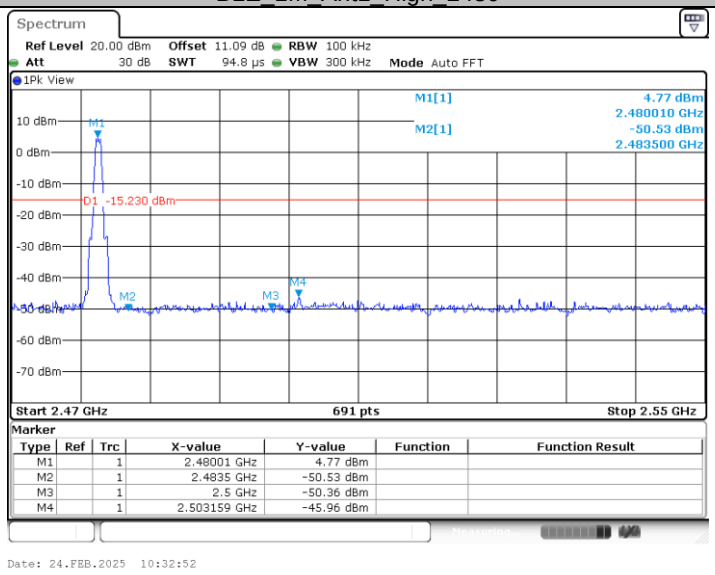
Band Edge Conducted Test plot as follows:

RF Module 1: WCN6851

BLE_1M_Ant1_Low_2402

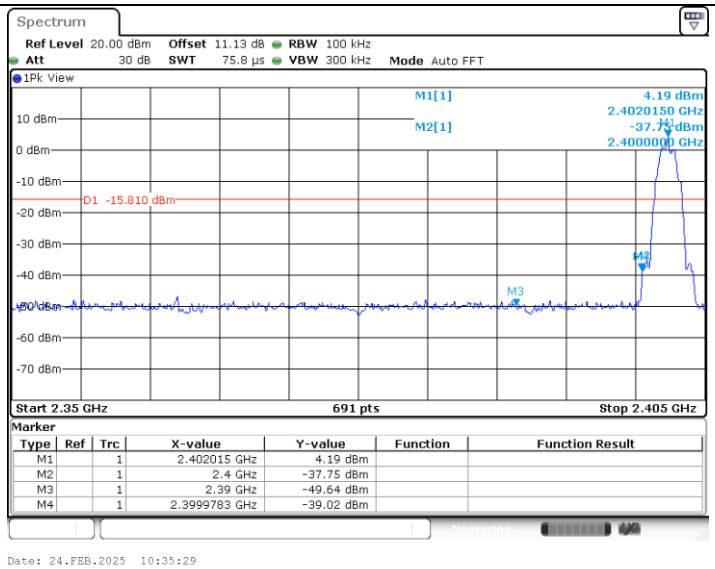


BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2402

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



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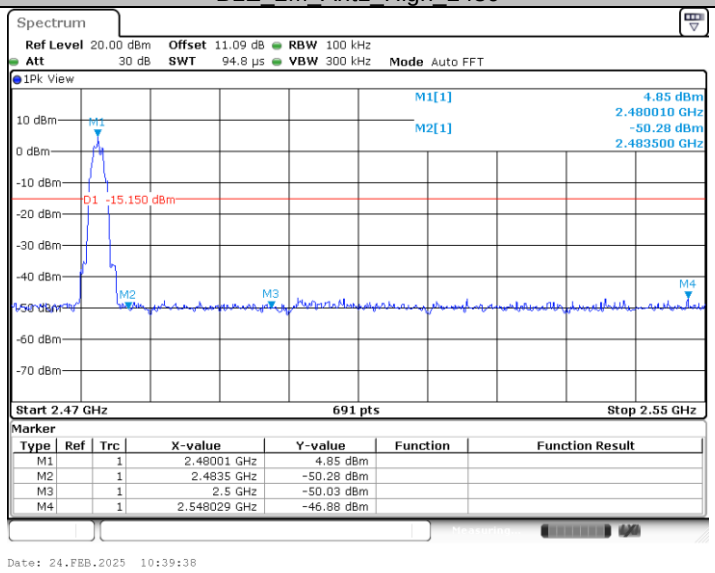
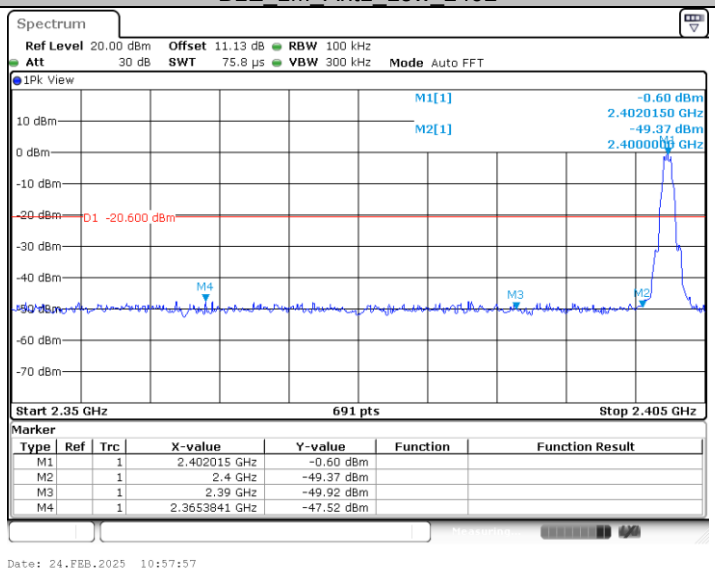


For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

RF Module 2: nRF52832

BLE_1M_Ant1_Low_2402



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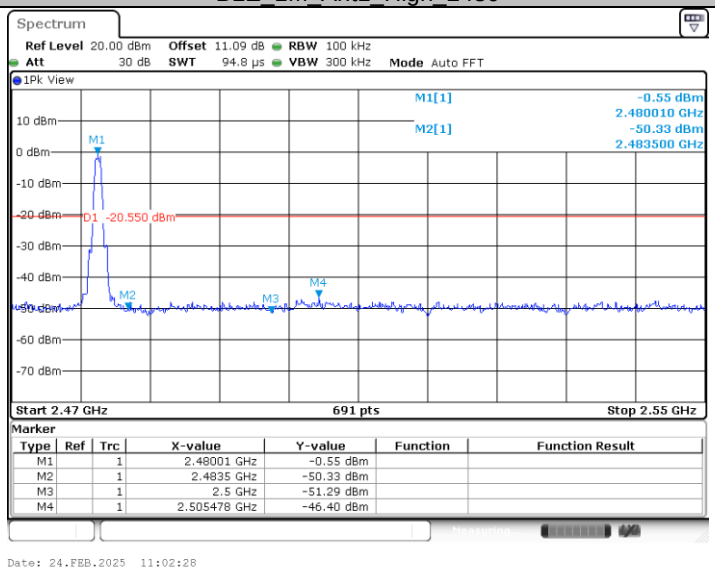

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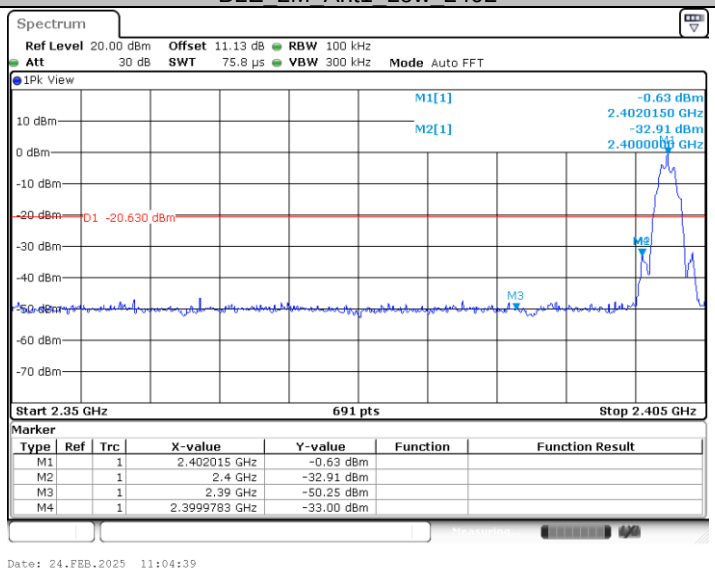
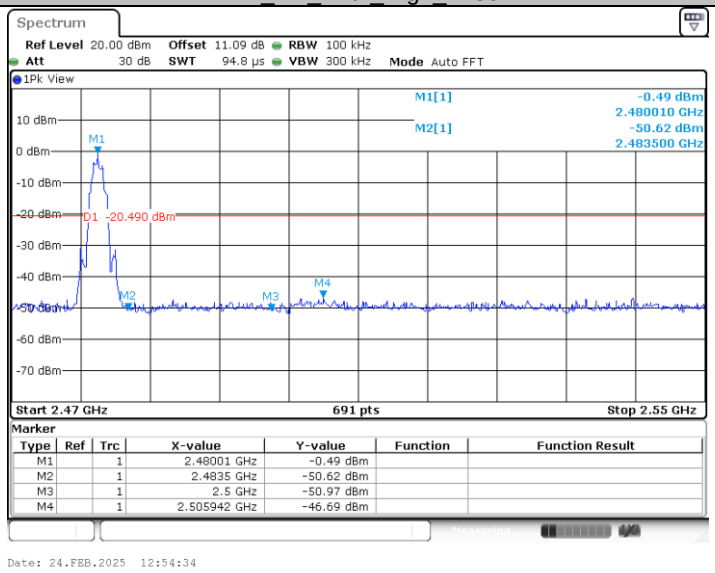


