

RF Test Report

Applicant : ASUSTeK COMPUTER INC.

Applicant Address : 1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan

Product Name : ProArt PZ14 Keyboard

Trade Name : ASUS

Model Number : HT7407NA Bluetooth Keyboard

Applicable Standard : Notification No.88 of MIC, 2004, Annex 43
2.4 GHz band wide-band low-power data communication system
(Item 19 of Article 2 Paragraph 1)

Received Date : Jan. 20, 2026

Test Period : Jan. 29, 2026 ~ Jan. 30, 2026

Issued Date : Mar. 04, 2026

Issued by

Eurofins E&E Wireless Taiwan Co., Ltd.
No. 140-1, Changan Street, Bade District,
Taoyuan City, Taiwan (R.O.C.)
Tel : +886-3-2710188 / Fax : +886-3-2710190

Note:

- 1.The test results are valid only for samples provided by customers and under the test conditions described in this report.
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- 3.The relevant information is provided by customers in this test report. According to the correctness, appropriateness or completeness of the information provided by the customer, if there is any doubt or error in the information which affects the validity of the test results, the laboratory does not take the responsibility.

Revision History

Rev.	Issued Date	Description	Revised by
00	Mar. 04, 2026	Initial Issue	Rowan Hsieh

Verification of Compliance

Applicant : ASUSTeK COMPUTER INC.

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(Item 19 of Article 2 Paragraph 1)

Test Result : Complied

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The above equipment has been tested by Eurofins E&E Wireless Taiwan Co., Ltd., and found compliance with the requirements set forth in the 2.4 GHz band wide-band low-power data communication system (Item 19 of Article 2 Paragraph 1) and technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Approved By

: Kai Ya Yang

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1 General Information

1.1. EUT Description

The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity(except Declared Rated Power , E.I.R.P.).

Applicant	ASUSTeK COMPUTER INC. 1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan
Product Name	ProArt PZ14 Keyboard
Trade Name	ASUS
Model Number	HT7407NA Bluetooth Keyboard
Hardware Version	V1.5
Software Version	V07
Antenna Information	Trade Name: INPAQ Model Number: WA-P-LA-02-337 Antenna Type: PCB Antenna Max. Gain: 1.24 dBi
Radio Equipment	2.4 GHz Band Wide-Band Low-Power Data Communication System
Classification of Specified Radio Equipment	Article 2 Clause 1 Item 19
Frequency Band	Bluetooth LE : 1 Mbps Bluetooth 2LE : 2 Mbps Bluetooth BLR C2 : 500 kbps Bluetooth BLR C8 : 125 kbps
Frequency Range	2402-2480 MHz
Channel Number	40
Channel Separated	2 MHz
Modulation Type	GFSK
Type of Emissions	F1D
Operate Temp. Range	0 ~ +40 °C
EUT Power Rating	DC 5.0 V, 1 A

Note: Bluetooth LE 125 kbps/500 kbps/1 Mbps Uses the same modulation, and 125 kbps was found to be the Worst Case scenario which was performed full test and recorded in this report.

Declared Rated Power	BLE 1M	5.358 mW	7.290 dBm
	BLE 2M	5.346 mW	7.280 dBm
E.I.R.P.	BLE 1M	8.530 dBm	
	BLE 2M	8.520 dBm	

Testing Sample No.	
Test Item	Sample Number
Conducted	C261276_A001

1.2. Testing Location

Lab Name: Eurofins E&E Wireless Taiwan Co., Ltd.

Site Address: ☒ No. 140-1, Changan Street, Bade District, Taoyuan City, Taiwan (R.O.C.)

Site Address: ☐ No. 2, Wuquan 5th Rd. Wugu Dist., New Taipei City, Taiwan (R.O.C.)

1.3. Summary of Test Result

Item	Result	Remark
Frequency Error	PASS	----
Occupied Bandwidth	PASS	----
Antenna Power (Conducted)	PASS	----
Unwanted Emission Strength	PASS	----
Secondarily Emitted Radio Wave Strength	PASS	----
Radio Interference Prevention Capability Measurement	PASS	----

Decision Rule

☒ Uncertainty is not included.

☐ Uncertainty is included.

2 Test Methodology

2.1. Mode of Operation

Test Category

2.4 GHz Band Wideband Low-Power Data Communication System

Pre-Test Mode	Final-Test Mode
BLE 1M	V
BLE 2M	V
BLR C2	
BLR C8	

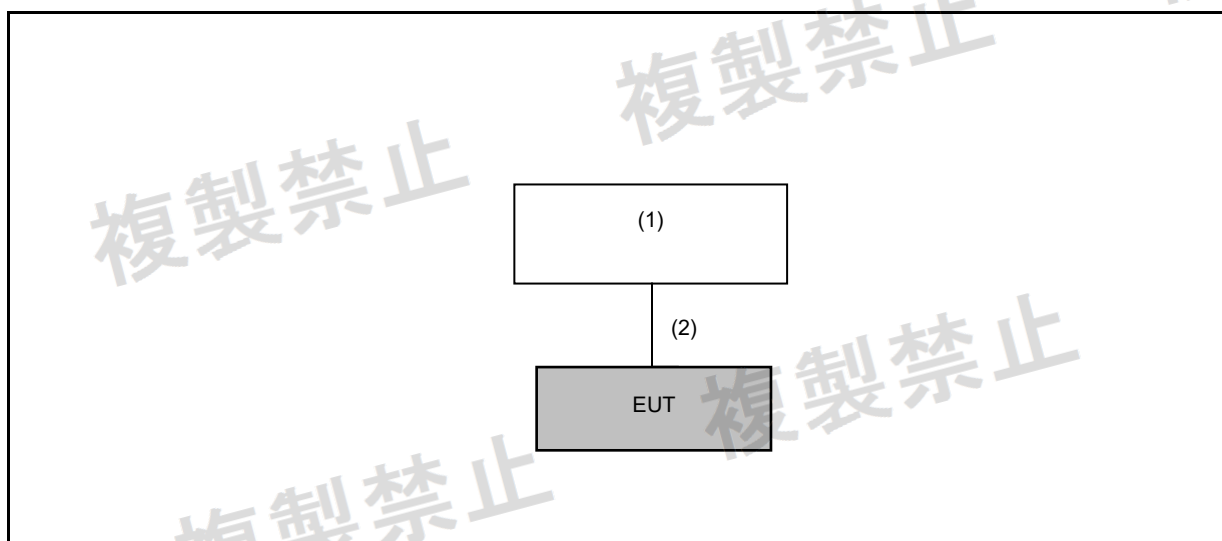
Comprehensive operation test

Three voltage settings are respectively adopted during the test. They are Normal Voltage, Normal Voltage + 10 % and Normal Voltage - 10 %.

2.2. EUT Test Step

1.	Setup the EUT shown on "Configuration of Test System Details".
2.	Turn on Bluetooth function.
3.	EUT run test program.

2.3. Configuration of Test System Details



Devices Description					
	Product	Manufacturer	Model Number	Serial Number	Power Cord
(1)	NB	Acer	N19C1	---	---
(2)	Fixture	ASUS	HT7407NA	---	---

2.4. Test Instruments

For Conducted

Test Period: Jan. 29, 2026 ~ Jan. 30, 2026

Testing Engineer: Peter Shui

Test Site			RF01-BD					
Use	Equipment	Manufacturer	Model Number	Serial Number	Calibration Authority	Cal. Date	Cal. Period	Cal. Method
☒	Power Sensor	Anritsu	MA2411B	1126022	ETC	Aug. 28, 2025	1 year	(C)
☒	Power Meter	Anritsu	ML2495A	1135009	ETC	Aug. 28, 2025	1 year	(C)
☒	Spectrum Analyzer (20 Hz~26.5 GHz)	Agilent	N9020A	US47520902	ETC	Sep. 01, 2025	1 year	(C)
☒	Power Supply	KEITHLEY	2303	4045290	OCL	Dec. 18, 2025	1 year	(C)
Remark : (a) Calibration conducted by the National Institute of Information and Communications Technology (NICT) in Japan (hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1) in JRL. (b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No. 51 of 1992). (c) Calibration conducted in countries except Japan, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1). (d) Calibration, etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No. 3, which shall have been given any type of calibration, etc. listed above from (a) to (c) From JRL Article 24-2, paragraph 4, Item 2								

2.5. Uncertainty of Measured Value

Test Item	Uncertainty	
	BD	WG
Frequency Error	4.8×10^{-7}	4.9×10^{-7}
Occupied Bandwidth	4.4%	4.4%
Spread Bandwidth	4.4%	4.4%
Antenna Power Error	1.1 dB	1.1 dB
Unwanted Emission Strength	1.0 dB	1.0 dB
Secondarily Emitted Radio Wave Strength	1.0 dB	1.0 dB

2.6. Test Site Environment

Items	Test Item	Required	Interval(*)
Temperature (°C)	Conducted	5-35	20-30
Humidity (%RH)		45-85	45-75

(*)The measurement ambient temperature is within this range.

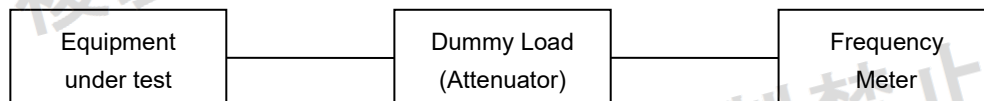
3 Measurement Procedure

3.1. Frequency Error Measurement

■ Limit

Frequency Tolerances ≤ 50 ppm.

■ Test Setup



■ Measuring Equipment Conditions

- (1) Use a frequency counter that has sensitivity of -20 dBm or better or a spectrum analyzer that has synthesized local oscillator.
- (2) Accuracy of the frequency counter shall be one tenth of the tolerance specified for EUT or less (e.g. 5×10^{-6} or less)
- (3) Attenuation of the attenuator shall be adjusted to give the optimum operation input level to the frequency meter in order to avoid the effect from the amplitude fluctuation of measurement wave.
- (4) When measuring burst waves, use the pulse measuring function of the counter and set the gate open time to a value that enables the measurement though entire period of burst as long as possible.

■ Conditions of Equipment under Test

- (1) Set the EUT to the test frequency and transmit RF signal.
- (2) The modulation state is "continuous wave without modulation" by stopping spread spectrum in principle. But, if it is not possible, it shall be "continuous burst wave without modulation".

■ Measuring Operation Procedures

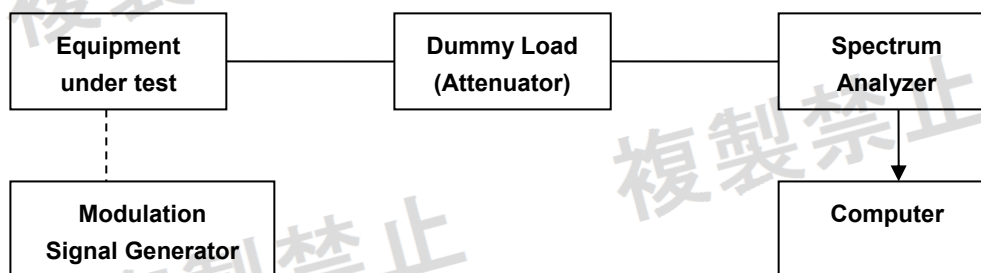
In case of burst waves, the measurement shall be done for enough time (e.g. covering 20 or more of burst waves) in order to obtain the enough measuring accuracy, and the average of the measured values becomes the final value.

3.2. Occupied Bandwidth Measurement

■ Limit

Max. Occupied Bandwidth: 26 MHz.

■ Test Setup



■ Measuring Equipment Conditions

Spectrum Analyzer Setting

SPAN : 200 MHz

RBW : 300 kHz

VBW : 300 kHz

Sweep Time : AUTO (Minimum time to ensure measurement accuracy.)

Data Points : 401 points or more

Indication mode : Max hold

Detection Mode : Positive Peak

Storage Mode : Normal

Y-axis Scale : 10 dB/Div.

Reference Level : Enough level for maximum dynamic range

■ Conditions of Equipment under Test

Set to testing frequency and modulate using standard encoding test signals.

■ Measuring Operation Procedures

- (1) Configure the setting of the spectrum analyzer to 3.3(1).
- (2) After repeating sweeps until no display changes are found, import the values of all the data points as array variables of the computer.
- (3) Convert the dB value into the antilog of the power dimension (i.e. mW) for all the data.
- (4) Find the total power of the all the data and record as "Total Power" in mW.
- (5) Add power to the minimum frequency data in order and find the value of the limiting data point that is 0.5 % of the "Total Power". Convert the limiting point into a frequency and record as the "lower limit" frequency.
- (6) Add power to the maximum frequency data in order and find the value of the limiting data point that is 0.5 % of the "Total Power". Convert the limiting point into a frequency and record as the "upper limit" frequency.

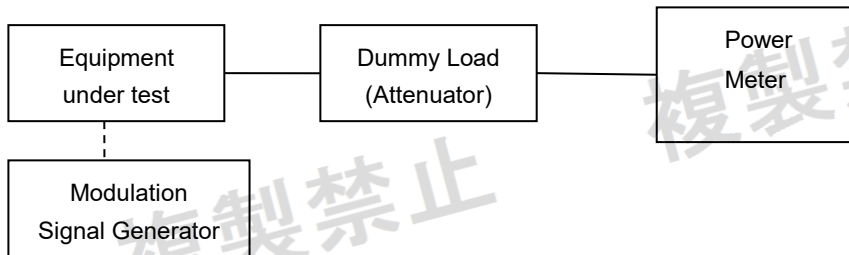
3.3. Antenna Power (Conducted) Measurement

■ Limit

RF Output Power ≤ 10 mW.

RF Output Power Tolerance ≤ 20 %.

■ Test Setup



■ Measuring Equipment Conditions

a. Use power meter to measure burst power.

■ Conditions of Equipment under Test

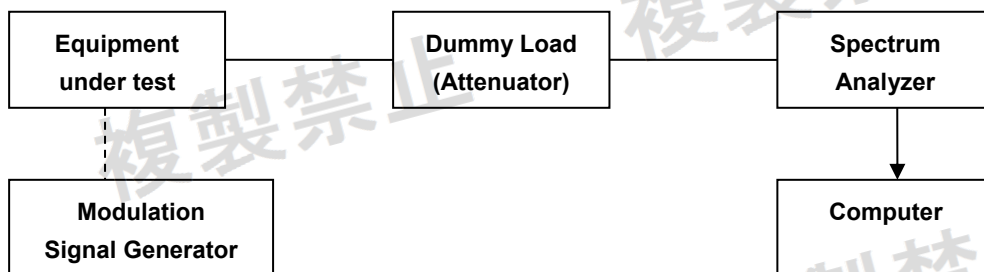
a. Connect the high frequency power meter to the output of the attenuator and measure the total power (without bandwidth limitation)

3.4. Unwanted Emission Strength Measurement

■ Limit

Frequency (MHz)	Limit (μW/MHz)
Under 2387 MHz	≤ 2.5
2387-2400 MHz	≤ 25
2483.5-2496.5 MHz	≤ 25
2496.5 - 12.5 GHz	≤ 2.5

■ Test Setup



Note 1: The computer is used for calculating the mean value of amplitude levels.

■ Measuring Equipment Conditions

(1) The setting of the spectrum analyzer during spurious searches are as follow:

Sweep Bandwidth:	Starts spurious searches from the smallest possible frequencies to more than 5 times the carrier frequencies..
Resolution bandwidth:	1 MHz
Video bandwidth:	1 MHz
Y-axis scale:	10 dB/Div.
Input level:	Maximum dynamic range value
Sweep time:	Minimum amount of time to ensure measurement accuracy.
Sweep mode:	Continuous mode
Data Points:	Over 400 points
Detection mode:	Positive peak
Display mode:	Maximum hold

- (2) The setting of spectrum analyzer while conducting spurious amplitude measurement are as follows:

Center Frequency:	Acquired spurious frequency in (1)
Frequency sweep width:	0 MHz
Resolution bandwidth:	1 MHz
Video bandwidth:	Same as Resolution bandwidth
	Note: take into account that the requirement limits the power in a bandwidth of 1 MHz. If the measurement is carried out with a bandwidth of 100 kHz (for frequencies below 1 GHz), the limit shall be reduced with 10 dB
Y-axis scale:	10 dB/Div
Input level:	Choose input level within the linear range of the SA mixer (so that no additional spurious are generated by the mixer).
Sweep mode:	Minimum amount of time to ensure measurement accuracy.
Data Points:	Over 400 points
Sweep mode:	Single sweep
Detection mode:	Sample (BIN-Width $\ll$ RBW, so that all spurious emissions are captured). [BIN-width is the frequency difference between 2 adjacent sample points on the display.]

■ Conditions of Equipment under Test

Set the testing frequency and testing spread codes and modulate using standard encoding test signals. Choose a frequency / channel according to specified range (Low, Middle and High).

Note: If the spurious limit is specified with the EIRP value, the effective (maximum) antenna gain shall be taken into account.

■ Measuring Operation Procedures

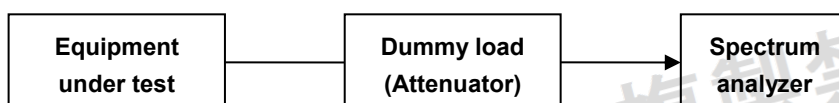
- (1) Configure the settings of the spectrum analyzer to 8.3(1) and search for spurious frequencies by sweeping. Do not conduct the measurements in 8.3(2) if the amplitude value of the acquired spurious frequencies meets the standard value.
- (2) If the acquired spurious amplitude value exceeds the standard value, narrow the sweep Bandwidth, in the order of 100 MHz, 10 MHz, and 1 MHz, to increase the frequency accuracy of the spectrum analyzer and accurately find the spurious frequency. Configure the spectrum analyzer to the settings in 8.3(2), find the average of the spurious amplitude values (in the case of burst waves, the average values are within the respective burst and set this as the measured value. Averaging can be done by summing up the power (display must give the linear power in uW) according to 8.3(2) and dividing by the amount of points. Correction on the equivalent noise bandwidth shall be necessary (if not realized automatically).