For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

BLE_2M_Ant1_High_2480

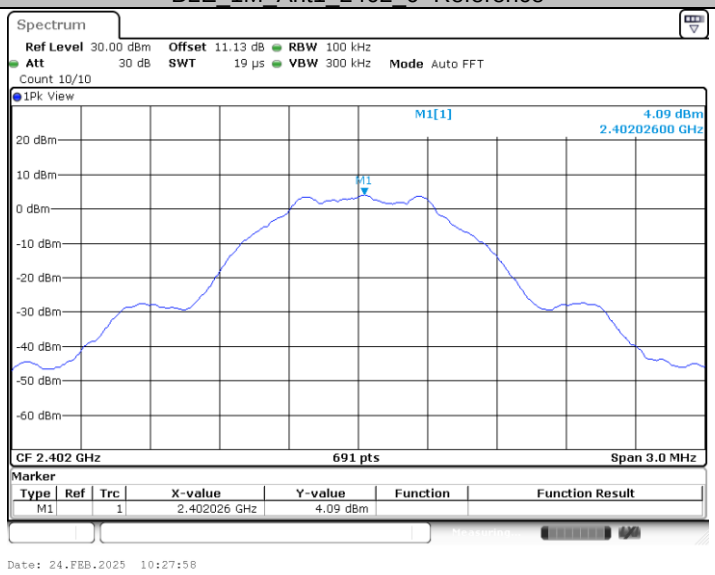


For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

Conducted Spurious Emissions Test plot as follows:

RF Module 1: WCN6851

BLE_1M_Ant1_2402_0~Reference



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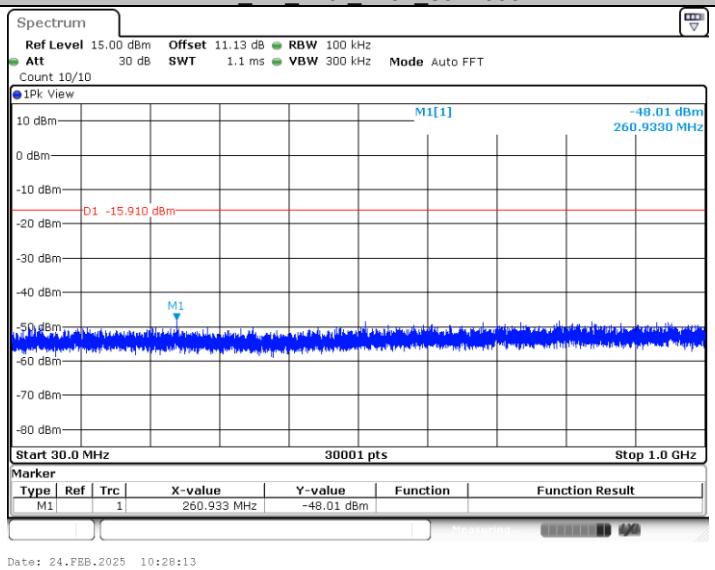
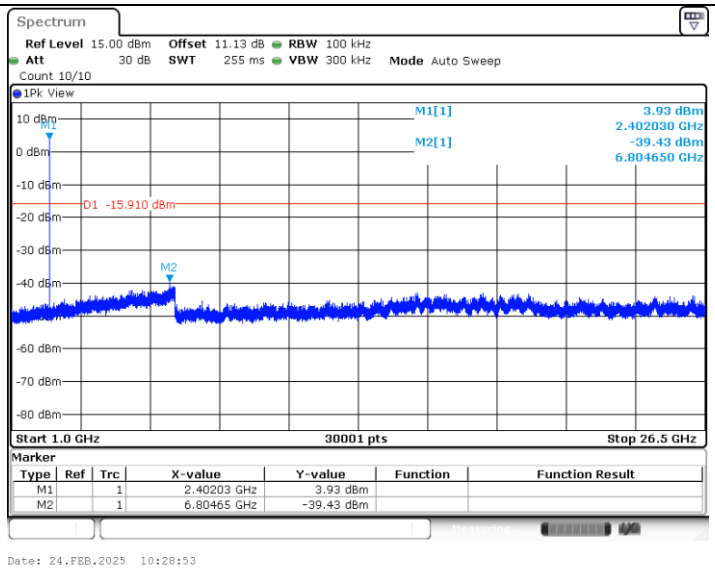
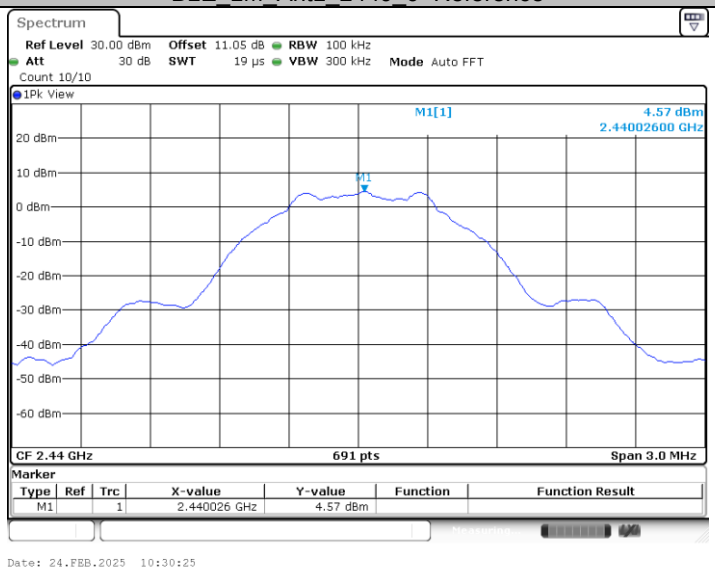


BLE_1M_Ant1_2402_1000~26500

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



BLE_1M_Ant1_2440_0~Reference



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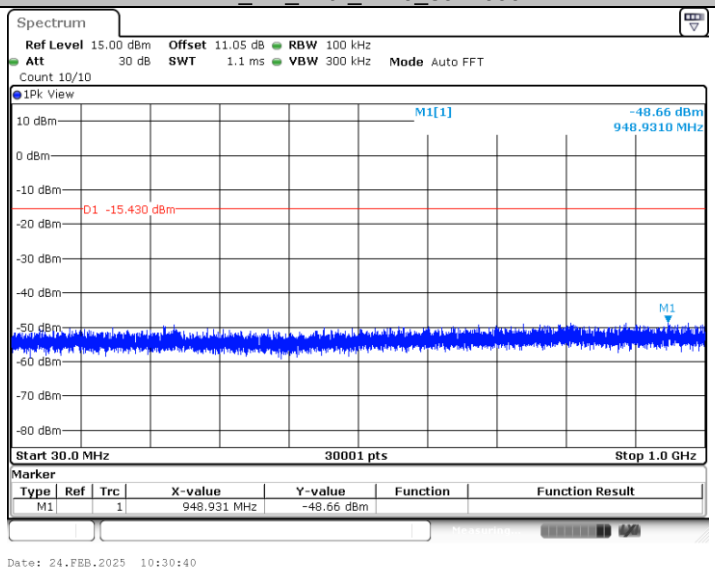
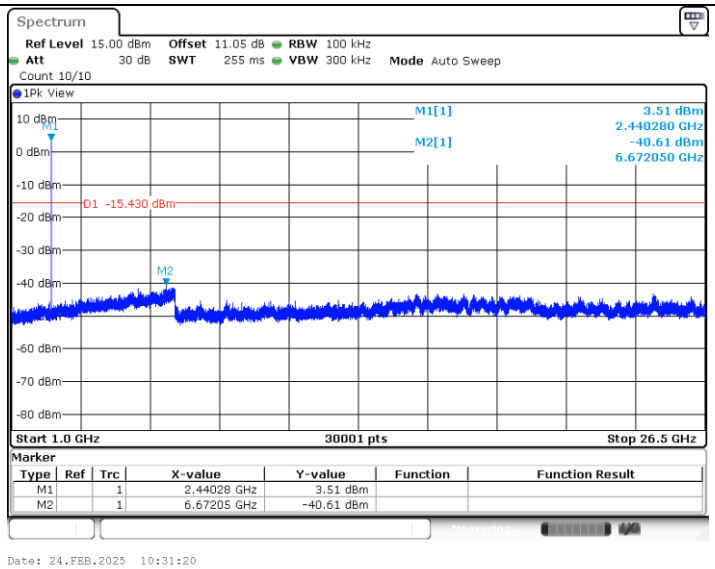
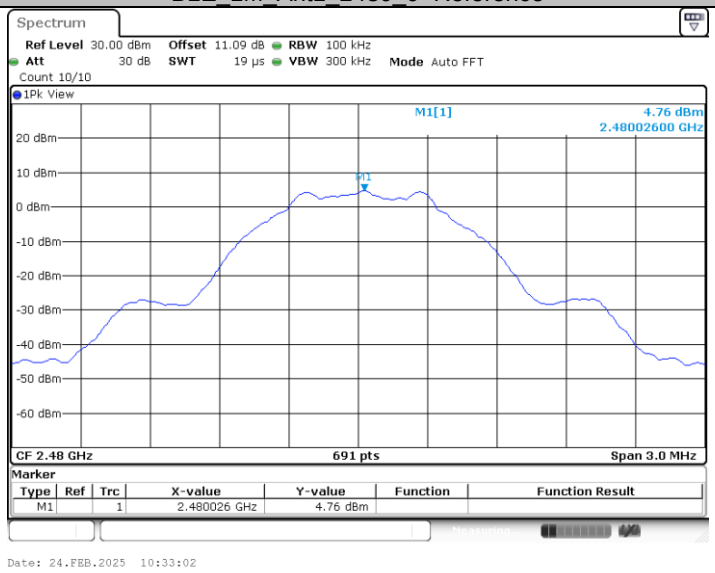


BLE_1M_Ant1_2440_1000~26500

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



BLE_1M_Ant1_2480_0~Reference



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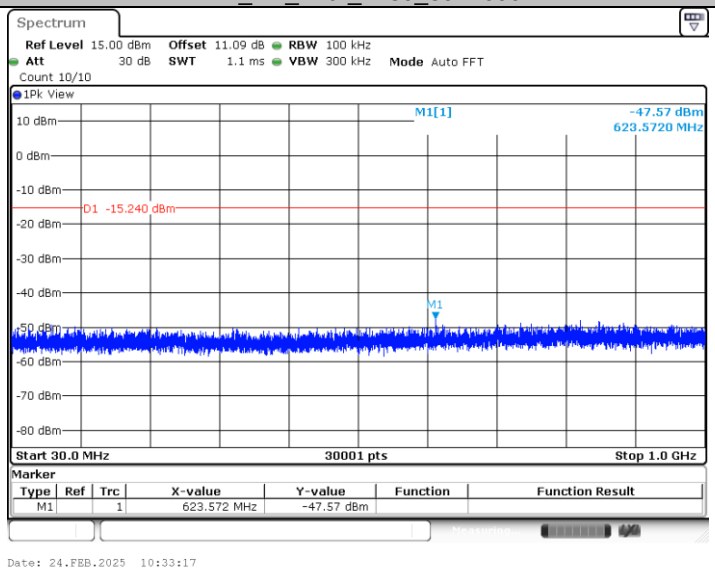
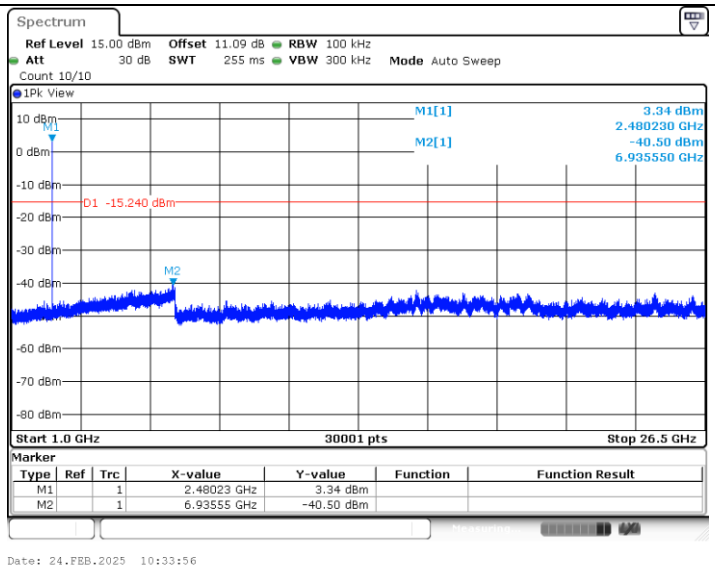
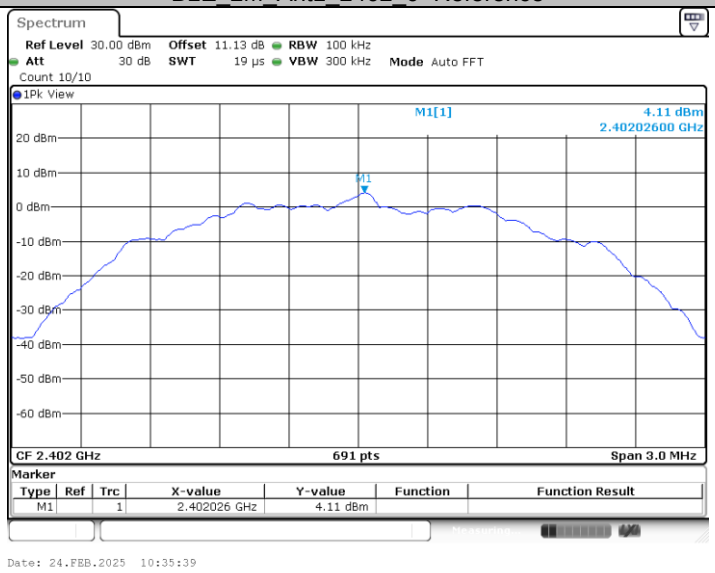


BLE_1M_Ant1_2480_1000~26500

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



BLE_2M_Ant1_2402_0~Reference



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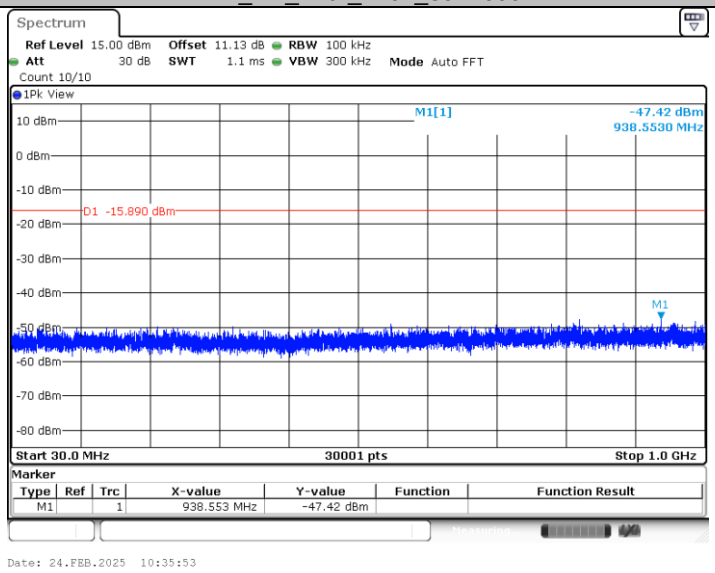
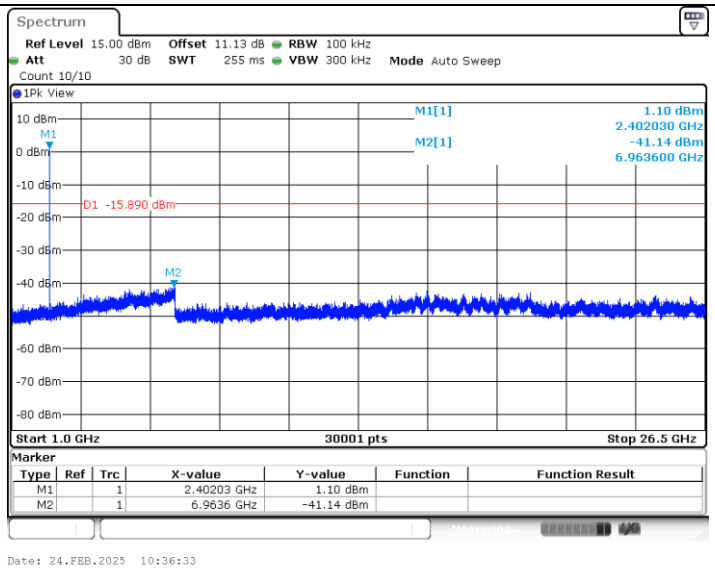