3.5. Secondly Emitted Radio Wave Strength Measurement

■ Limit

Frequency (MHz)	Limit (nW)
Under 1 GHz	≤ 4
1 - 12.5 GHz	≤ 20

■ Test Setup



■ Measuring Equipment Conditions

- (1) Set the attenuation of the attenuator to under 20 dB because the subject for measurement is of low level.
- (2) Set the spectrum analyzer as follow:

Frequency sweep width: See 7.5 Measuring Operation Procedures

Resolution bandwidth: A value determined by the specified dynamic range and the sweep time. (e.g. 30 kHz for 8 GHz sweep width and 30 second sweep time.).

Video bandwidth: Approximately the same bandwidth as resolution bandwidth.

Y-axis scale: 10 dB/Div

Input level: 0 dB, if possible.

Sweep mode: Single sweep

Detection mode: Positive peak

■ Conditions of Equipment under Test

Set the EUT to receiver the test frequency with forced continuous receiving control.

■ Measuring Operation Procedures

Sweep the spectrum analyzer from a low frequency to a frequency of 3 times if the carrier or over (e.g. 10 MHz to about 8 GHz) and measure the collateral radio emissions.

3.6. Radio Interference Prevention Capability Measurement

■ Limit

Identification code $\geq$ 48 bits

■ Measuring Id Code Software

MAC IP List: MAC Scan

■ Test Setup



■ Measuring Operation Procedures

1. In the case that the EUT has the function of automatically transmitting the identification code: a. Transmit the predetermined identification codes form EUT. b. Check the transmitted identification codes with the demodulator.
2. In the case of receiving the identification code: a. Transmit the predetermined identification codes form the counterpart. b . Check if communication is normal. c. Transmit the signals other than predetermined ID codes form the counterpart. d. check if the EUT stops the transmission, or if it displays that identification codes are different from the predetermined ones.

3.7. Construction Protection Confirmation Method

■ Limit

The high-frequency section and modulation section of the radio equipment except for the antenna system shall not be capable of being opened easily.

4 Test Results

BLE 1M

2. TEST RESULTS DATA FOR JAPANESE CERTIFICATION BLE-1M

Peak Antenna Gain	1.240	dBi
Declaration Output Power	5.358	mW
Declaration Output Power	7.290	dBm
EIRP	8.530	dBm
Input Power Voltage	5	Vdc

Tested Circuit Insertion Loss		0.8	dB
Burst	ON TIME	-Not applicable-	sec
	OFF TIME	-Not applicable-	sec
	Ratio	-Not applicable-	%
Packet Type (Mode)		-Not applicable-	mode

Test Category ; 2.4GHz Band Wideband Low-Power Data Communication System

2.1 TEST Results (Normal Voltage)

Measurement Frequency			MHz	2402	2440	2480	Result	Limit
Channel Number			Ch.	0	19	39	----	
Reading Frequency			MHz	2401.9847	2439.9847	2479.9844	----	
Frequency Tolerance			ppm	-6.37	-6.27	-6.29	PASS	-50≤x≤+50
Occupied Bandwidth			MHz	1.2797	1.2814	1.2887	PASS	≤26 MHz
RF Output Power			mW	4.656	5.023	5.358	PASS	≤10 mW
RF Output Power Tolerance			%	-13.102	-6.252	0.000	PASS	≤+20
EIRP			dBm	7.920	8.250	8.530		
Unwanted Emission Strength (TX1)	Under 2387MHz	μW/MHz	0.024	0.023	0.031	PASS	≤2.5uW/MHz	
		MHz	2273.900	734.700	2351.600	----		
	2387-2400MHz	μW/MHz	4.036	0.011	0.007	PASS	≤25uW/MHz	
		MHz	2400.000	2396.971	2394.605	----		
	2483.5-2496.5MHz	μW/MHz	0.006	0.009	0.328	PASS	≤25uW/MHz	
		MHz	2492.665	2488.024	2483.565	----		
	2496.5 - 12.5GHz	μW/MHz	0.001	0.003	0.002	PASS	≤2.5uW/MHz	
		MHz	7205.300	7320.100	7441.100	----		
Secondarily Emitted Radio Wave Strength (RX Spurious) (RX1)	Under 1GHz	nW	1.403	0.084	0.403	PASS	≤ 4 nW	
		MHz	745.860	127.970	745.860	----		
	1 - 12.5GHz	nW	4.989	3.548	1.309	PASS	≤ 20 nW	
		MHz	2466.500	3423.000	2432.500	----		
Interference Prevention Function			-----	good			PASS	

2.2 TEST Results (High Voltage)

Measurement Frequency			MHz	2402	2440	2480	Result	NOTES
Channel Number			Ch.	0	19	39	-----	
Reading Frequency			MHz	2401.9847	2439.9847	2479.9844	-----	
Frequency Tolerance			ppm	-6.37	-6.27	-6.29	PASS	-50≤x≤+50
Occupied Bandwidth			MHz	1.2647	1.2823	1.2879	PASS	≤26 MHz
RF Output Power			mW	4.656	5.012	5.346	PASS	≤10 mW
RF Output Power Tolerance			%	-13.104	-6.460	-0.231	PASS	≤+20
EIRP			dBm	7.920	8.240	8.520		
Unwanted Emission Strength (TX1)	Under 2387MHz	μW/MHz	0.021	0.021	0.031	PASS	≤2.5uW/MHz	
		MHz	2273.900	2311.600	2351.600	-----		
	2387-2400MHz	μW/MHz	3.802	0.012	0.006	PASS	≤25uW/MHz	
		MHz	2400.000	2397.465	2394.657	-----		
	2483.5-2496.5MHz	μW/MHz	0.006	0.008	0.310	PASS	≤25uW/MHz	
		MHz	2487.192	2488.076	2483.539	-----		
	2496.5 - 12.5GHz	μW/MHz	0.003	0.004	0.001	PASS	≤2.5uW/MHz	
		MHz	7205.300	7320.100	7439.700	-----		
Secondarily Emitted Radio Wave Strength (RX Spurious) (RX1)	Under 1GHz	nW	3.606	0.325	0.313	PASS	≤ 4 nW	
		MHz	730.340	745.860	734.220	-----		
	1 - 12.5GHz	nW	9.311	4.446	8.356	PASS	≤ 20 nW	
		MHz	2444.000	2466.500	2438.500	-----		
Interference Prevention Function			-----	good			PASS	

2.3 TEST Results (Low Voltage)

Measurement Frequency			MHz	2402	2440	2480	Result	NOTES
Channel Number			Ch.	0	19	39	----	
Reading Frequency			MHz	2401.9847	2439.9847	2479.9844	----	
Frequency Tolerance			ppm	-6.37	-6.27	-6.29	PASS	-50≤x≤+50
Occupied Bandwidth			MHz	1.2617	1.2819	1.2895	PASS	≤26 MHz
RF Output Power			mW	4.656	5.023	5.346	PASS	≤10 mW
RF Output Power Tolerance			%	-13.104	-6.244	-0.231	PASS	≤+20
EIRP			dBm	7.920	8.250	8.520		
Unwanted Emission Strength (TX1)	Under 2387MHz	μW/MHz	0.022	0.021	0.032	PASS	≤2.5uW/MHz	
		MHz	2273.900	2311.600	2351.600	----		
	2387-2400MHz	μW/MHz	4.027	0.011	0.006	PASS	≤25uW/MHz	
		MHz	2400.000	2397.270	2394.839	----		
	2483.5-2496.5MHz	μW/MHz	0.007	0.009	0.318	PASS	≤25uW/MHz	
		MHz	2487.049	2484.384	2483.539	----		
	2496.5 - 12.5GHz	μW/MHz	0.002	0.003	0.003	PASS	≤2.5uW/MHz	
		MHz	7205.300	7319.100	7440.100	----		
Secondarily Emitted Radio Wave Strength (RX Spurious) (RX1)	Under 1GHz	nW	0.274	0.437	0.378	PASS	≤ 4 nW	
		MHz	729.370	729.370	730.340	----		
	1 - 12.5GHz	nW	0.964	3.281	1.738	PASS	≤ 20 nW	
		MHz	3374.000	2533.000	2438.500	----		
Interference Prevention Function			-----	good			PASS	

BLE 2M

2. TEST RESULTS DATA FOR JAPANESE CERTIFICATION BLE-2M

Peak Antenna Gain	1.240	dBi
Declaration Output Power	5.346	mW
Declaration Output Power	7.280	dBm
EIRP	8.520	dBm
Input Power Voltage	5	Vdc

Tested Circuit Insertion Loss		0.8	dB
Burst	ON TIME	-Not applicable-	sec
	OFF TIME	-Not applicable-	sec
	Ratio	-Not applicable-	%
Packet Type (Mode)		-Not applicable-	mode

Test Category ; 2.4GHz Band Wideband Low-Power Data Communication System

2.1 TEST Results (Normal Voltage)

Measurement Frequency		MHz	2402	2440	2480	Result	Limit
Channel Number		Ch.	0	19	39	----	
Reading Frequency		MHz	2401.9847	2439.9847	2479.9844	----	
Frequency Tolerance		ppm	-6.37	-6.27	-6.29	PASS	-50≤x≤+50
Occupied Bandwidth		MHz	2.1945	2.1962	2.1984	PASS	≤26 MHz
RF Output Power		mW	4.656	5.023	5.346	PASS	≤10 mW
RF Output Power Tolerance		%	-12.907	-6.042	0.000	PASS	≤+20
EIRP		dBm	7.920	8.250	8.520		
Unwanted Emission Strength (TX1)	Under 2387MHz	μW/MHz	0.019	0.021	0.028	PASS	≤2.5uW/MHz
		MHz	2273.900	2311.600	2351.600	----	
	2387-2400MHz	μW/MHz	0.002	0.011	0.007	PASS	≤25uW/MHz
		MHz	2399.987	2397.309	2388.937	----	
	2483.5-2496.5MHz	μW/MHz	0.006	0.011	0.390	PASS	≤25uW/MHz
		MHz	2492.704	2483.838	2483.539	----	
	2496.5 - 12.5GHz	μW/MHz	0.002	0.002	0.002	PASS	≤2.5uW/MHz
		MHz	7206.200	7320.100	7438.700	----	
Secondarily Emitted Radio Wave Strength (RX Spurious) (RX1)	Under 1GHz	nW	0.883	0.290	0.085	PASS	≤ 4 nW
		MHz	730.340	740.040	127.970	----	
	1 - 12.5GHz	nW	7.211	13.213	2.698	PASS	≤ 20 nW
		MHz	2533.500	2435.000	5223.000	----	
Interference Prevention Function		-----	good			PASS	

2.2 TEST Results (High Voltage)

Measurement Frequency			MHz	2402	2440	2480	Result	NOTES
Channel Number			Ch.	0	19	39	----	
Reading Frequency			MHz	2401.9847	2439.9844	2479.9844	----	
Frequency Tolerance			ppm	-6.37	-6.39	-6.29	PASS	-50≤x≤+50
Occupied Bandwidth			MHz	2.1947	2.1969	2.1996	PASS	≤26 MHz
RF Output Power			mW	4.645	5.023	5.333	PASS	≤10 mW
RF Output Power Tolerance			%	-13.110	-6.034	-0.237	PASS	≤+20
EIRP			dBm	7.910	8.250	8.510		
Unwanted Emission Strength (TX1)	Under 2387MHz	μW/MHz	0.022	0.019	0.028	PASS	≤2.5uW/MHz	
		MHz	734.700	2311.600	2351.600	----		
	2387-2400MHz	μW/MHz	0.002	0.011	0.006	PASS	≤25uW/MHz	
		MHz	2400.000	2397.205	2394.163	----		
	2483.5-2496.5MHz	μW/MHz	0.006	0.009	0.401	PASS	≤25uW/MHz	
		MHz	2487.413	2483.526	2483.526	----		
	2496.5 - 12.5GHz	μW/MHz	0.002	0.002	0.002	PASS	≤2.5uW/MHz	
		MHz	7206.200	7318.700	7438.700	----		
Secondarily Emitted Radio Wave Strength (RX Spurious) (RX1)	Under 1GHz	nW	0.703	0.447	0.167	PASS	≤ 4 nW	
		MHz	745.860	743.920	734.220	----		
	1 - 12.5GHz	nW	8.337	2.080	1.104	PASS	≤ 20 nW	
		MHz	2524.000	2444.000	2444.000	----		
Interference Prevention Function			-----	good			PASS	

2.3 TEST Results (Low Voltage)

Measurement Frequency			MHz	2402	2440	2480	Result	NOTES
Channel Number			Ch.	0	19	39	----	
Reading Frequency			MHz	2401.9844	2439.9844	2479.9844	----	
Frequency Tolerance			ppm	-6.49	-6.39	-6.29	PASS	-50≤x≤+50
Occupied Bandwidth			MHz	2.1938	2.1976	2.1991	PASS	≤26 MHz
RF Output Power			mW	4.656	5.012	5.346	PASS	≤10 mW
RF Output Power Tolerance			%	-12.909	-6.250	-0.007	PASS	≤+20
EIRP			dBm	7.920	8.240	8.520		
Unwanted Emission Strength (TX1)	Under 2387MHz	μW/MHz	0.019	0.019	0.030	PASS	≤2.5uW/MHz	
		MHz	2273.900	2311.600	2351.600	----		
	2387-2400MHz	μW/MHz	0.002	0.011	0.006	PASS	≤25uW/MHz	
		MHz	2400.000	2397.491	2394.215	----		
	2483.5-2496.5MHz	μW/MHz	0.006	0.011	0.361	PASS	≤25uW/MHz	
		MHz	2487.257	2483.864	2483.539	----		
	2496.5 - 12.5GHz	μW/MHz	0.002	0.002	0.002	PASS	≤2.5uW/MHz	
		MHz	7204.800	7320.100	7438.700	----		
Secondarily Emitted Radio Wave Strength (RX Spurious) (RX1)	Under 1GHz	nW	0.383	1.560	0.087	PASS	≤ 4 nW	
		MHz	744.890	742.950	127.970	----		
	1 - 12.5GHz	nW	2.576	10.839	7.031	PASS	≤ 20 nW	
		MHz	2445.000	2534.500	2435.000	----		
Interference Prevention Function			-----	good			PASS	

■ Antenna List

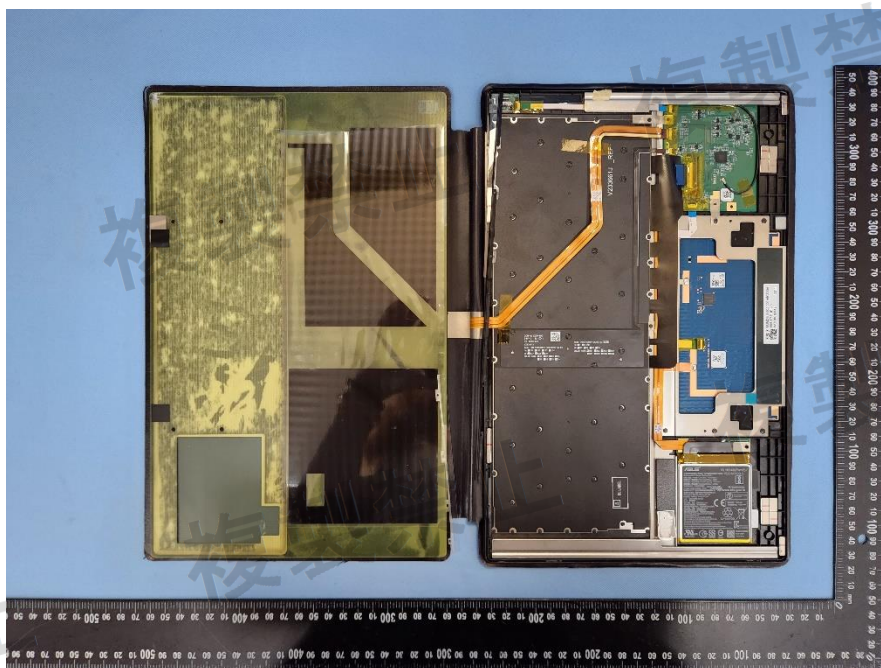
Antenna			Gain Specification			Notes (Cable or Others)
No	Type	Model Name	Max Gain (dBi)	Attenuation (dB)	Net Gain (dBi)	
1	PCB Antenna	WA-P-LA-02-337	1.24	0	0	Horizontal + Vertical