BLE_2M_Ant1_2402_1000~26500

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



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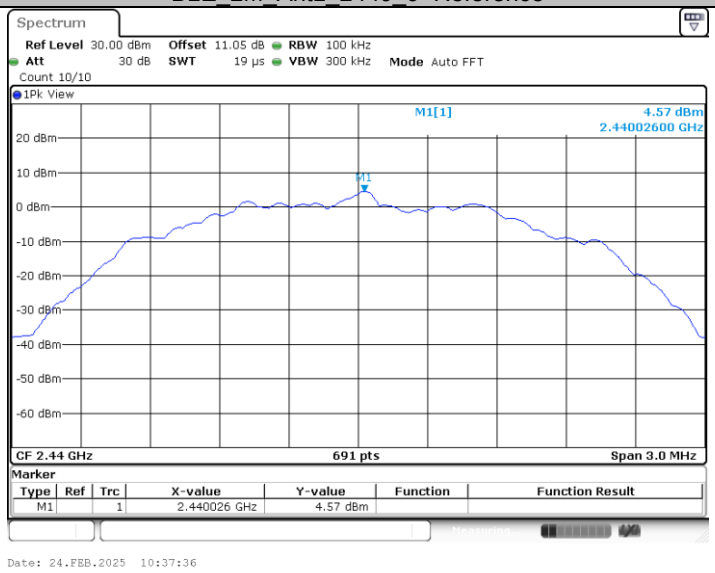

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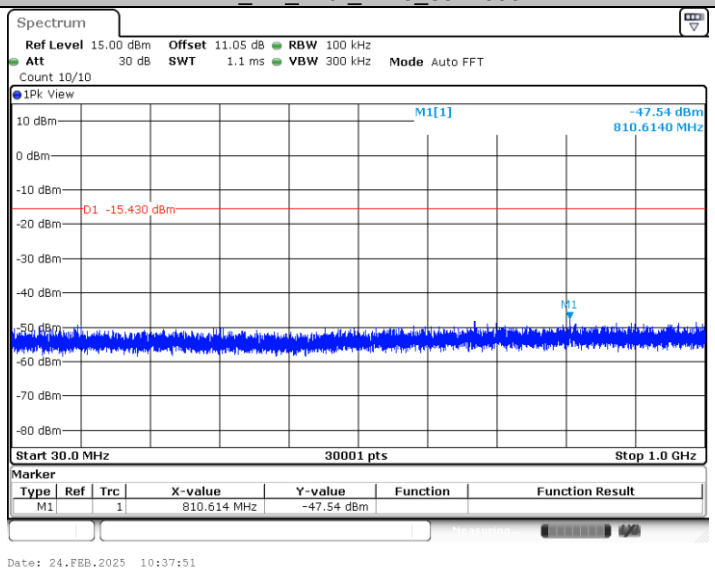
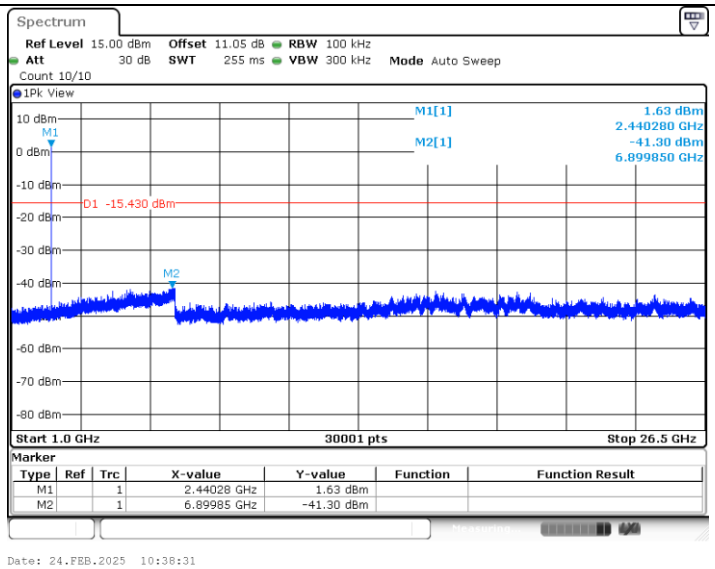


BLE_2M_Ant1_2440_1000~26500

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



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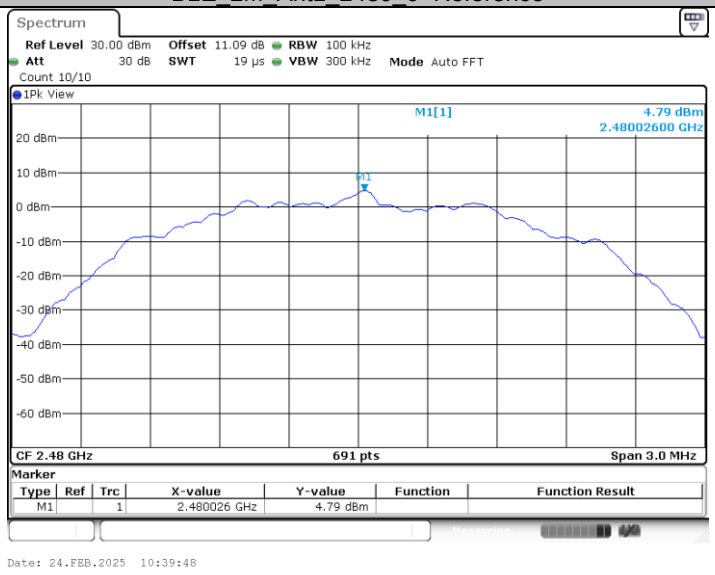

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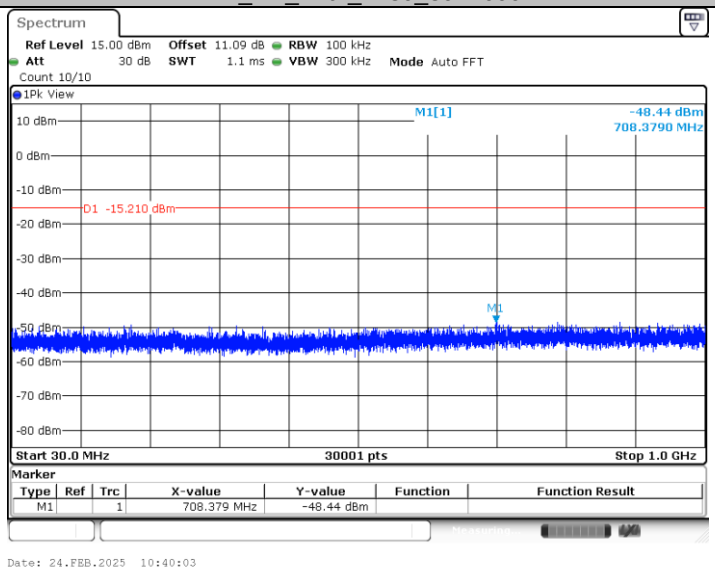

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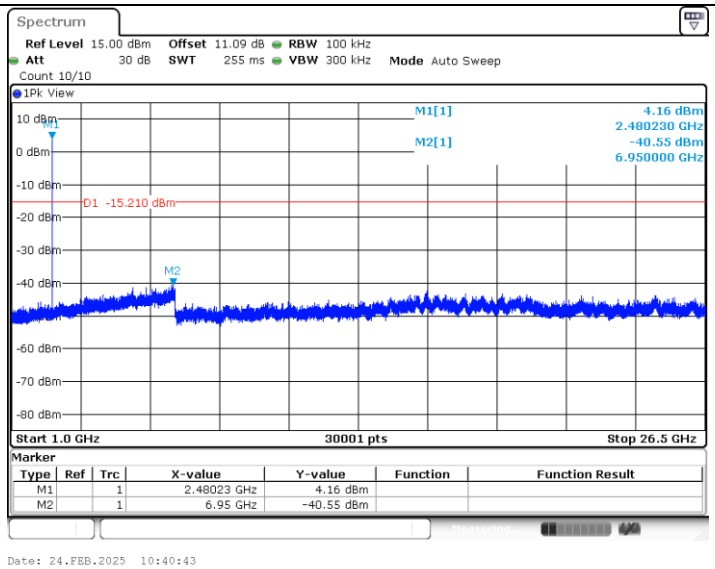
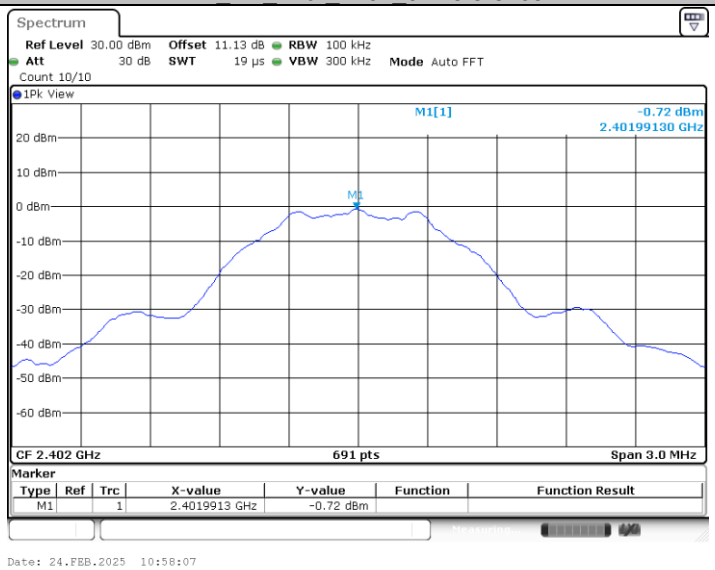
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



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_0~Reference



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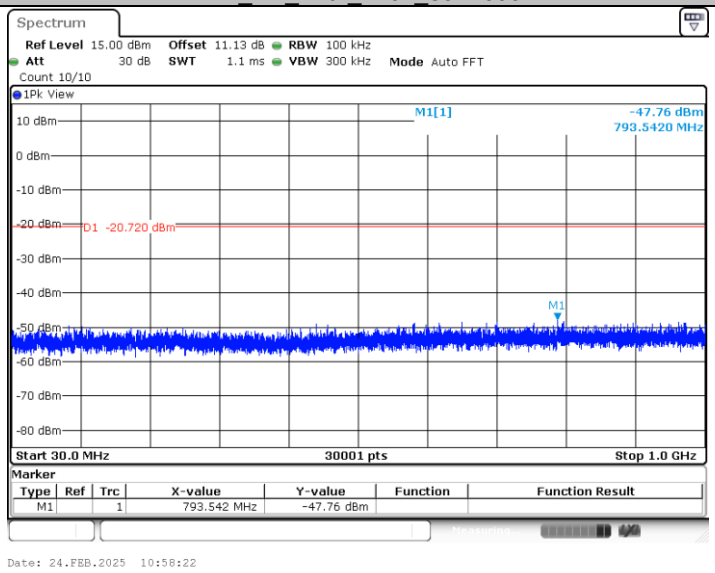

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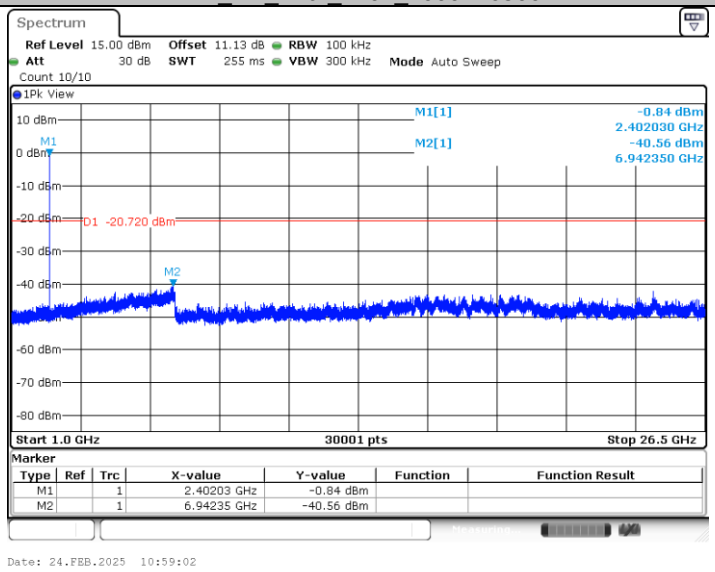

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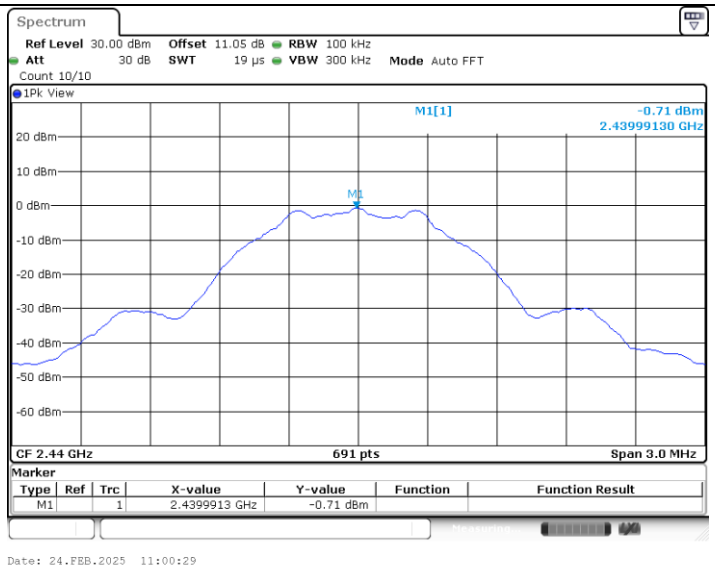
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



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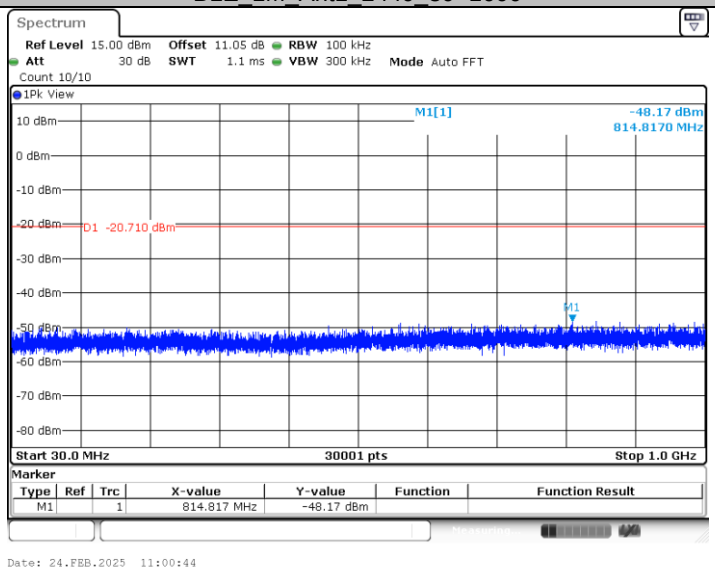

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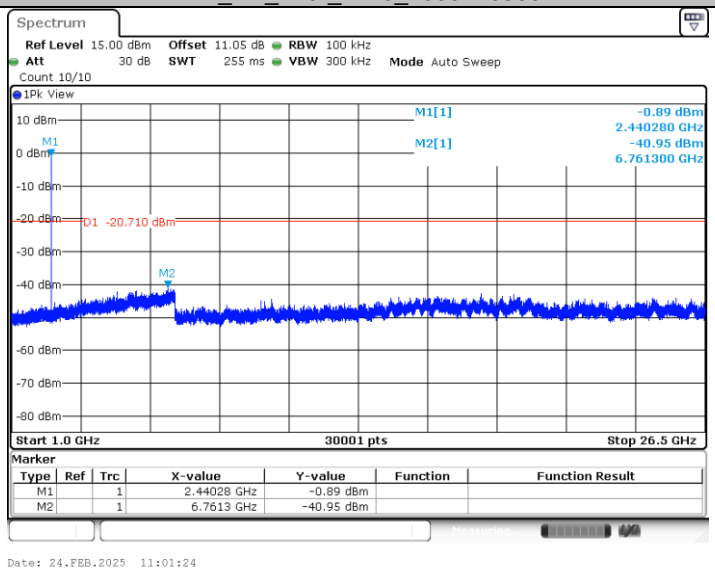