■ Construction Protection Confirmation Method

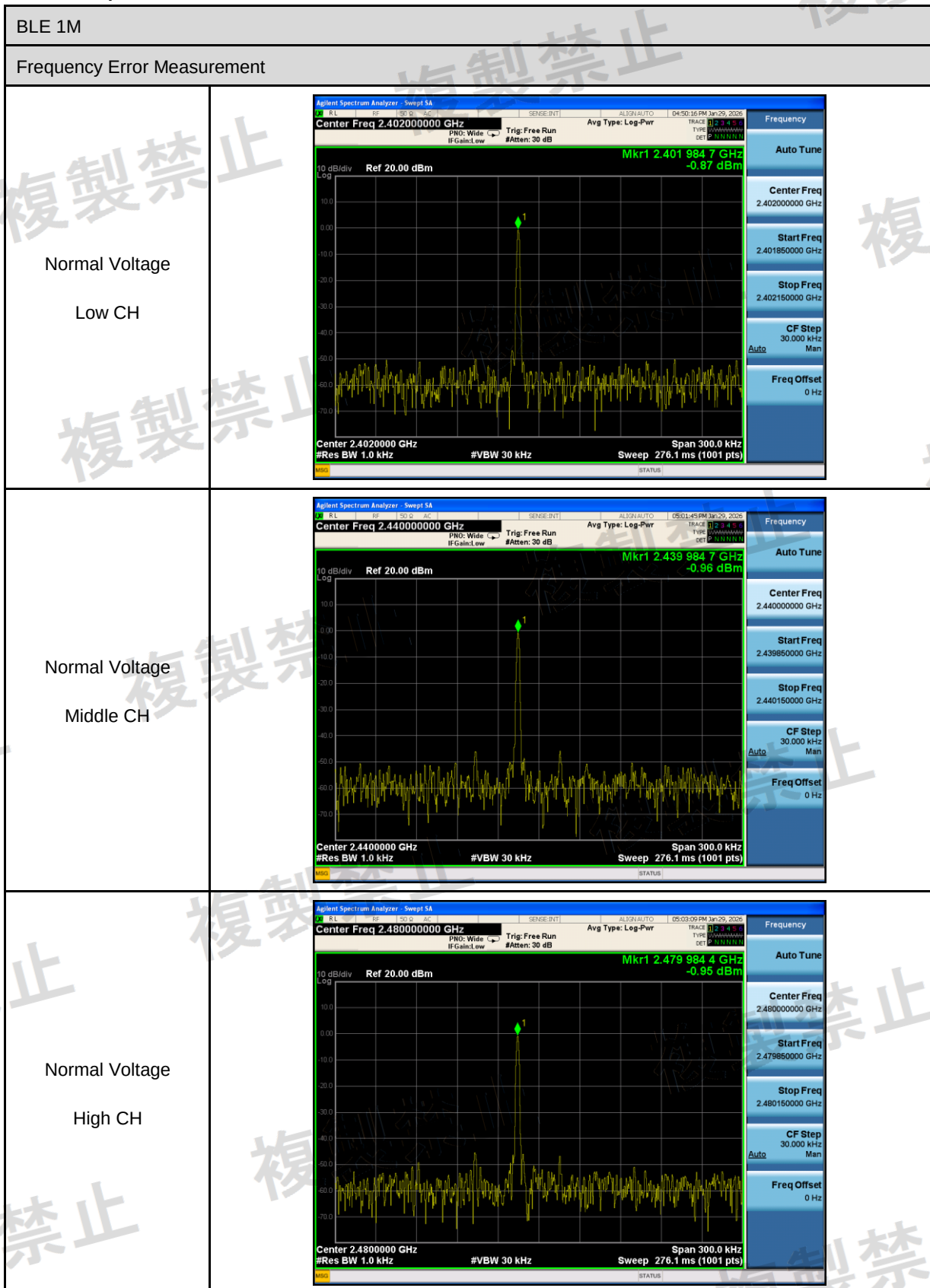
Confirmation Method

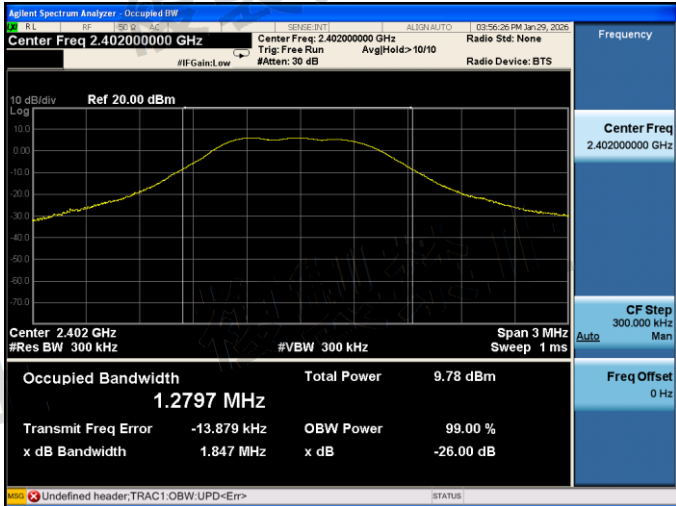
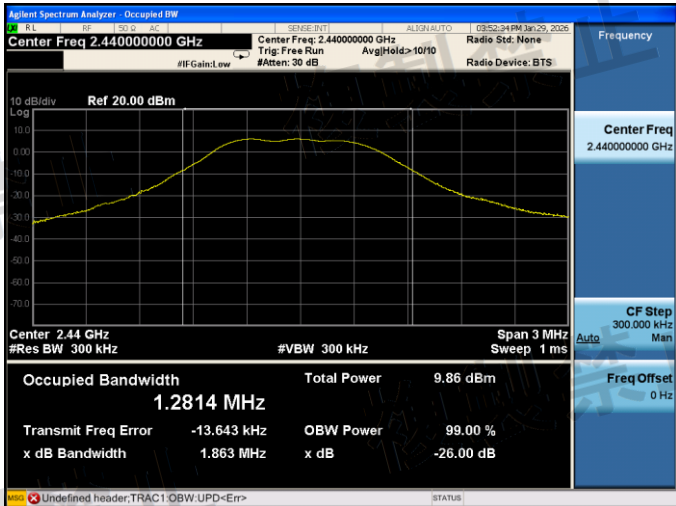
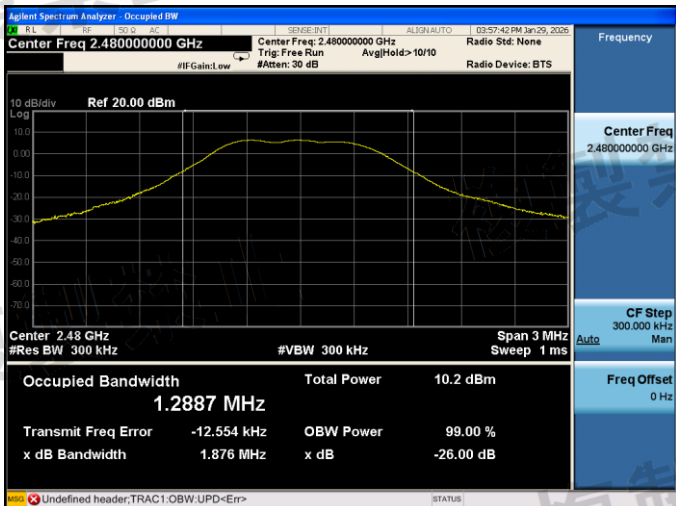
☐	1. Sealed with special screws (indicate the special screws used in Exterior View Drawings, and also attach its technical drawings of such screws).
☐	2. Plastic chassis is being welded using ultrasonic waves.
☒	3. Chassis is glued using a special adhesive.
☐	4. Metal covers are spot-fused (indicate the fused points in Exterior View Drawings).
☐	5. Cover is specially interlocked (indicate the interlocked part in Exterior View Drawings).
☐	6. Shield case is welded at RF and modulation parts, and ID-ROM is welded using the BGA Method.
☐	7. Shield case is welded at RF and modulation parts, and ID-ROM is glued at its lead with a special adhesive.
☐	8. Shield case is welded at RF and modulation parts, and ID-ROM is glued with a non-transparent laminating agent.
☐	9. Other ()

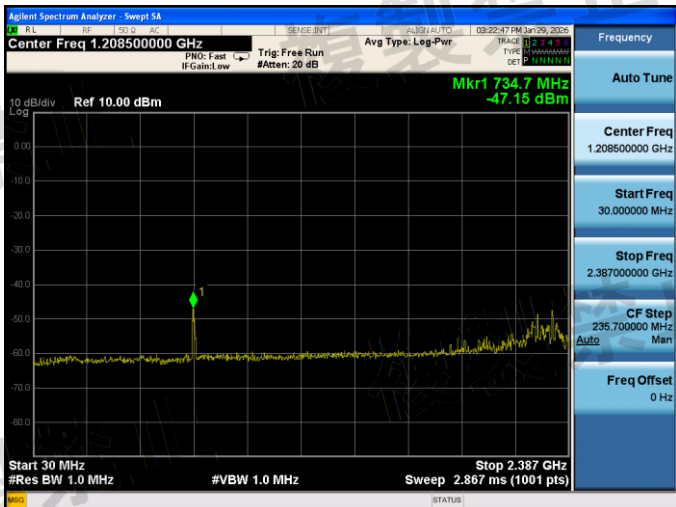
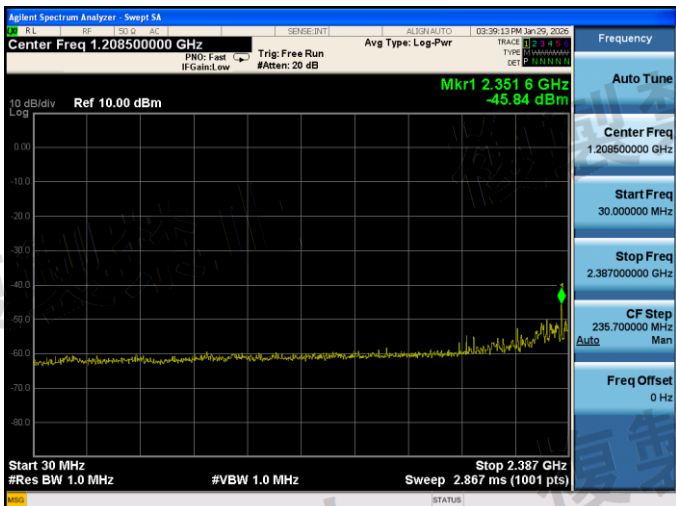
Photo



Test Graphs



BLE 1M	
Occupied Bandwidth Measurement	
Normal Voltage Low CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.40200000 GHz Occupied Bandwidth: 1.2797 MHz Total Power: 9.78 dBm
Normal Voltage Middle CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.44000000 GHz Occupied Bandwidth: 1.2814 MHz Total Power: 9.86 dBm
Normal Voltage High CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.48000000 GHz Occupied Bandwidth: 1.2887 MHz Total Power: 10.2 dBm

BLE 1M	
Unwanted Emission Strength Measurement	
30 MHz – 2387 MHz	
Normal Voltage Low CH	
Normal Voltage Middle CH	
Normal Voltage High CH	

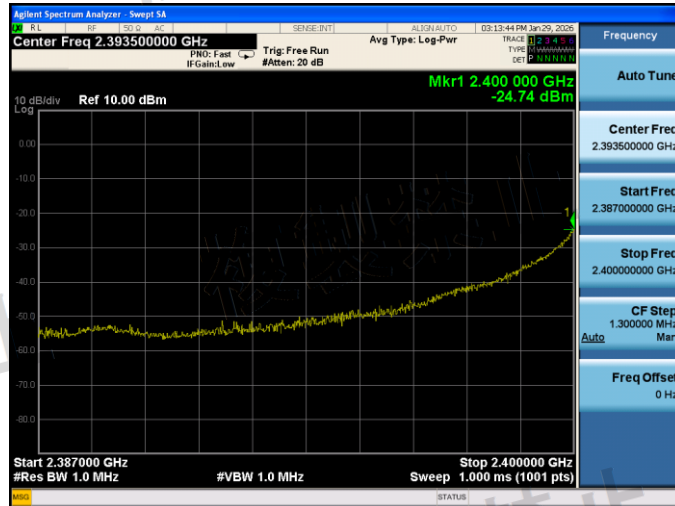
BLE 1M

Unwanted Emission Strength Measurement

2387 MHz – 2400 MHz

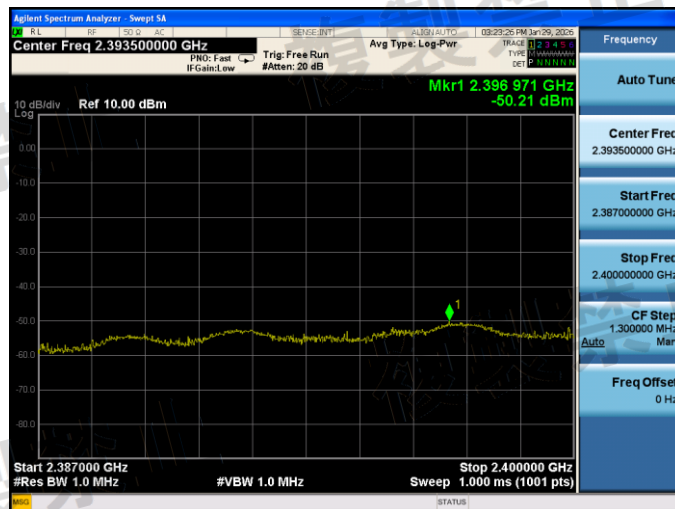
Normal Voltage

Low CH



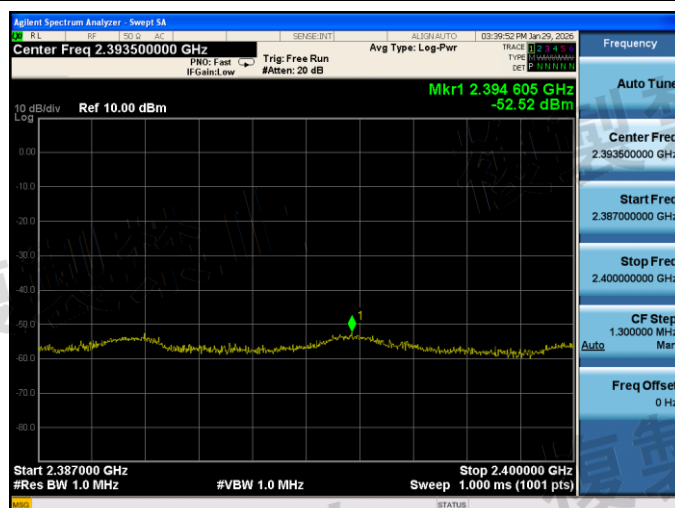
Normal Voltage

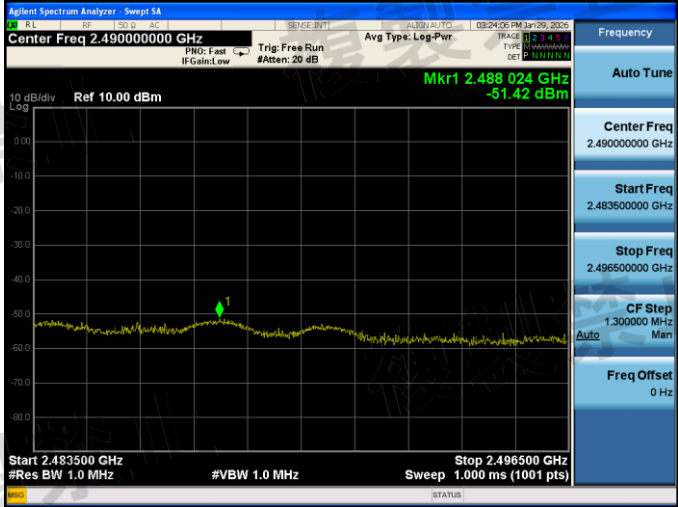
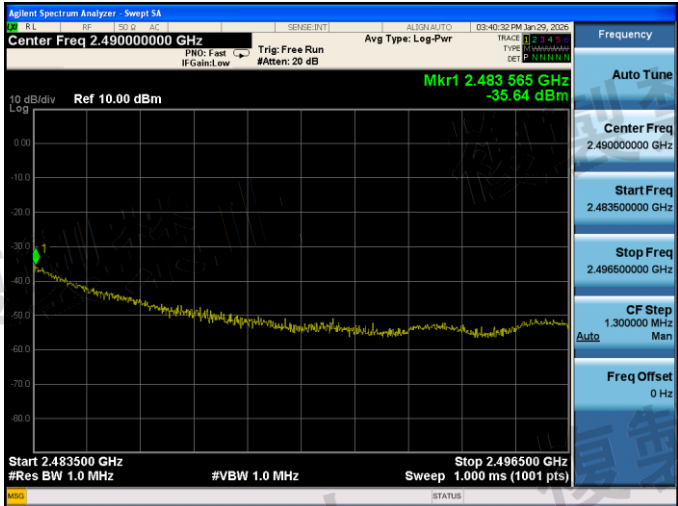
Middle CH

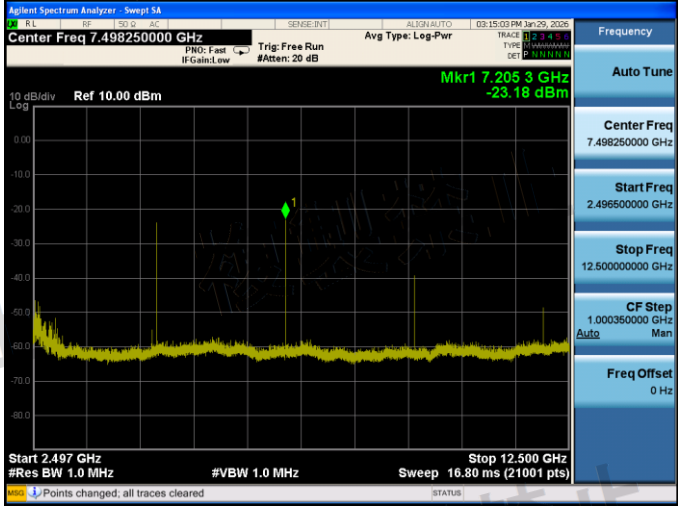
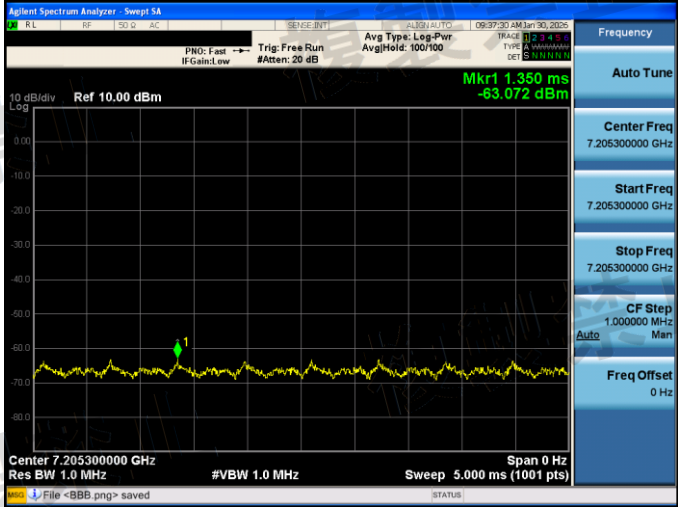
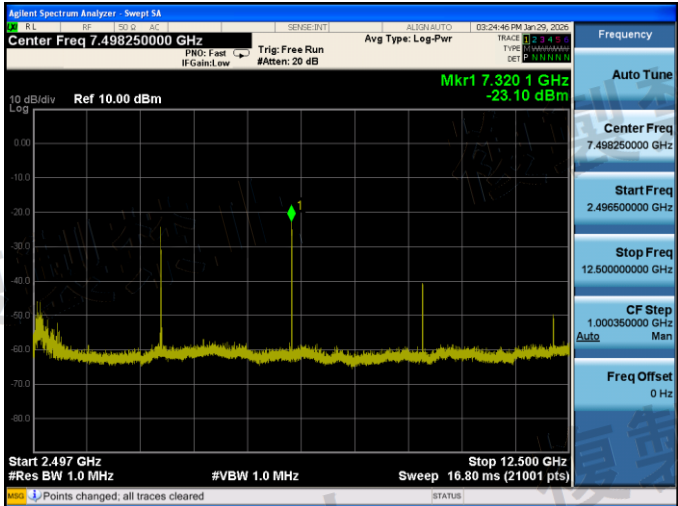


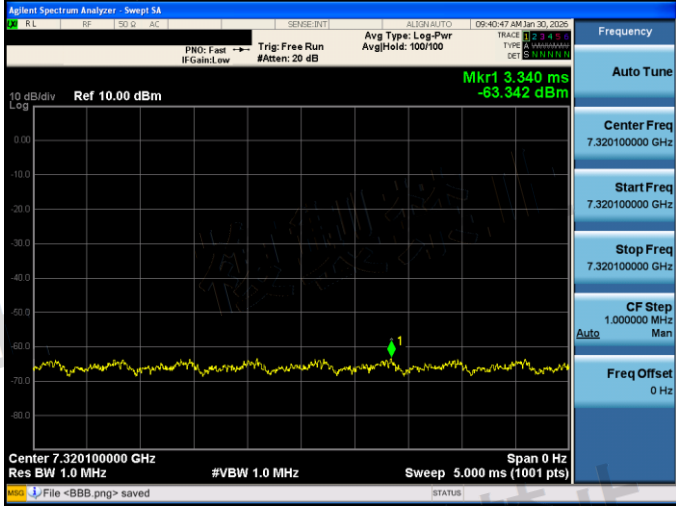
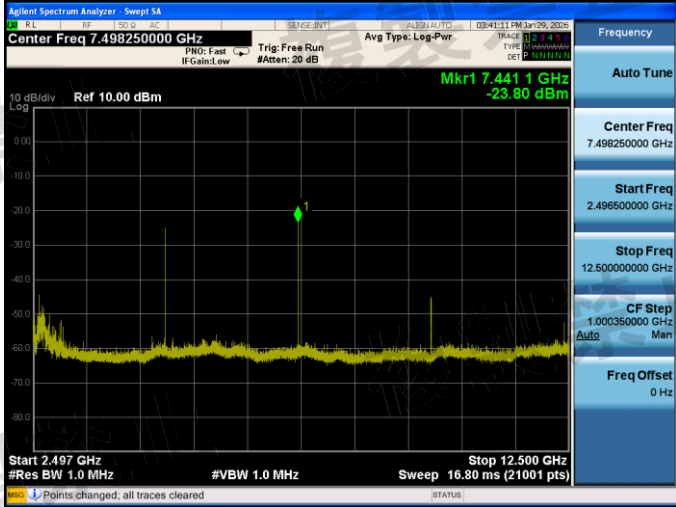
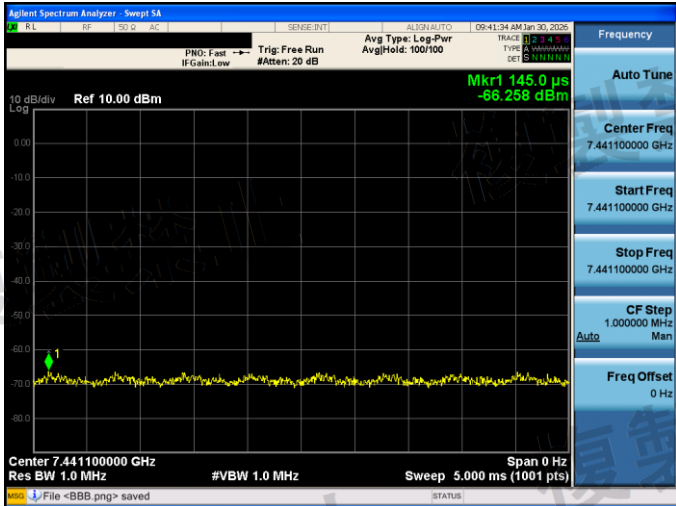
Normal Voltage

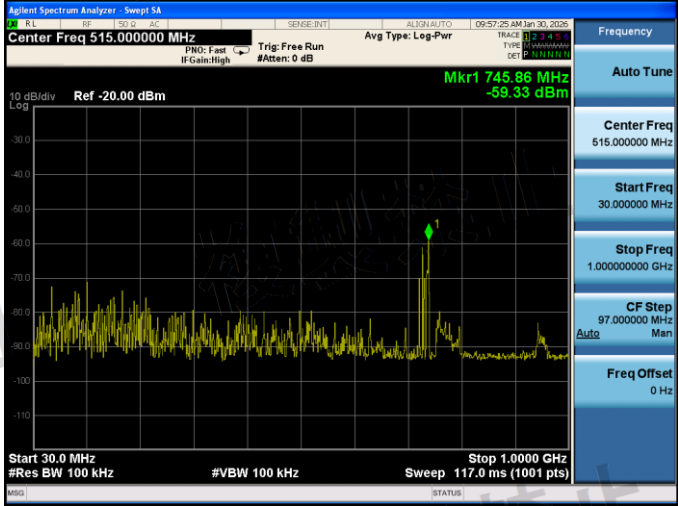
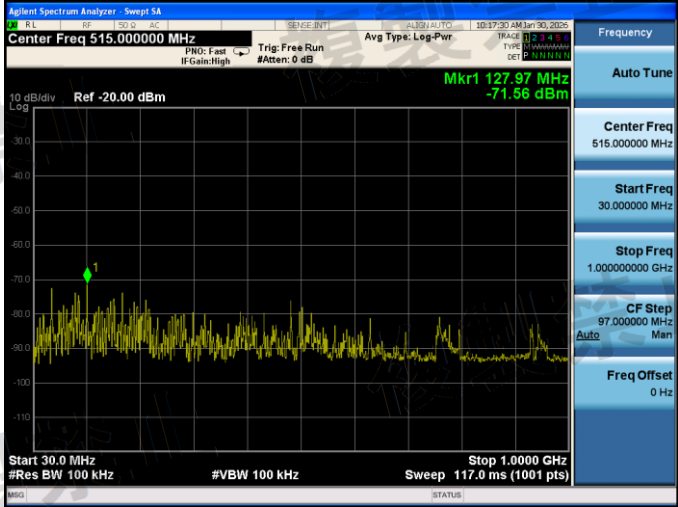
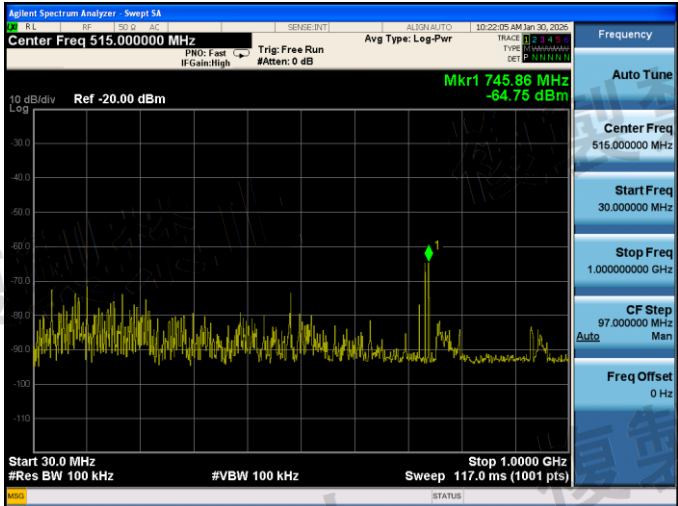
High CH

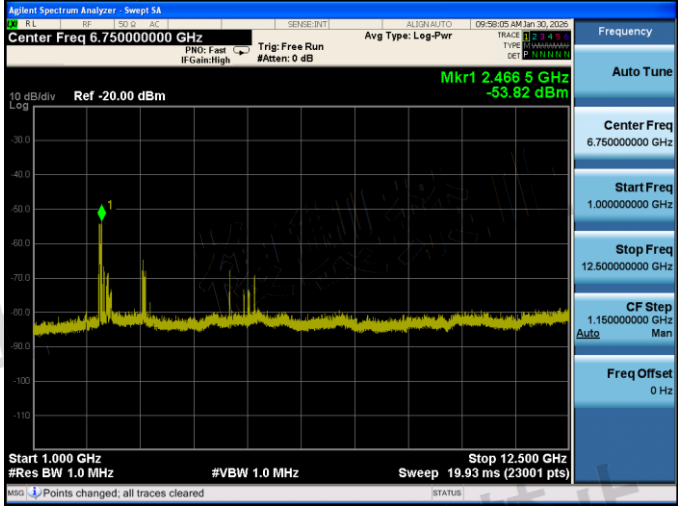
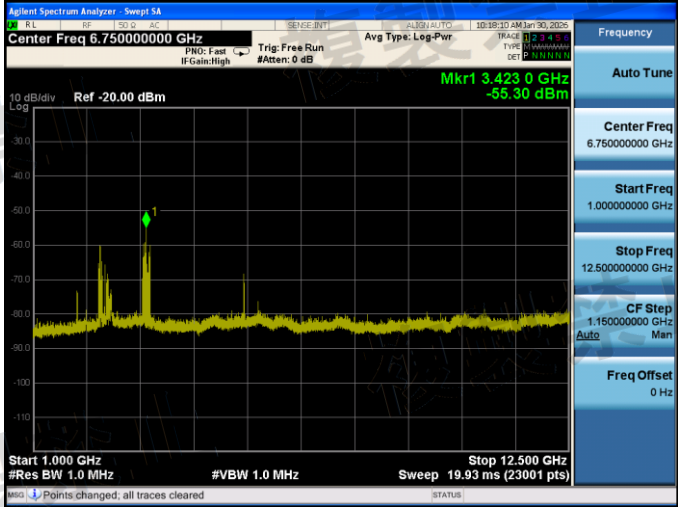
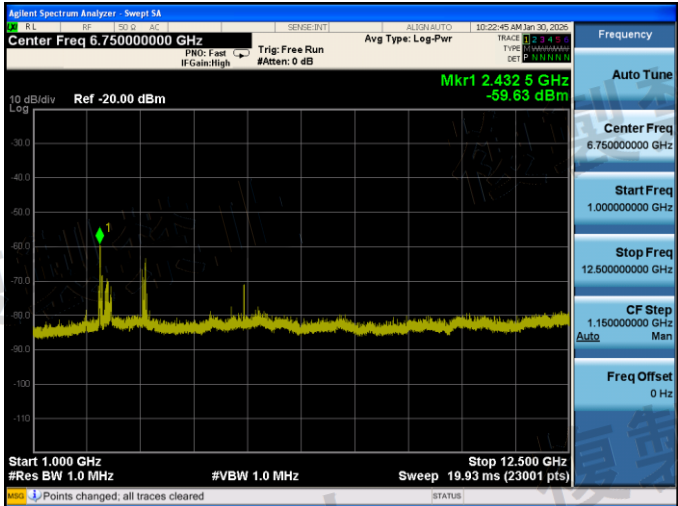


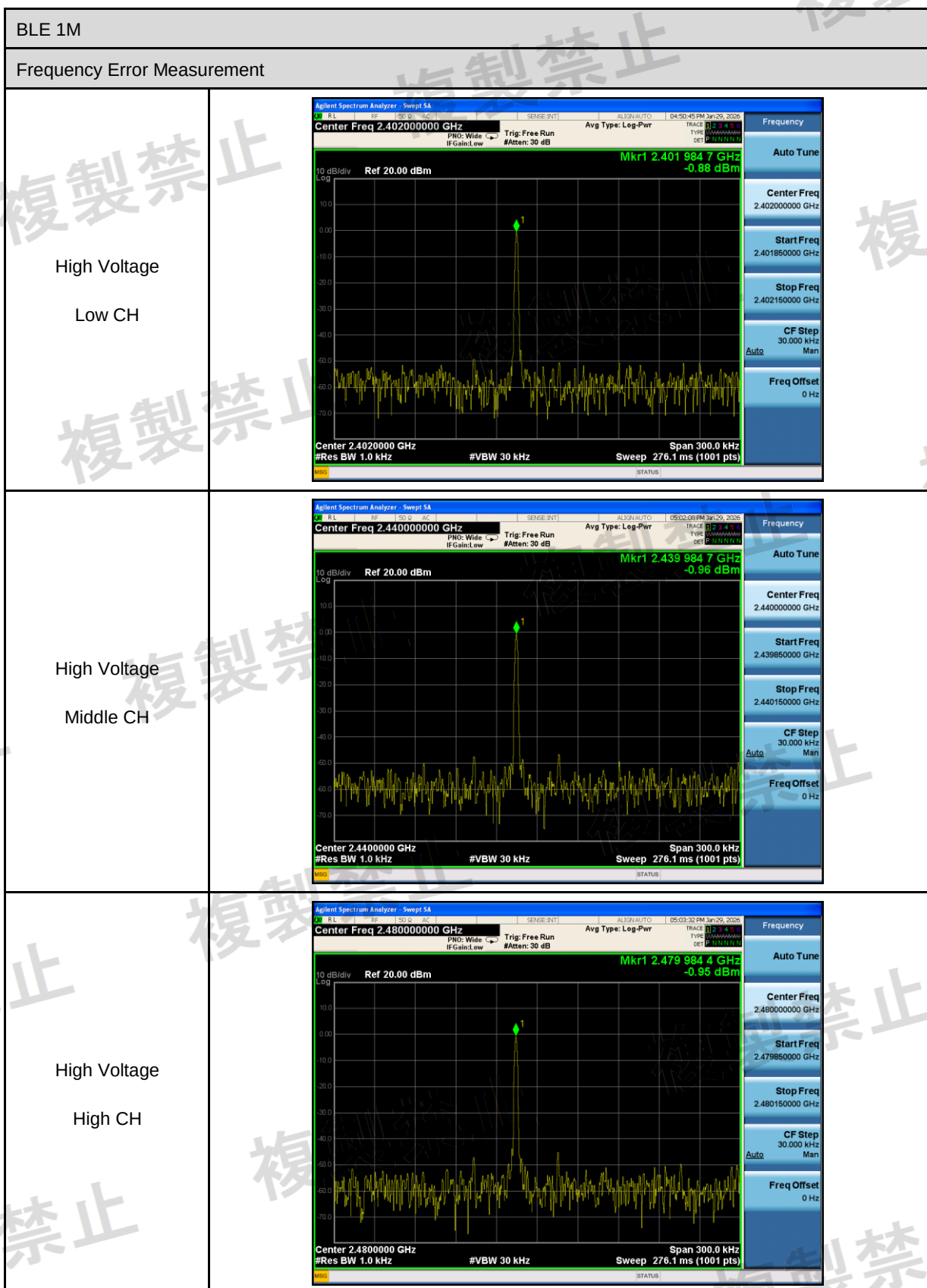
BLE 1M	
Unwanted Emission Strength Measurement	
2483.5 MHz – 2496.5 MHz	
Normal Voltage Low CH	
Normal Voltage Middle CH	
Normal Voltage High CH	