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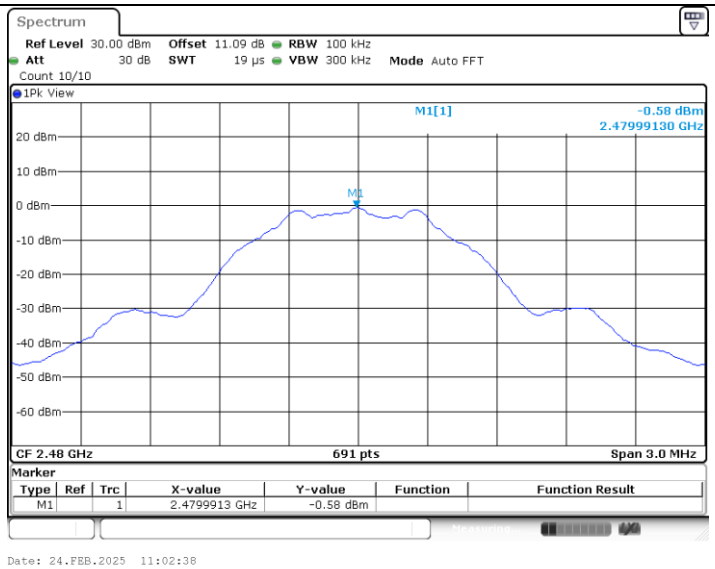
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn



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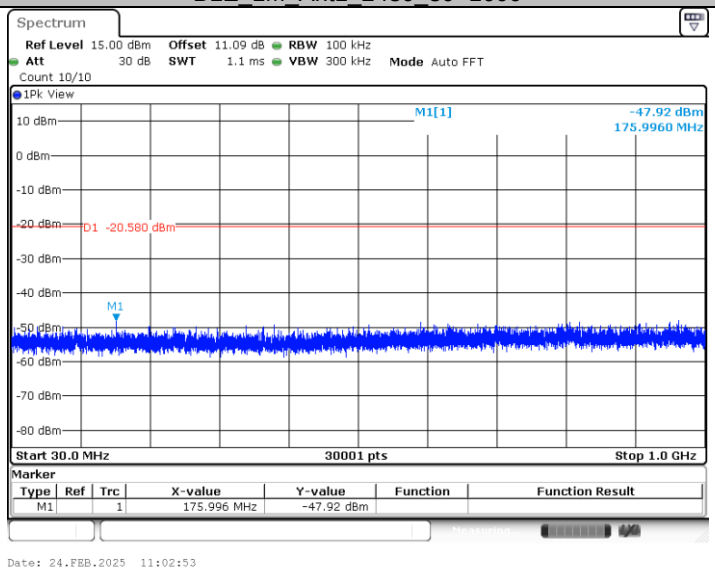

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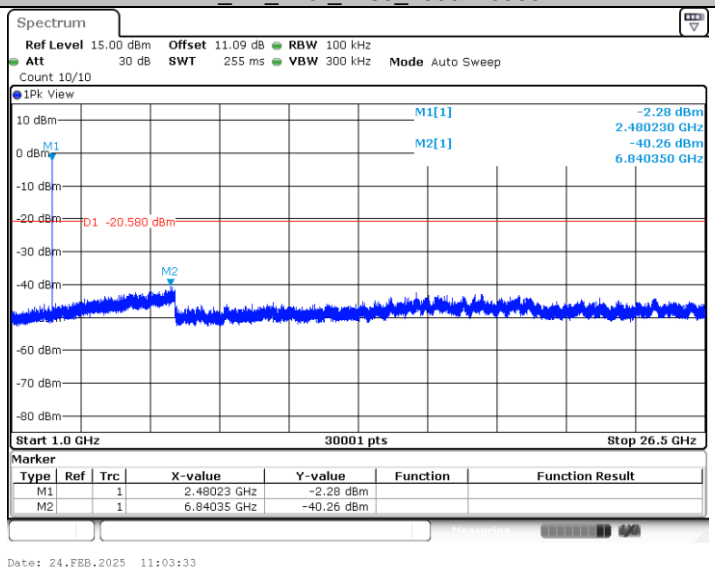
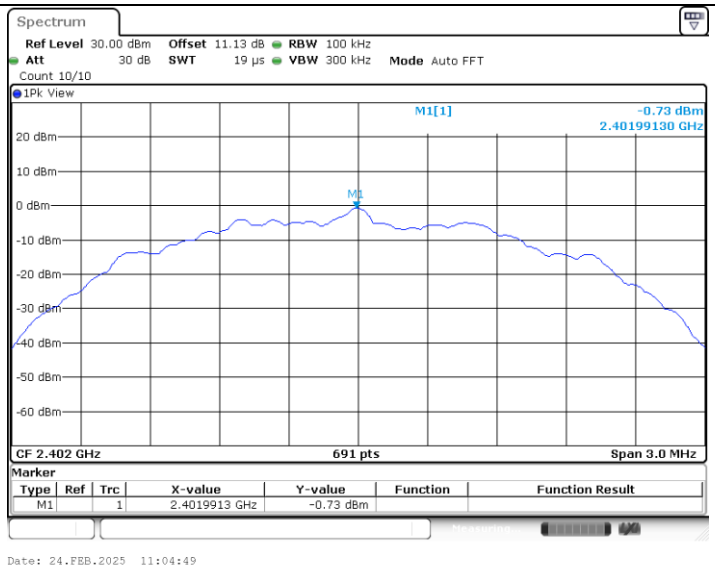


BLE_2M_Ant1_2402_0~Reference

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



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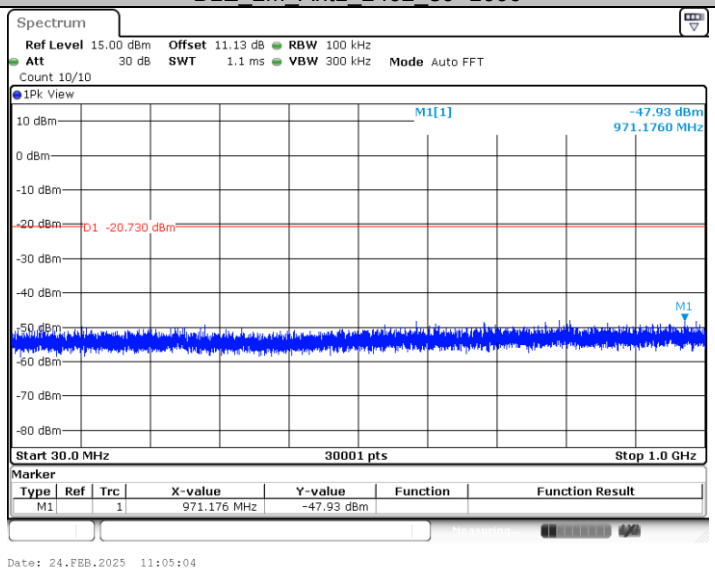

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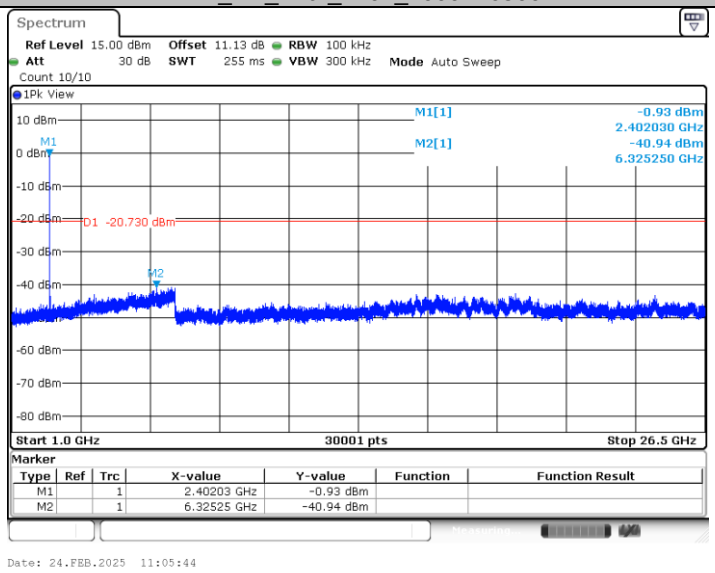
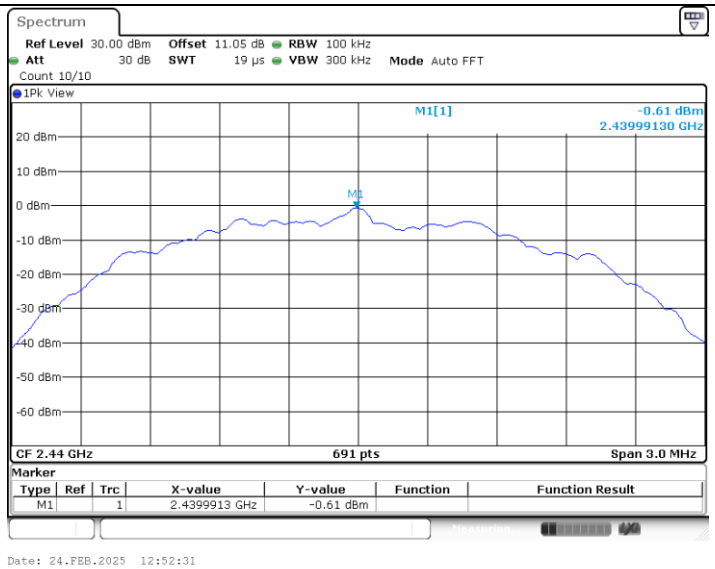