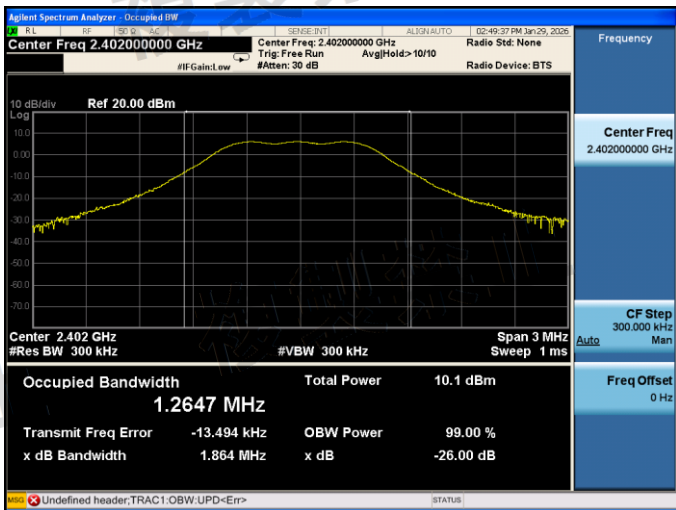
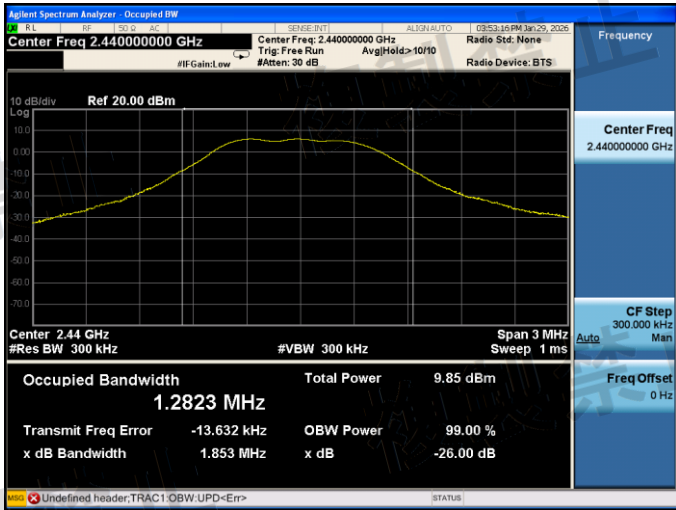
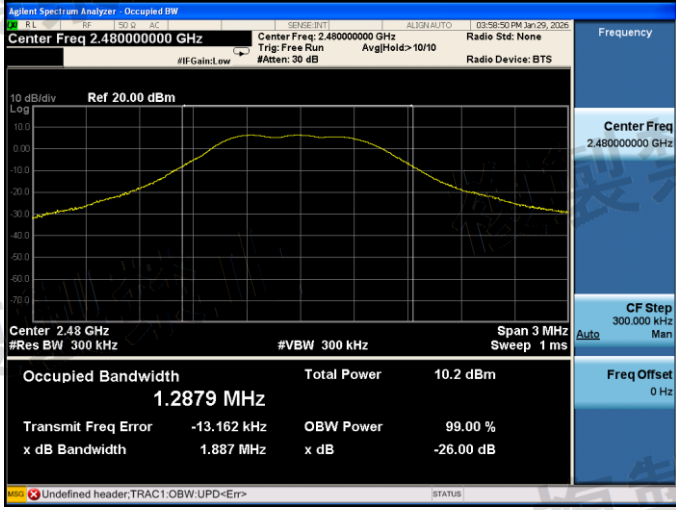
BLE 1M	
Unwanted Emission Strength Measurement	
2496.5 MHz – 12.5 GHz	
Normal Voltage Low CH	
Normal Voltage Low CH	
Normal Voltage Middle CH	

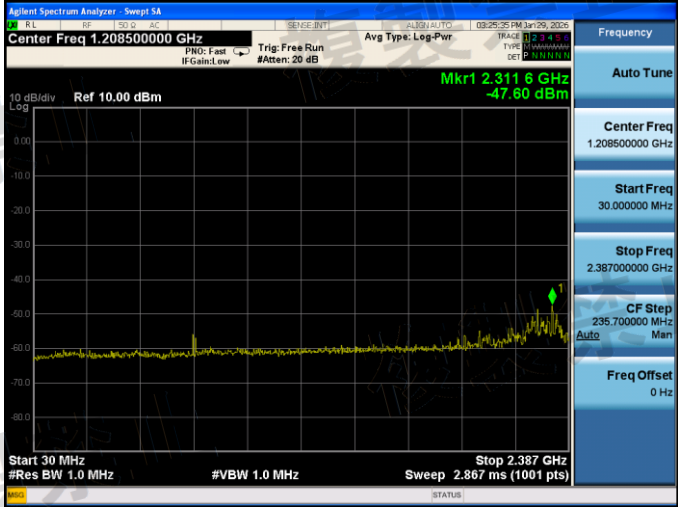
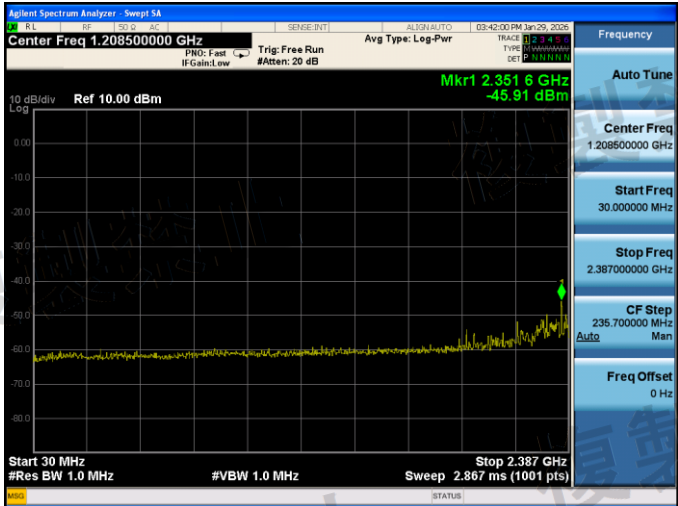
BLE 1M	
Unwanted Emission Strength Measurement	
2496.5 MHz – 12.5 GHz	
Normal Voltage Middle CH	 Agilent Spectrum Analyzer - Swept SA Ref 10.00 dBm Mkr1 3.340 ms -63.342 dBm Center 7.320100000 GHz Res BW 1.0 MHz #VBW 1.0 MHz Sweep 5.000 ms (1001 pts) Span 0 Hz File <BBB.png> saved
Normal Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 7.498250000 GHz Ref 10.00 dBm Mkr1 7.441 1 GHz -23.80 dBm Start 2.497 GHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 16.80 ms (21001 pts) Stop 12.500 GHz Points changed; all traces cleared
Normal Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Ref 10.00 dBm Mkr1 145.0 μs -66.258 dBm Center 7.441100000 GHz Res BW 1.0 MHz #VBW 1.0 MHz Sweep 5.000 ms (1001 pts) Span 0 Hz File <BBB.png> saved

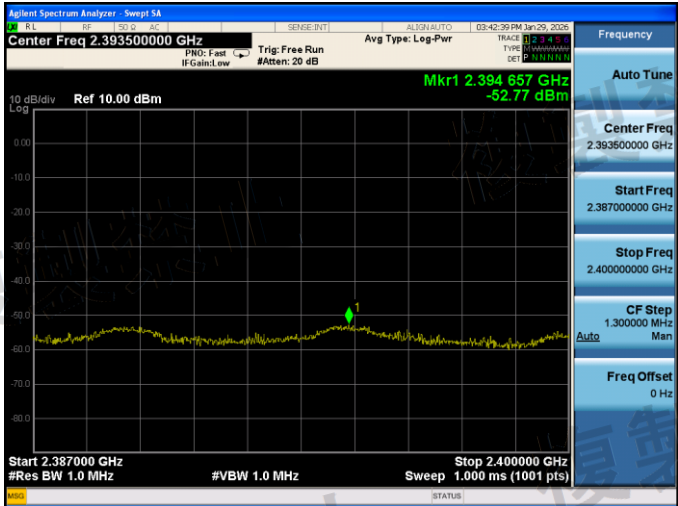
BLE 1M	
Secondarily Emitted Radio Wave Strength Measurement	
30 MHz – 1 GHz	
Normal Voltage Low CH	
Normal Voltage Middle CH	
Normal Voltage High CH	

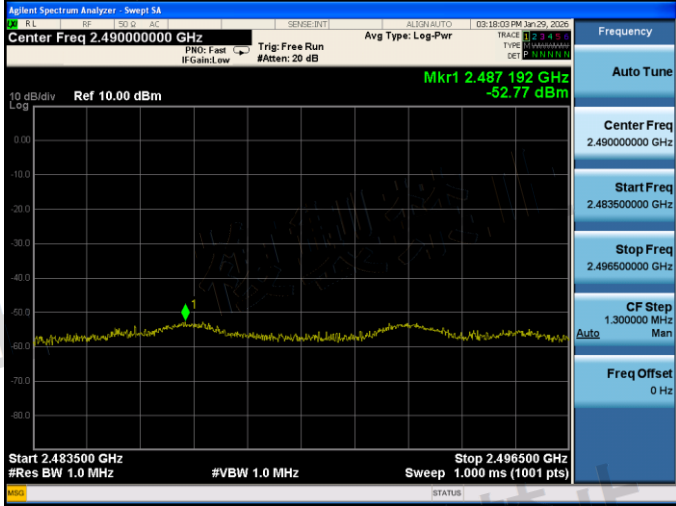
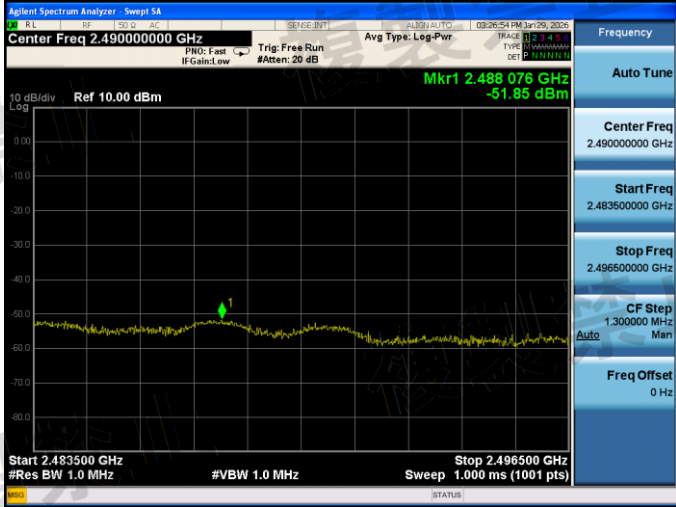
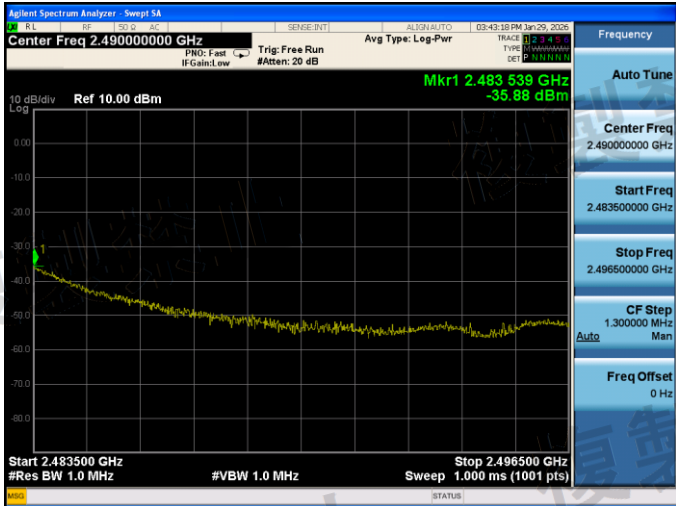
BLE 1M	
Secondarily Emitted Radio Wave Strength Measurement	
1 GHz – 12.5 GHz	
Normal Voltage Low CH	
Normal Voltage Middle CH	
Normal Voltage High CH	

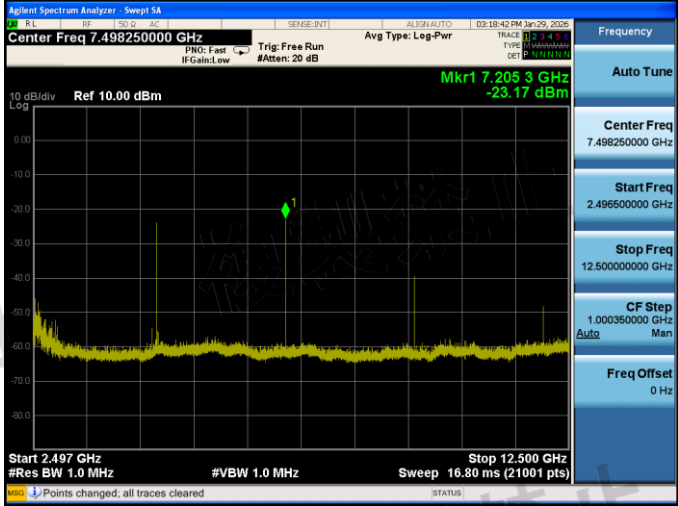
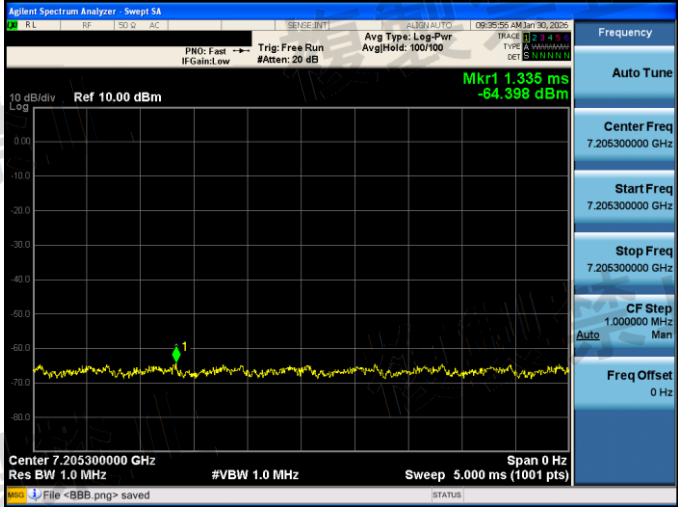
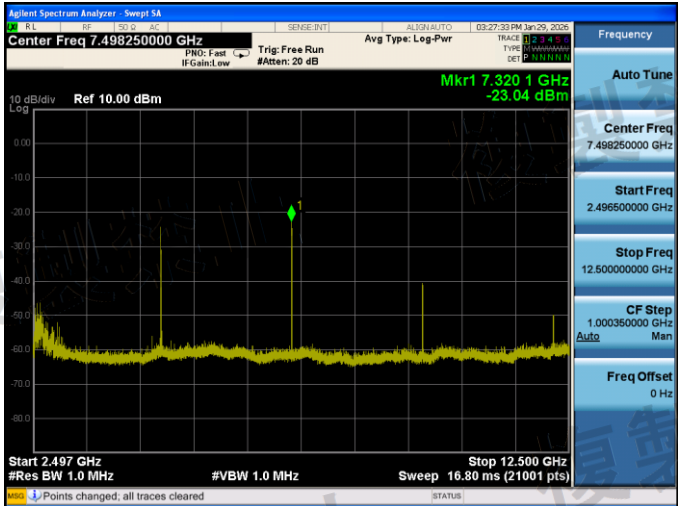


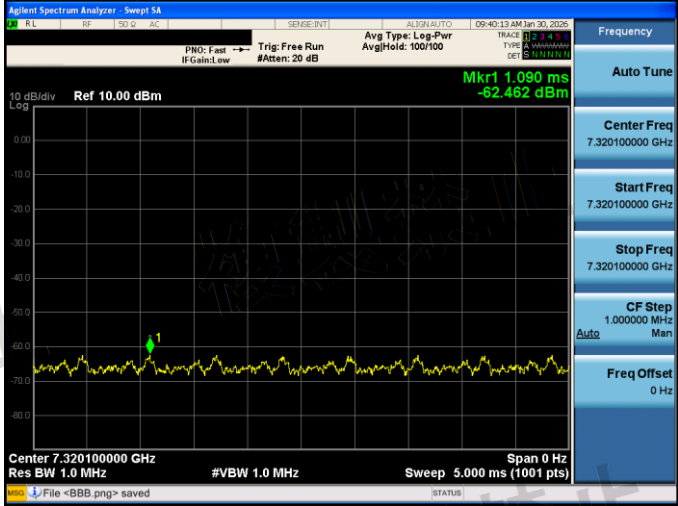
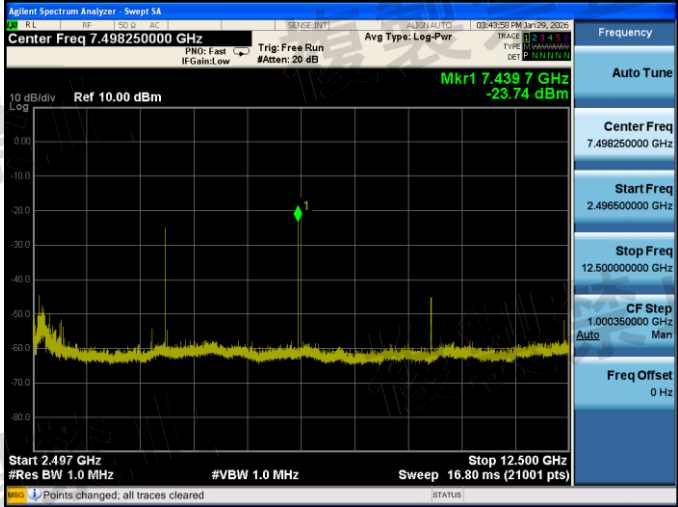
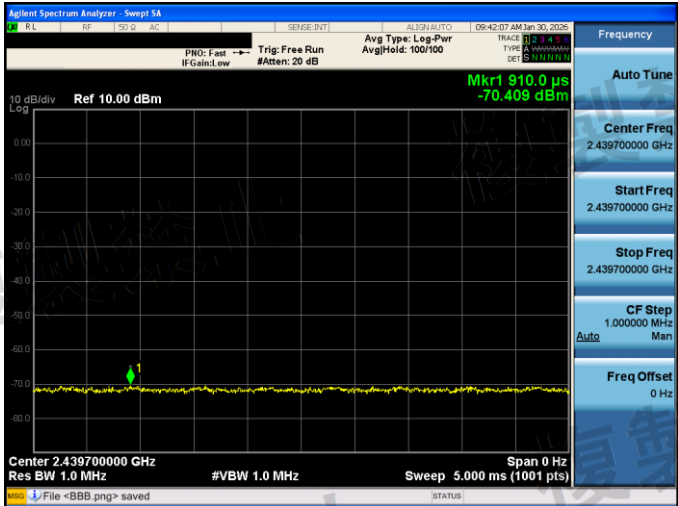
BLE 1M	
Occupied Bandwidth Measurement	
High Voltage Low CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.40200000 GHz, Center Freq: 2.402000000 GHz, Trig: Free Run, Avg/Hold: 10/10, Radio Std: None, Radio Device: BTS Ref 20.00 dBm Center 2.402 GHz, Res BW 300 kHz, Span 3 MHz, Sweep 1 ms, #VBW 300 kHz Occupied Bandwidth: 1.2647 MHz, Total Power: 10.1 dBm Transmit Freq Error: -13.494 kHz, OBW Power: 99.00 %, x dB Bandwidth: 1.864 MHz, x dB: -26.00 dB
High Voltage Middle CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.44000000 GHz, Center Freq: 2.440000000 GHz, Trig: Free Run, Avg/Hold: 10/10, Radio Std: None, Radio Device: BTS Ref 20.00 dBm Center 2.44 GHz, Res BW 300 kHz, Span 3 MHz, Sweep 1 ms, #VBW 300 kHz Occupied Bandwidth: 1.2823 MHz, Total Power: 9.85 dBm Transmit Freq Error: -13.632 kHz, OBW Power: 99.00 %, x dB Bandwidth: 1.853 MHz, x dB: -26.00 dB
High Voltage High CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.48000000 GHz, Center Freq: 2.480000000 GHz, Trig: Free Run, Avg/Hold: 10/10, Radio Std: None, Radio Device: BTS Ref 20.00 dBm Center 2.48 GHz, Res BW 300 kHz, Span 3 MHz, Sweep 1 ms, #VBW 300 kHz Occupied Bandwidth: 1.2879 MHz, Total Power: 10.2 dBm Transmit Freq Error: -13.162 kHz, OBW Power: 99.00 %, x dB Bandwidth: 1.887 MHz, x dB: -26.00 dB

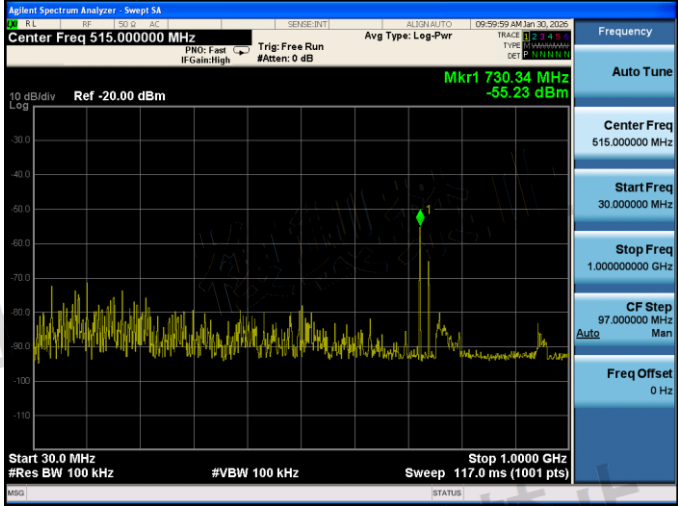
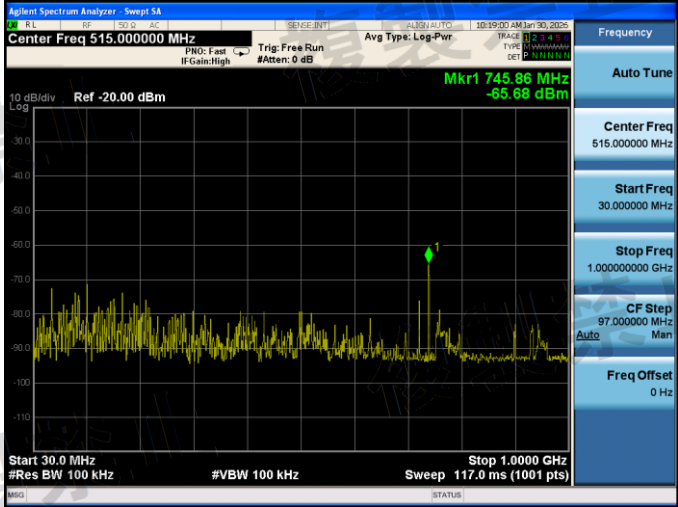
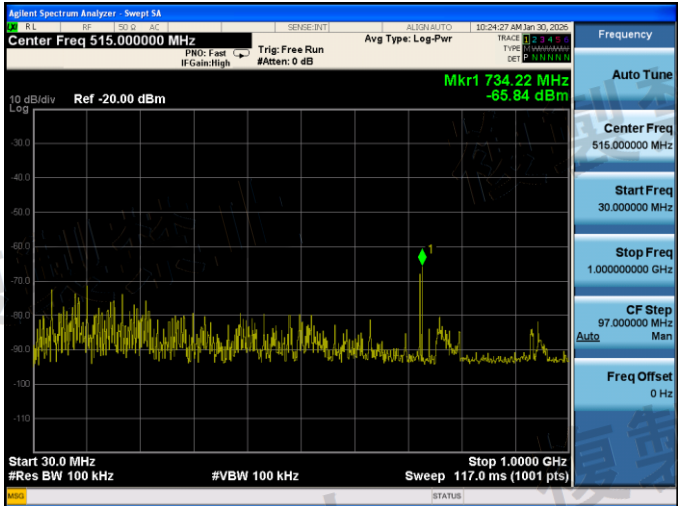
BLE 1M	
Unwanted Emission Strength Measurement	
30 MHz – 2387 MHz	
High Voltage Low CH	
High Voltage Middle CH	
High Voltage High CH	

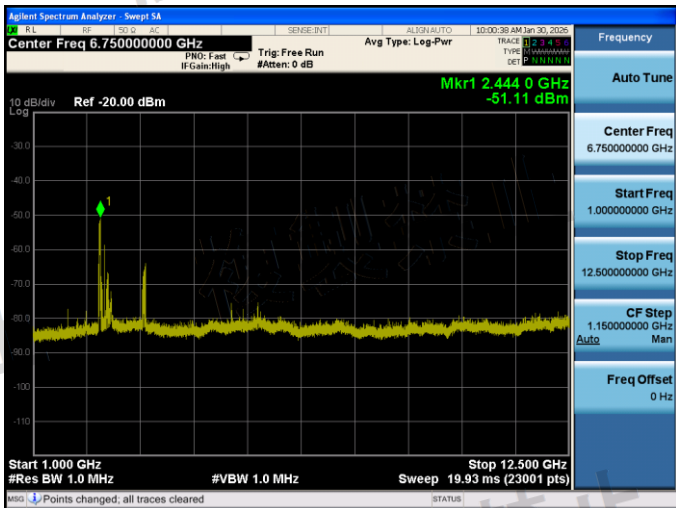
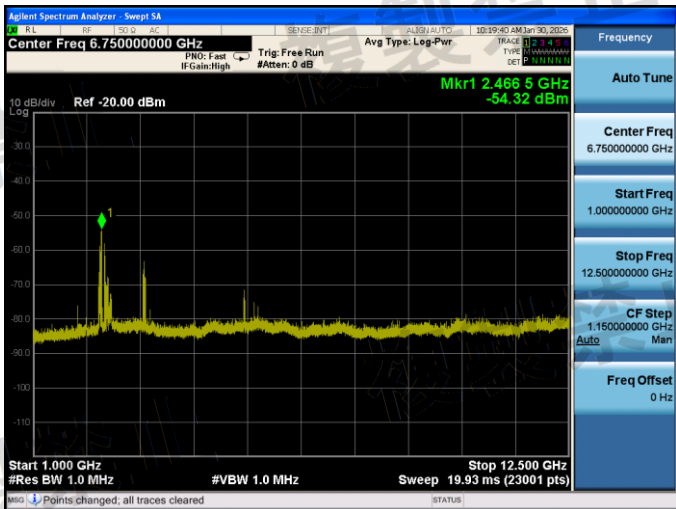
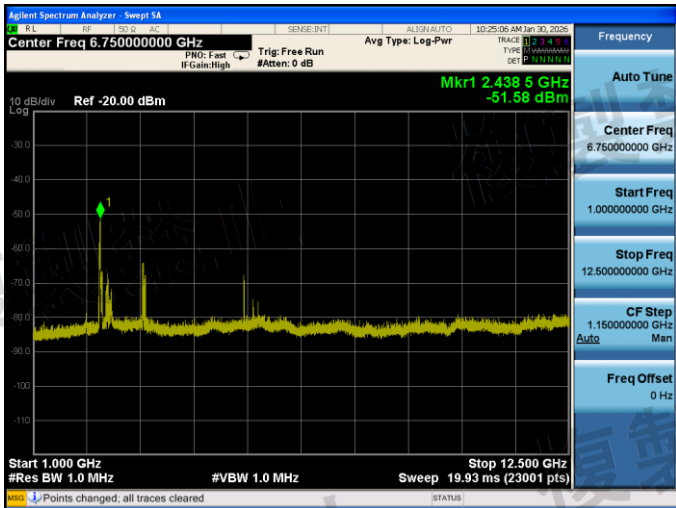
BLE 1M	
Unwanted Emission Strength Measurement	
2387 MHz – 2400 MHz	
High Voltage Low CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 2.393500000 GHz Ref 10.00 dBm Mkr1 2.400 000 GHz -25.00 dBm Start 2.387000 GHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 1.000 ms (1001 pts) Stop 2.400000 GHz
High Voltage Middle CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 2.393500000 GHz Ref 10.00 dBm Mkr1 2.397 465 GHz -50.18 dBm Start 2.387000 GHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 1.000 ms (1001 pts) Stop 2.400000 GHz
High Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 2.393500000 GHz Ref 10.00 dBm Mkr1 2.394 657 GHz -52.77 dBm Start 2.387000 GHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 1.000 ms (1001 pts) Stop 2.400000 GHz

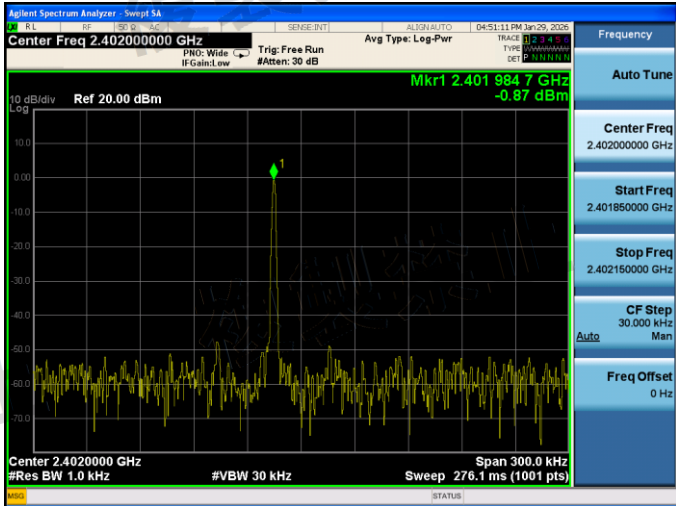
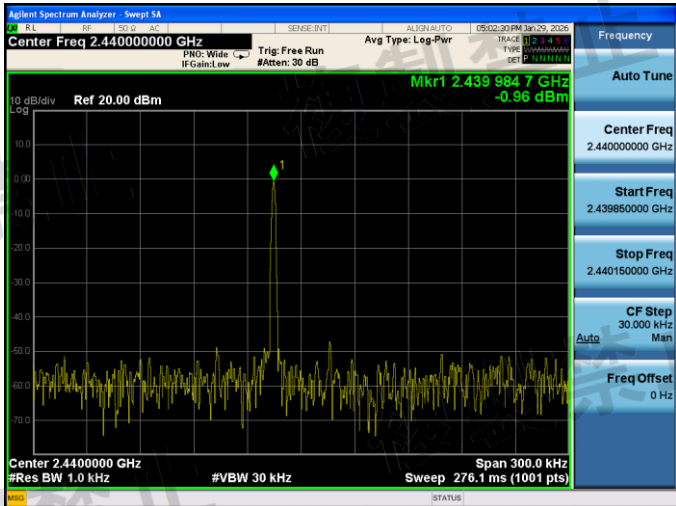
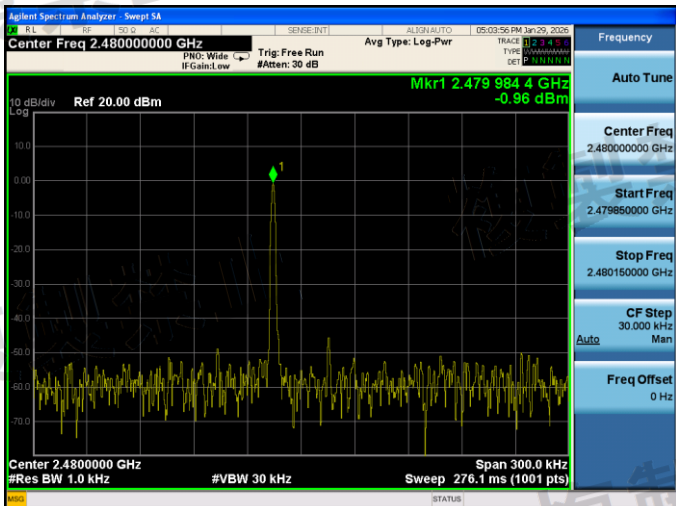
BLE 1M	
Unwanted Emission Strength Measurement	
2483.5 MHz – 2496.5 MHz	
High Voltage Low CH	
High Voltage Middle CH	
High Voltage High CH	

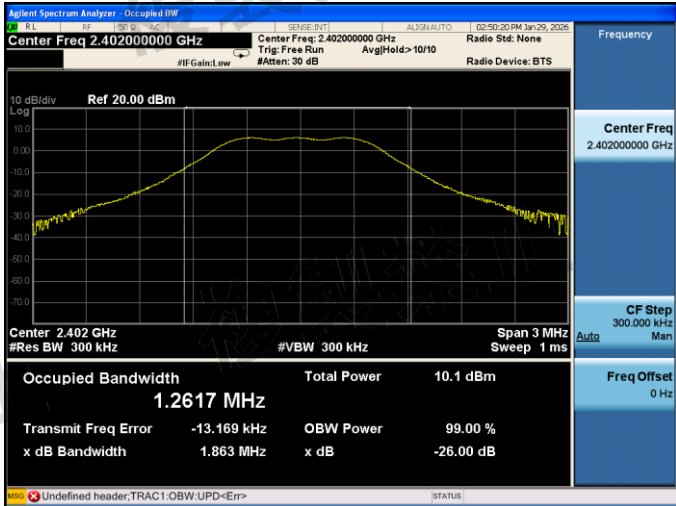
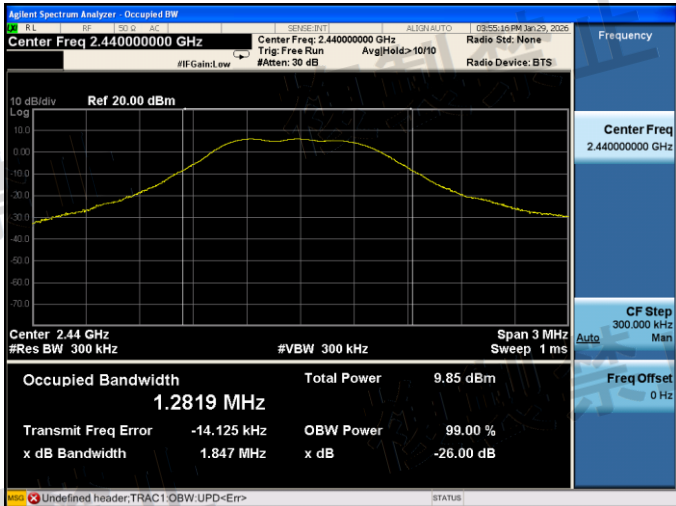
BLE 1M	
Unwanted Emission Strength Measurement	
2496.5 MHz – 12.5 GHz	
High Voltage Low CH	
High Voltage Low CH	
High Voltage Middle CH	

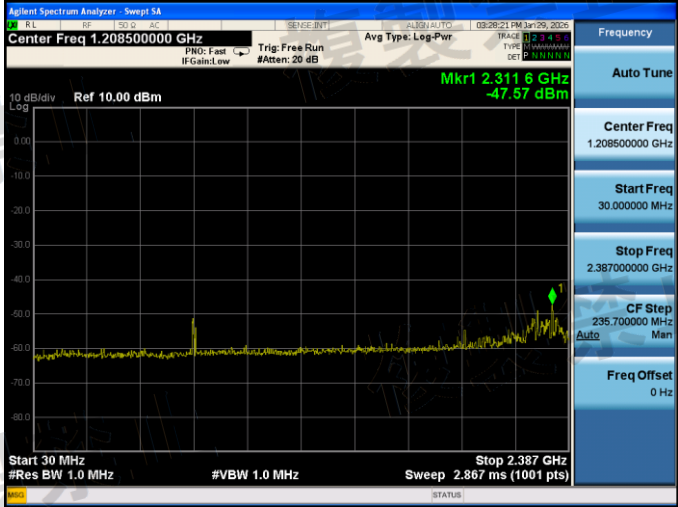
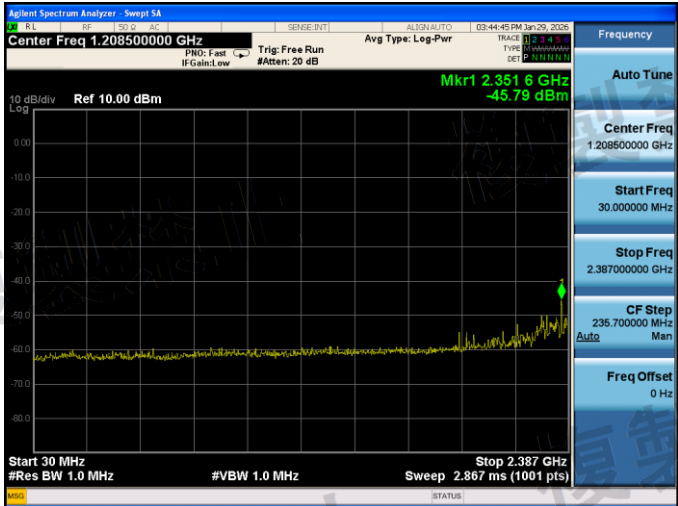
BLE 1M	
Unwanted Emission Strength Measurement	
2496.5 MHz – 12.5 GHz	
High Voltage Middle CH	 Agilent Spectrum Analyzer - Swept SA Ref 10.00 dBm Mkr1 1.090 ms -62.462 dBm Center 7.320100000 GHz Res BW 1.0 MHz #VBW 1.0 MHz Sweep 5.000 ms (1001 pts) File <BBB.png> saved
High Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 7.498250000 GHz Ref 10.00 dBm Mkr1 7.439 7 GHz -23.74 dBm Start 2.497 GHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 16.80 ms (21001 pts) Points changed; all traces cleared
High Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Ref 10.00 dBm Mkr1 910.0 μs -70.409 dBm Center 2.439700000 GHz Res BW 1.0 MHz #VBW 1.0 MHz Sweep 5.000 ms (1001 pts) File <BBB.png> saved