BLE_2M_Ant1_2440_0~Reference

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



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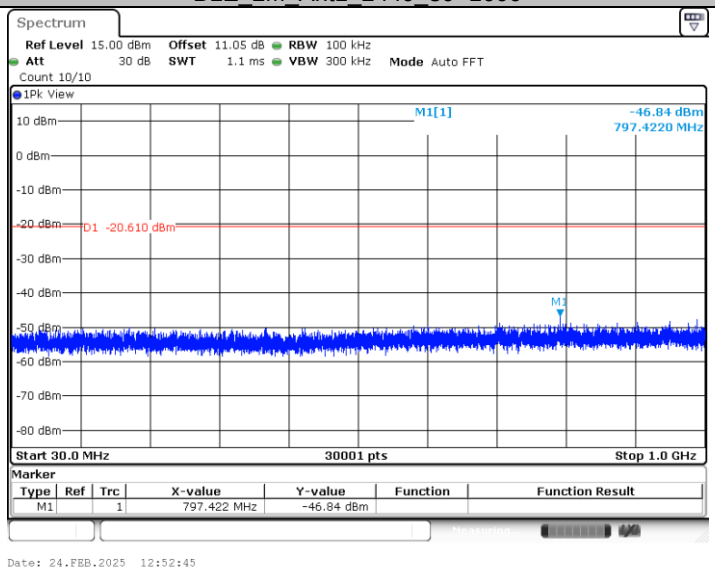

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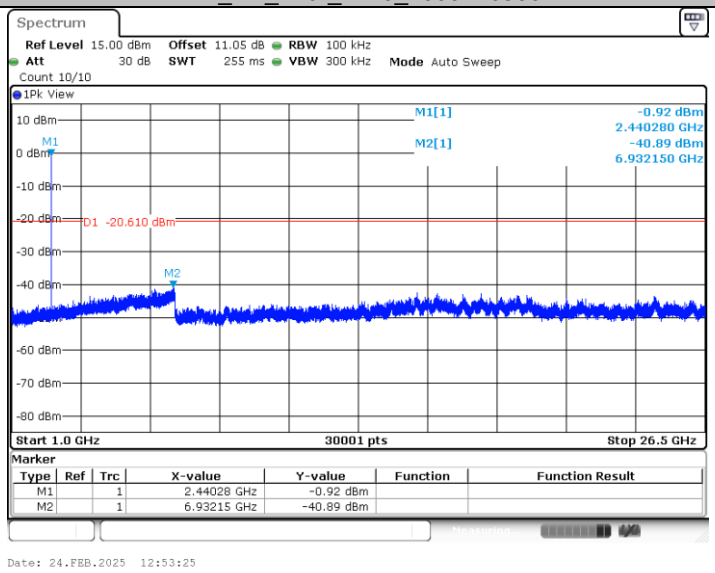
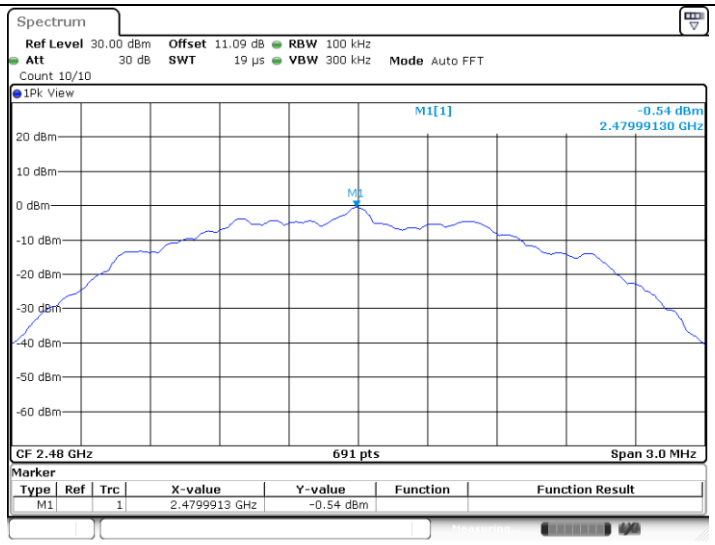


BLE_2M_Ant1_2480_0~Reference

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



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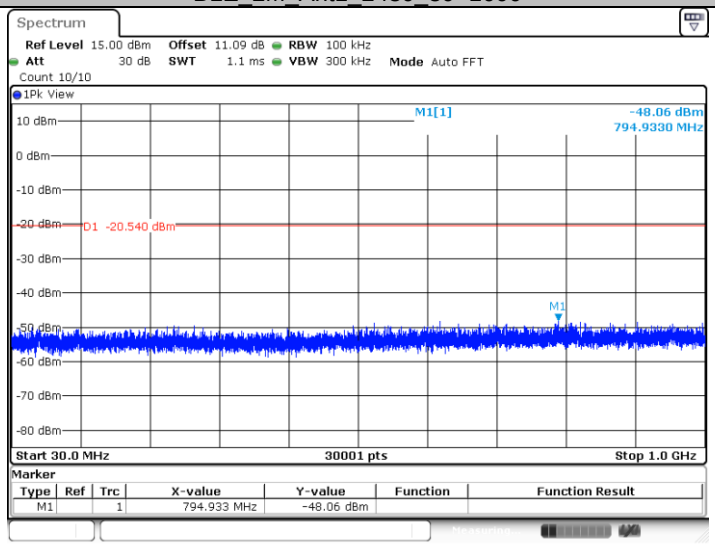

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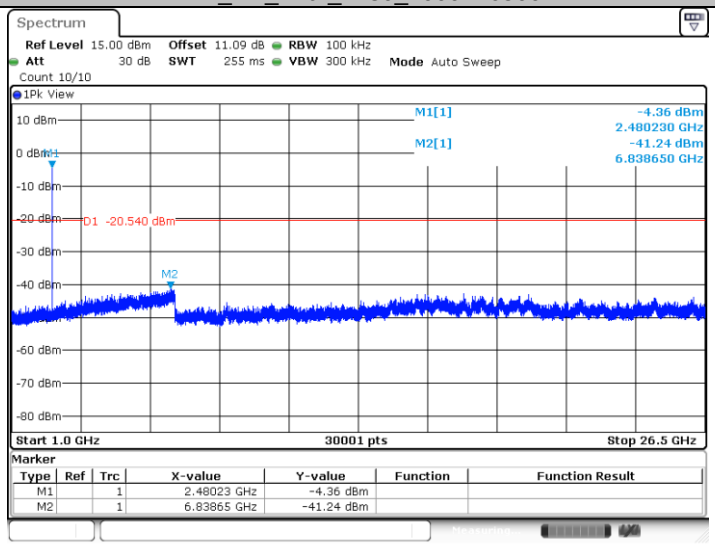


For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cnca.cn

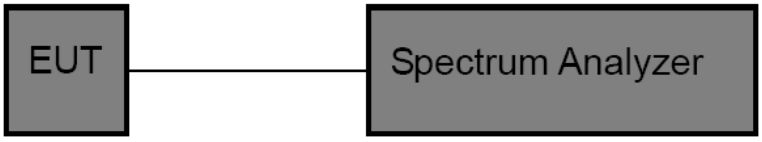
3.5. DTS Bandwidth

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(2)

Test Item	Limit	Frequency Range (MHz)
DTS Bandwidth	⩾500 kHz (6dB bandwidth)	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. DTS Spectrum Setting:
   (1) Set RBW = 100 kHz.
   (2) Set the video bandwidth (VBW) ≥ 3 RBW.
   (3) Detector = Peak.
   (4) Trace mode = Max hold.
   (5) Sweep = Auto couple.
   OCB Spectrum Setting:
   (1) Set RBW = 1% ~ 5% occupied bandwidth.
   (2) Set the video bandwidth (VBW) ≥ 3 RBW.
   (3) Detector = Peak.
   (4) Trace mode = Max hold.
   (5) Sweep = Auto couple.