BLE 1M	
Secondarily Emitted Radio Wave Strength Measurement	
30 MHz – 1 GHz	
High Voltage Low CH	
High Voltage Middle CH	
High Voltage High CH	

BLE 1M	
Secondarily Emitted Radio Wave Strength Measurement	
1 GHz – 12.5 GHz	
High Voltage Low CH	
High Voltage Middle CH	
High Voltage High CH	

BLE 1M	
Frequency Error Measurement	
Low Voltage Low CH	
Low Voltage Middle CH	
Low Voltage High CH	

BLE 1M	
Occupied Bandwidth Measurement	
Low Voltage Low CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.40200000 GHz, Center Freq: 2.402000000 GHz, Radio Std: None, Radio Device: BTS Ref 20.00 dBm Center 2.402 GHz, Res BW 300 kHz, Span 3 MHz, Sweep 1 ms, #VBW 300 kHz Occupied Bandwidth: 1.2617 MHz, Total Power: 10.1 dBm Transmit Freq Error: -13.169 kHz, OBW Power: 99.00 %, x dB Bandwidth: 1.863 MHz, x dB: -26.00 dB
Low Voltage Middle CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.44000000 GHz, Center Freq: 2.440000000 GHz, Radio Std: None, Radio Device: BTS Ref 20.00 dBm Center 2.44 GHz, Res BW 300 kHz, Span 3 MHz, Sweep 1 ms, #VBW 300 kHz Occupied Bandwidth: 1.2819 MHz, Total Power: 9.85 dBm Transmit Freq Error: -14.125 kHz, OBW Power: 99.00 %, x dB Bandwidth: 1.847 MHz, x dB: -26.00 dB
Low Voltage High CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.48000000 GHz, Center Freq: 2.480000000 GHz, Radio Std: None, Radio Device: BTS Ref 20.00 dBm Center 2.48 GHz, Res BW 300 kHz, Span 3 MHz, Sweep 1 ms, #VBW 300 kHz Occupied Bandwidth: 1.2895 MHz, Total Power: 10.2 dBm Transmit Freq Error: -12.732 kHz, OBW Power: 99.00 %, x dB Bandwidth: 1.900 MHz, x dB: -26.00 dB

BLE 1M	
Unwanted Emission Strength Measurement	
30 MHz – 2387 MHz	
Low Voltage Low CH	
Low Voltage Middle CH	
Low Voltage High CH	

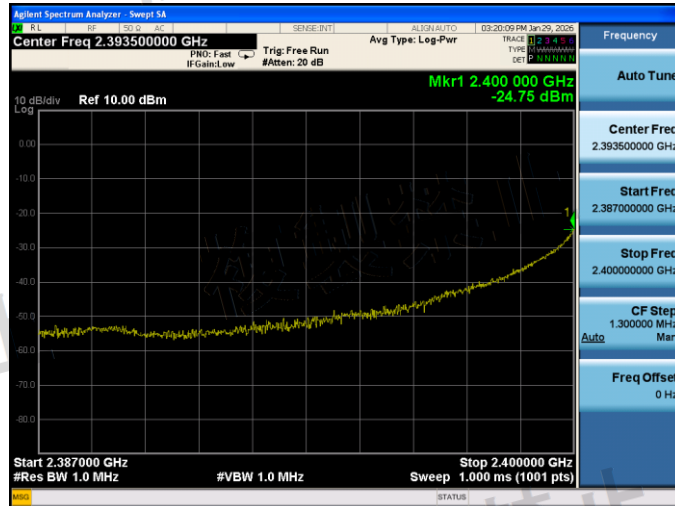
BLE 1M

Unwanted Emission Strength Measurement

2387 MHz – 2400 MHz

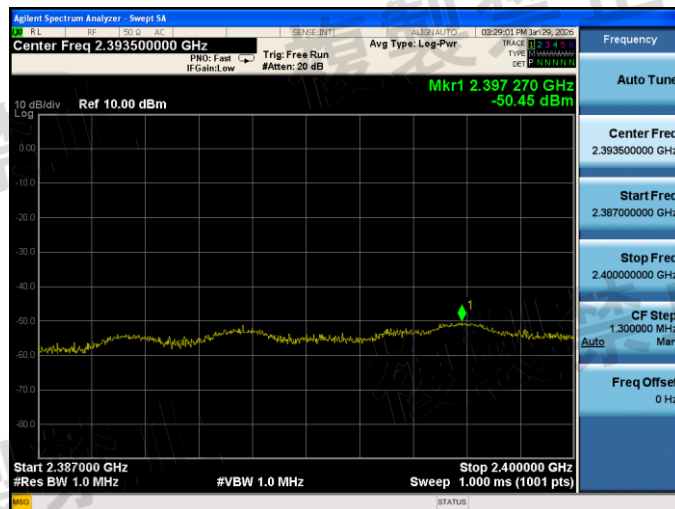
Low Voltage

Low CH



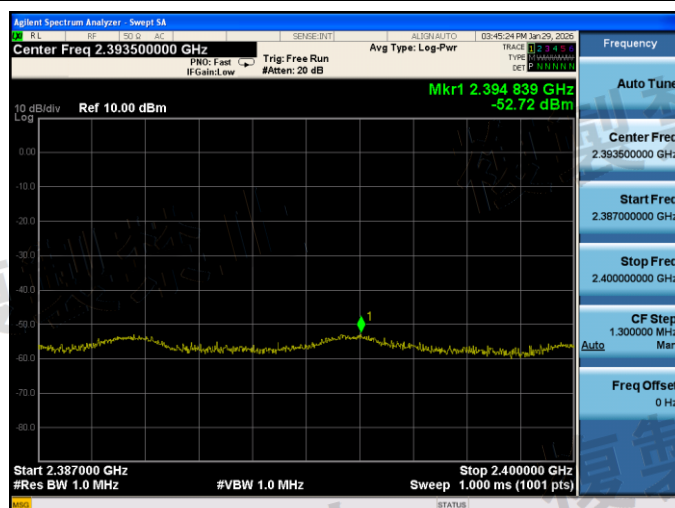
Low Voltage

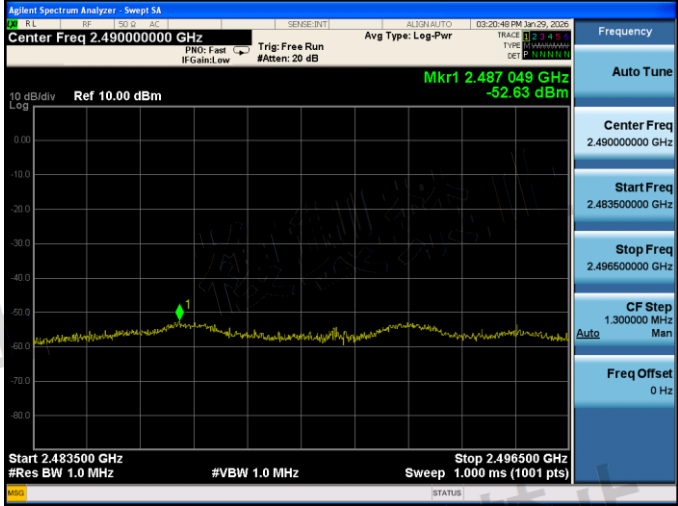
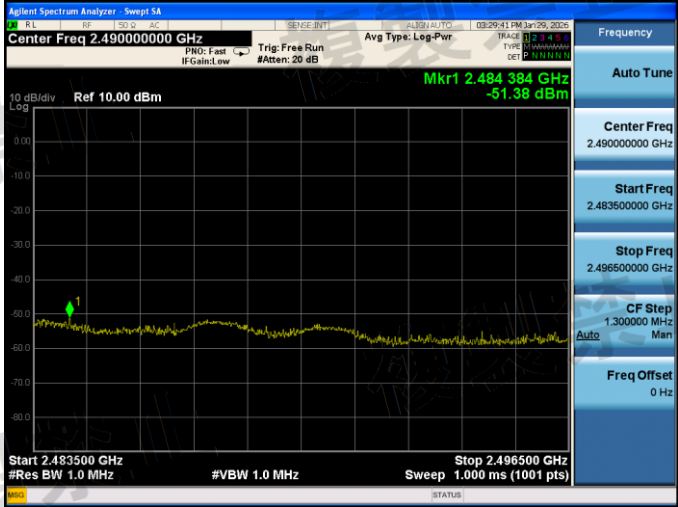
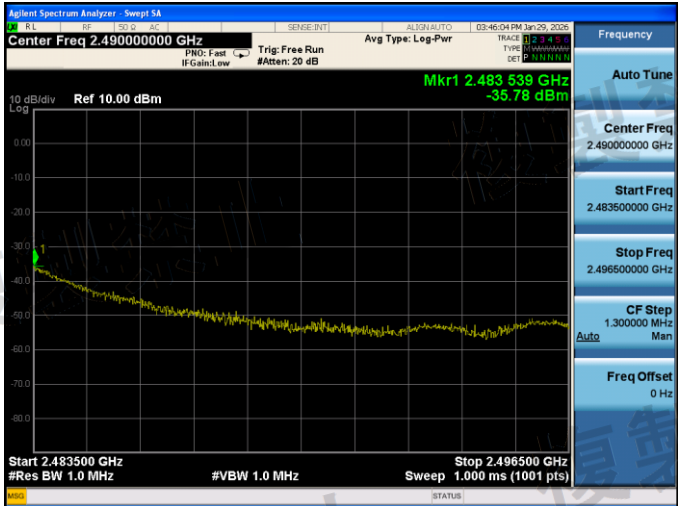
Middle CH

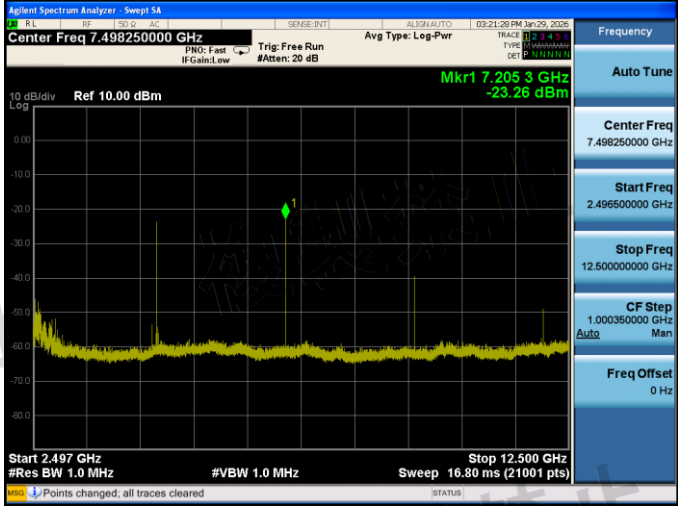
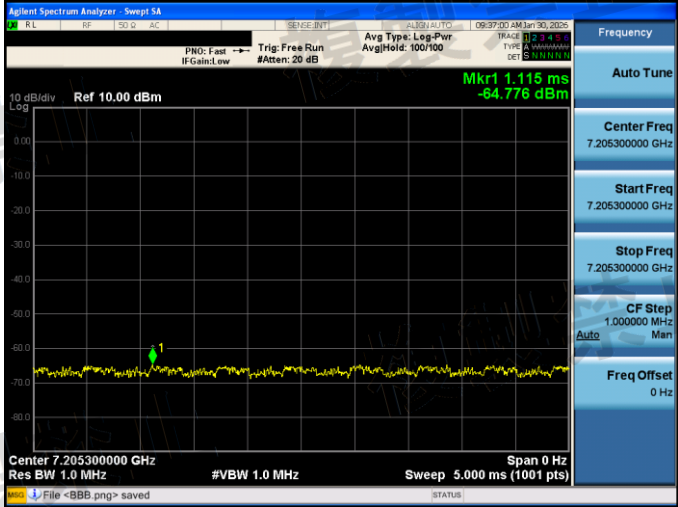
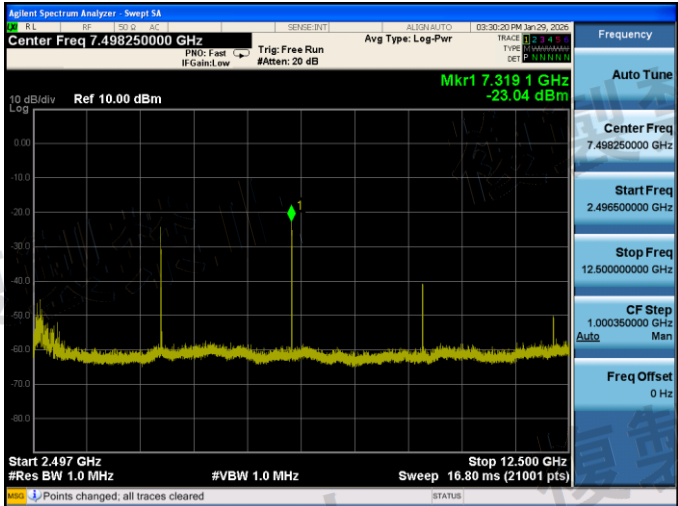


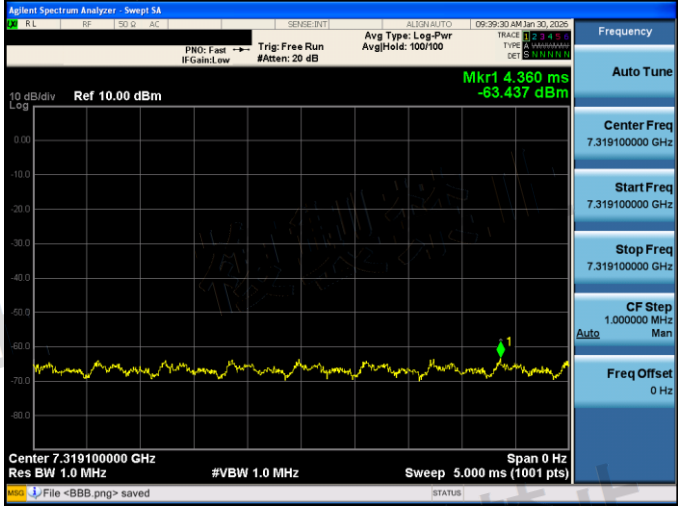
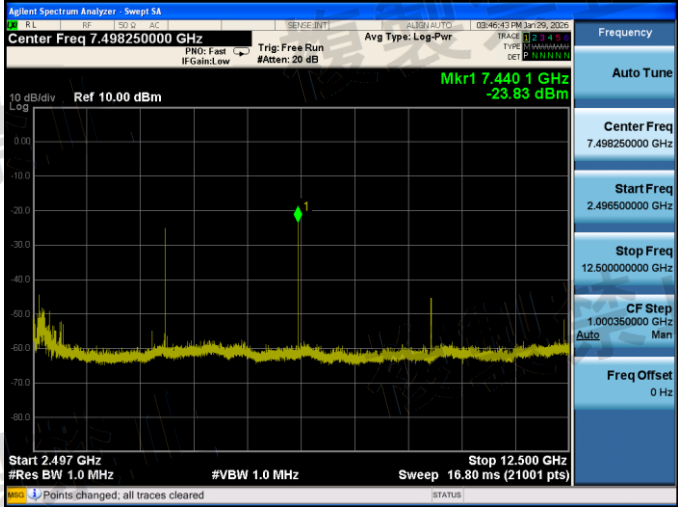
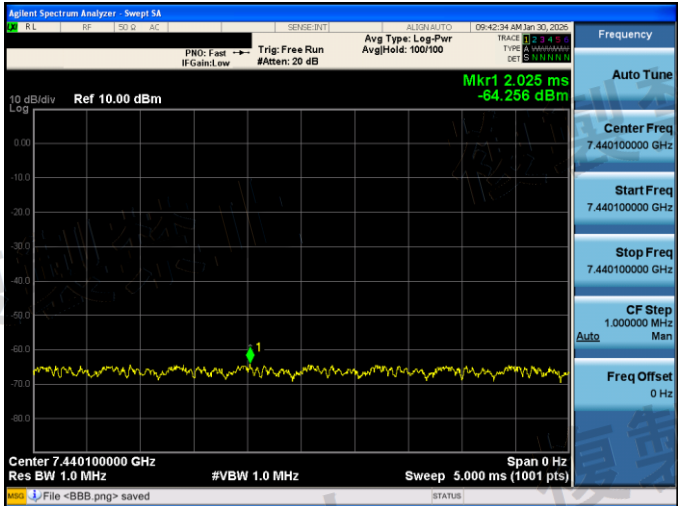
Low Voltage

High CH



BLE 1M	
Unwanted Emission Strength Measurement	
2483.5 MHz – 2496.5 MHz	
Low Voltage Low CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 2.490000000 GHz Ref 10.00 dBm Mkr1 2.487 049 GHz -52.63 dBm Start 2.483500 GHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 1.000 ms (1001 pts)
Low Voltage Middle CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 2.490000000 GHz Ref 10.00 dBm Mkr1 2.484 384 GHz -51.38 dBm Start 2.483500 GHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 1.000 ms (1001 pts)
Low Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 2.490000000 GHz Ref 10.00 dBm Mkr1 2.483 539 GHz -35.78 dBm Start 2.483500 GHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 1.000 ms (1001 pts)