NOTE: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

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)	OCB [MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.019	0.67	2401.68	2402.36	0.5	PASS
		2440	1.023	0.68	2439.68	2440.36	0.5	PASS
		2480	1.023	0.67	2479.68	2480.36	0.5	PASS
BLE_2M	Ant1	2402	2.01	1.14	2401.46	2402.60	0.5	PASS
		2440	2.01	1.13	2439.46	2440.59	0.5	PASS
		2480	2.01	1.14	2479.46	2480.60	0.5	PASS

RF Module 2:		nRF52832						
TestMode	Antenna	Freq(MHz)	OCB [MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.055	0.70	2401.64	2402.34	0.5	PASS
		2440	1.055	0.69	2439.65	2440.34	0.5	PASS
		2480	1.059	0.69	2479.65	2480.34	0.5	PASS
BLE_2M	Ant1	2402	2.07	1.12	2401.44	2402.56	0.5	PASS
		2440	2.07	1.13	2439.43	2440.56	0.5	PASS
		2480	2.074	1.14	2479.43	2480.57	0.5	PASS

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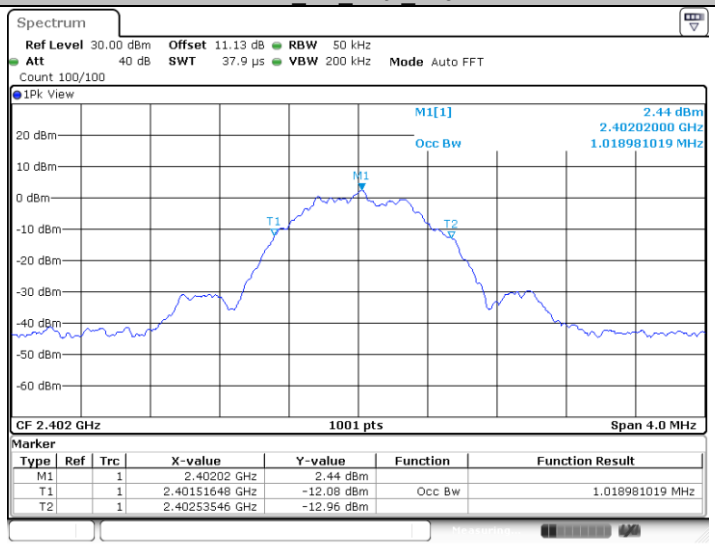
99% Bandwidth:

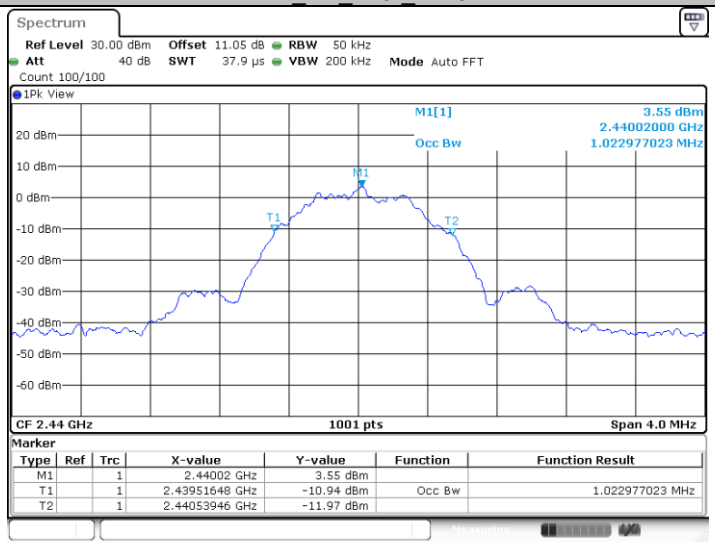
RF Module 1: WCN6851

BLE_1M_Ant1_2402



Date: 23.MAR.2025 14:10:44

BLE_1M_Ant1_2440



Date: 24.FEB.2025 10:30:04

BLE_1M_Ant1_2480

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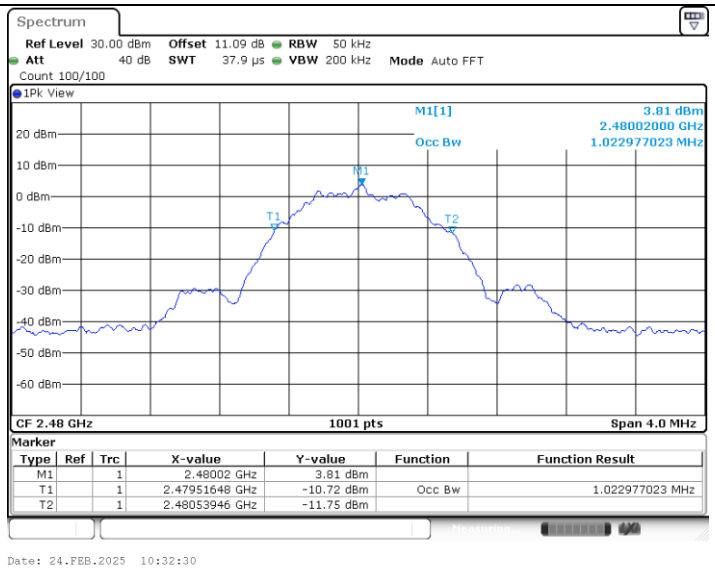

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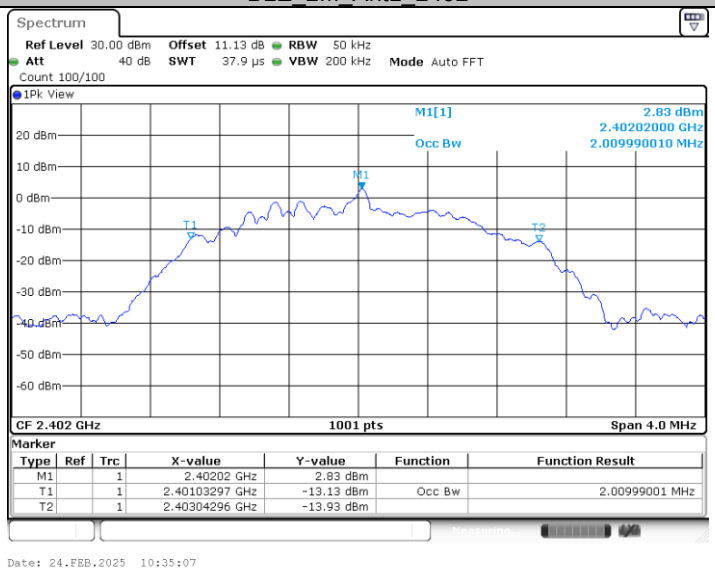

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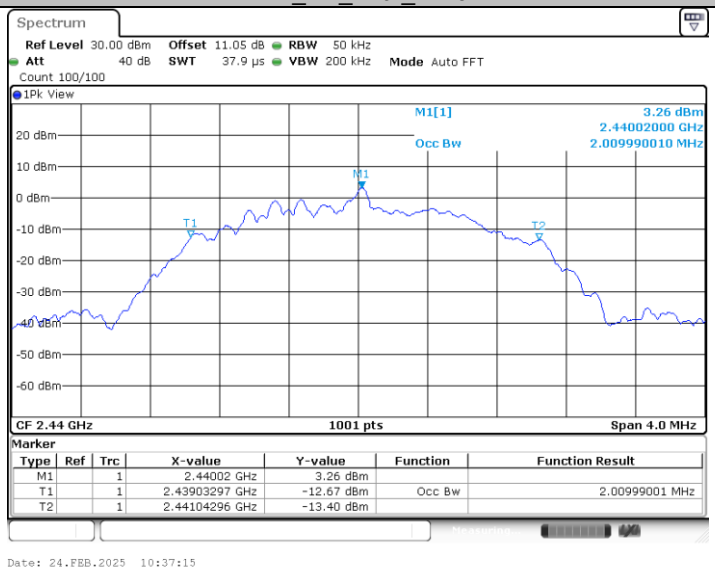

BLE_2M_Ant1_2480

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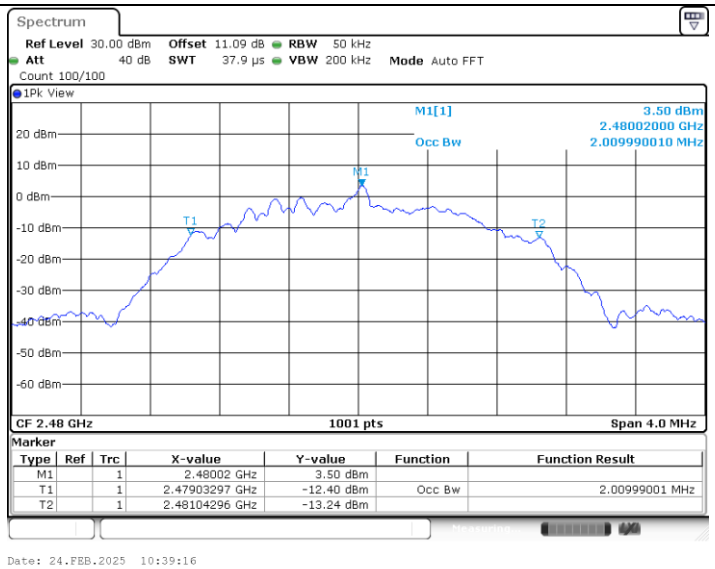

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