BLE 1M	
Unwanted Emission Strength Measurement	
2496.5 MHz – 12.5 GHz	
Low Voltage Low CH	
Low Voltage Low CH	
Low Voltage Middle CH	

BLE 1M	
Unwanted Emission Strength Measurement	
2496.5 MHz – 12.5 GHz	
Low Voltage Middle CH	 Agilent Spectrum Analyzer - Swept SA Ref 10.00 dBm Mkr1 7.319100000 GHz -63.437 dBm Center Freq 7.319100000 GHz Res BW 1.0 MHz #VBW 1.0 MHz Sweep 5.000 ms (1001 pts) Span 0 Hz File <BBB.png> saved
Low Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 7.498250000 GHz Ref 10.00 dBm Mkr1 7.440100000 GHz -23.83 dBm Start 2.497 GHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 16.80 ms (21001 pts) Stop 12.500 GHz Points changed; all traces cleared
Low Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Ref 10.00 dBm Mkr1 7.440100000 GHz -64.256 dBm Center Freq 7.440100000 GHz Res BW 1.0 MHz #VBW 1.0 MHz Sweep 5.000 ms (1001 pts) Span 0 Hz File <BBB.png> saved

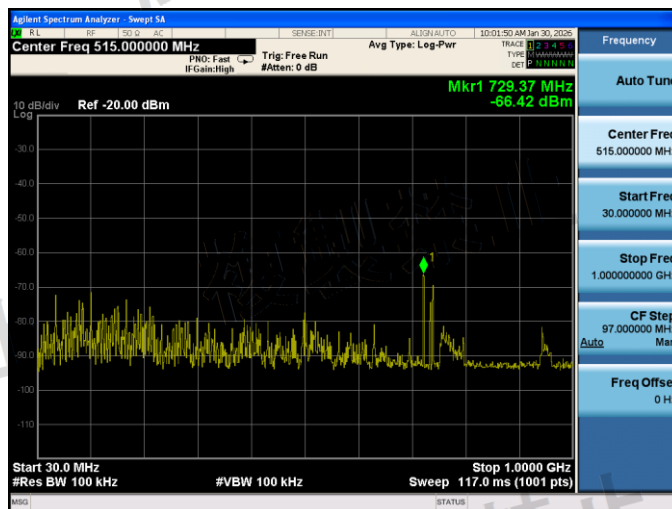
BLE 1M

Secondarily Emitted Radio Wave Strength Measurement

30 MHz – 1 GHz

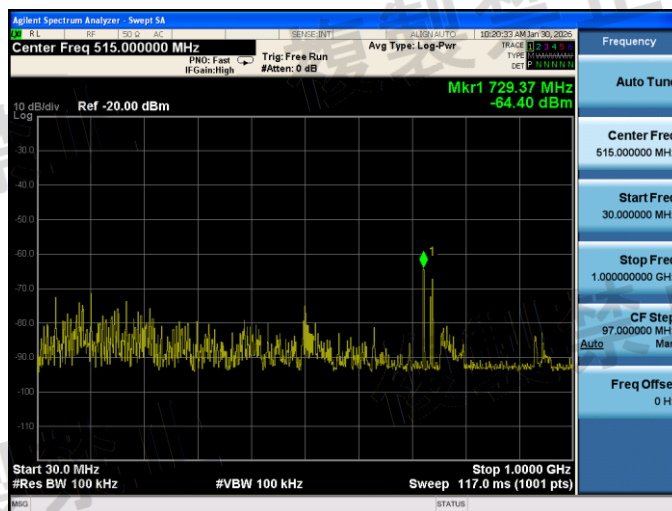
Low Voltage

Low CH



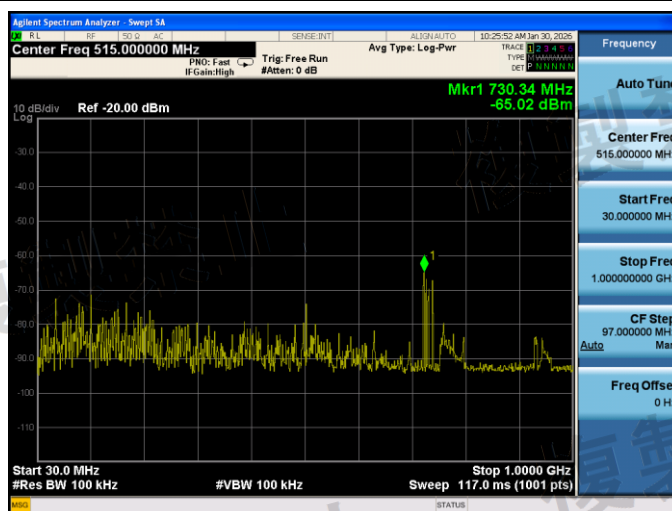
Low Voltage

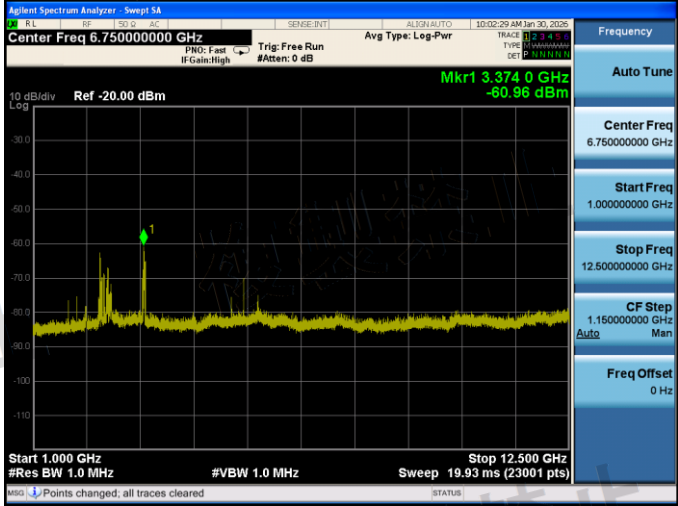
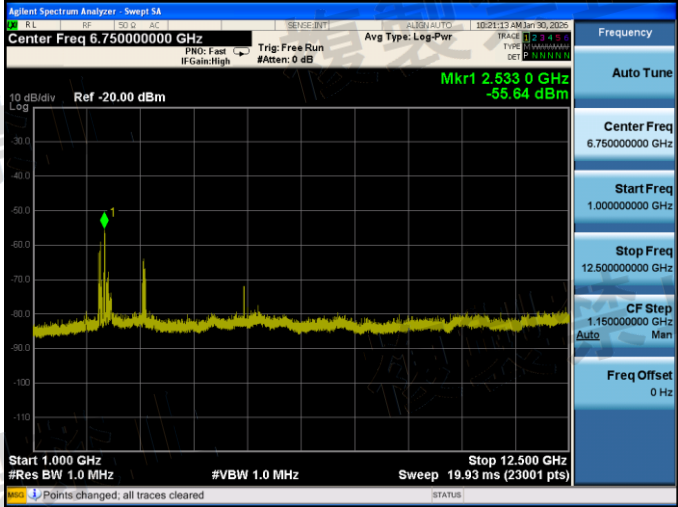
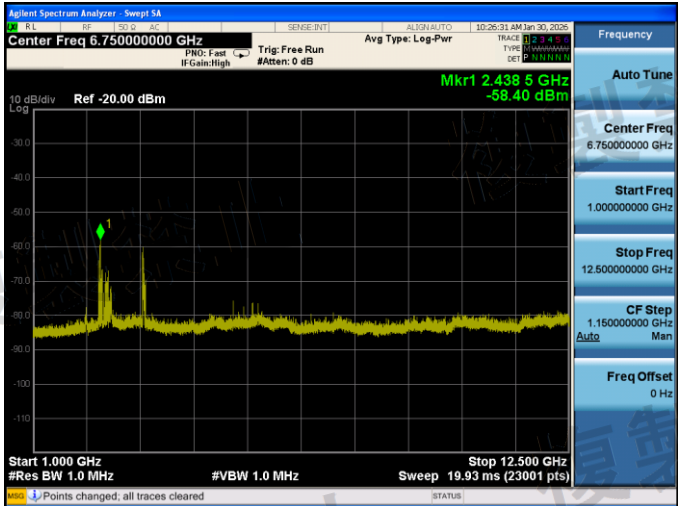
Middle CH

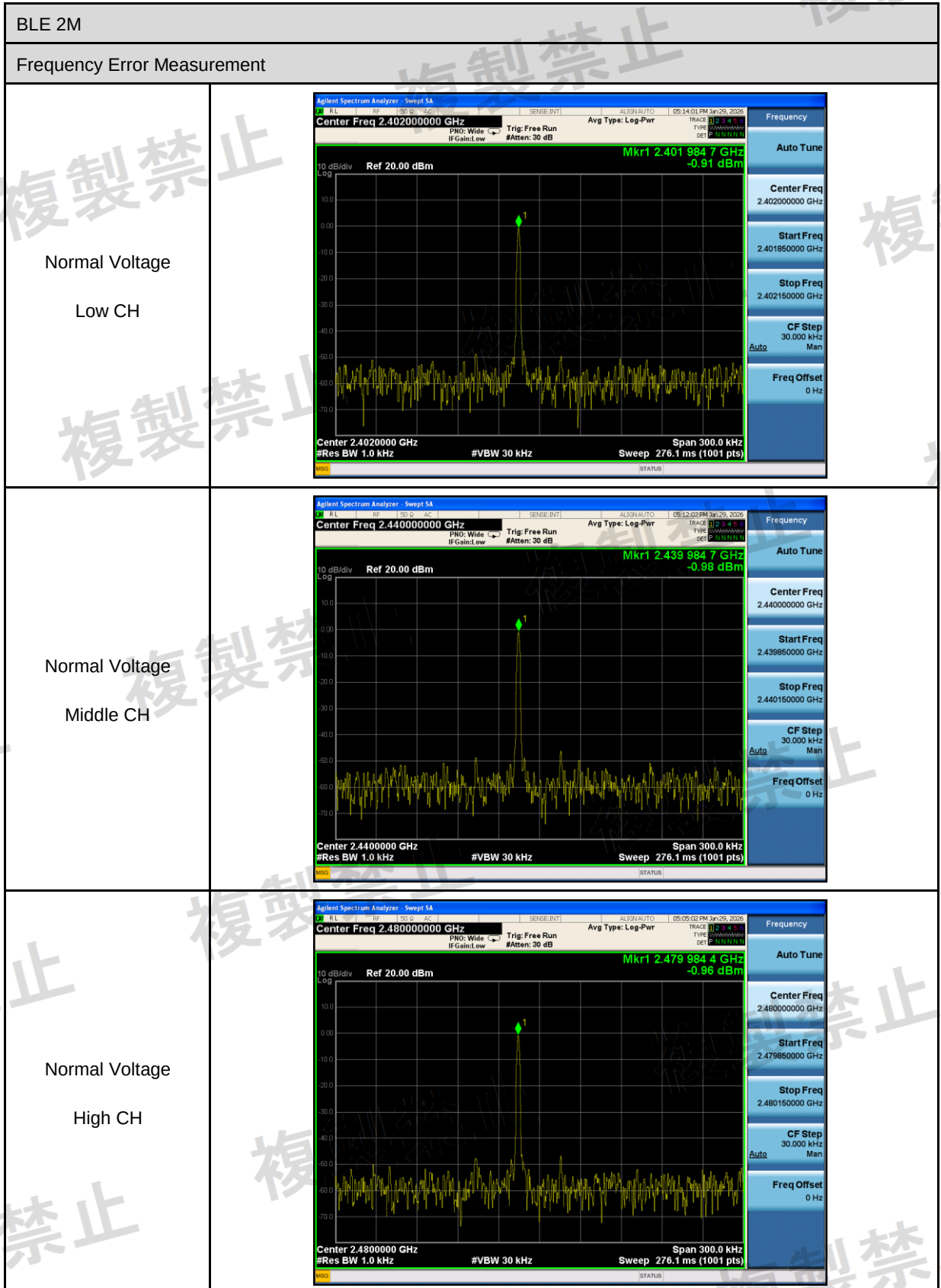


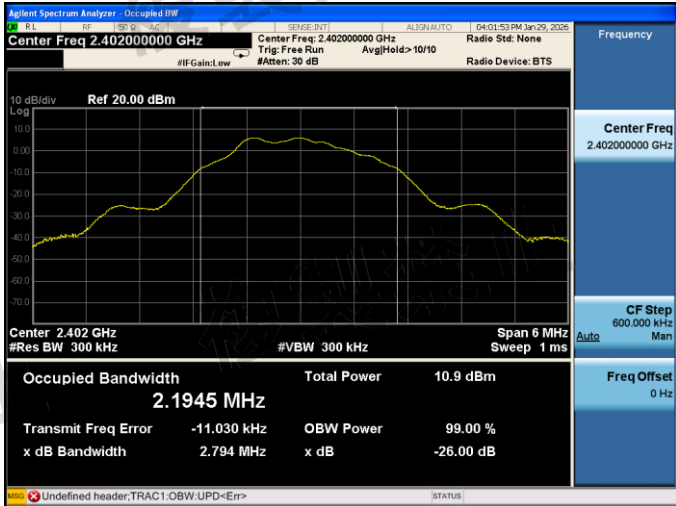
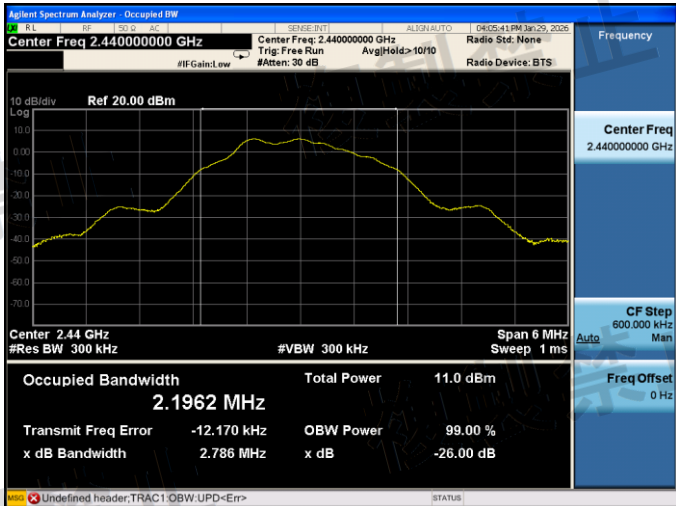
Low Voltage

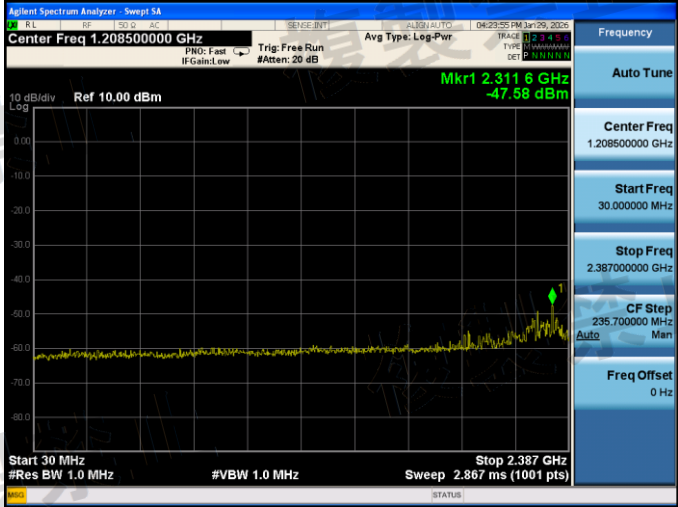
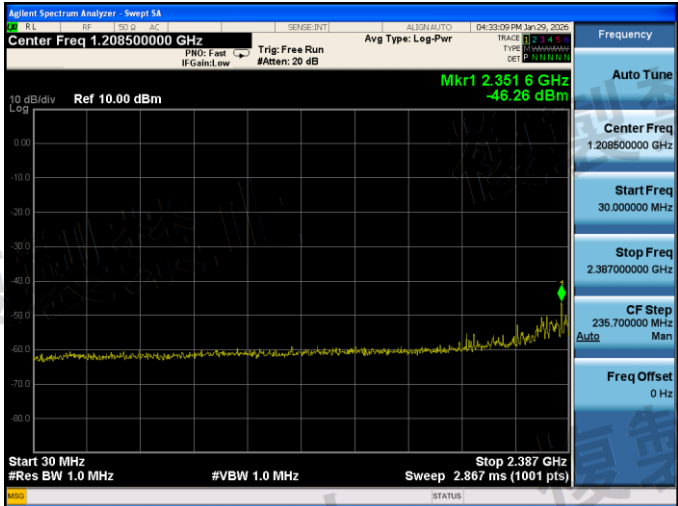
High CH

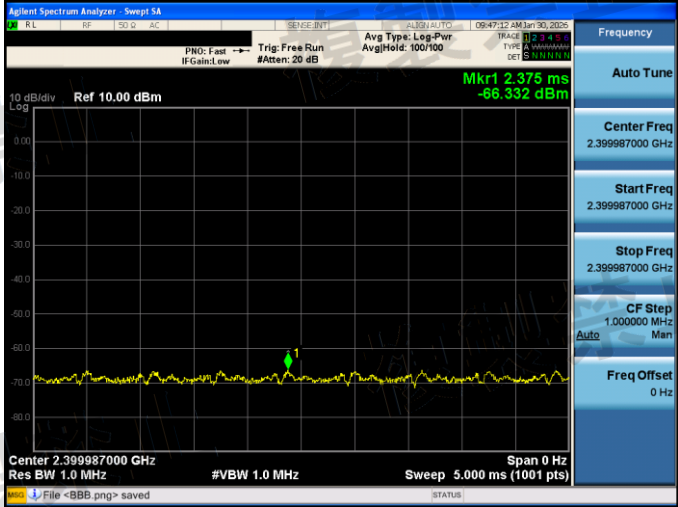


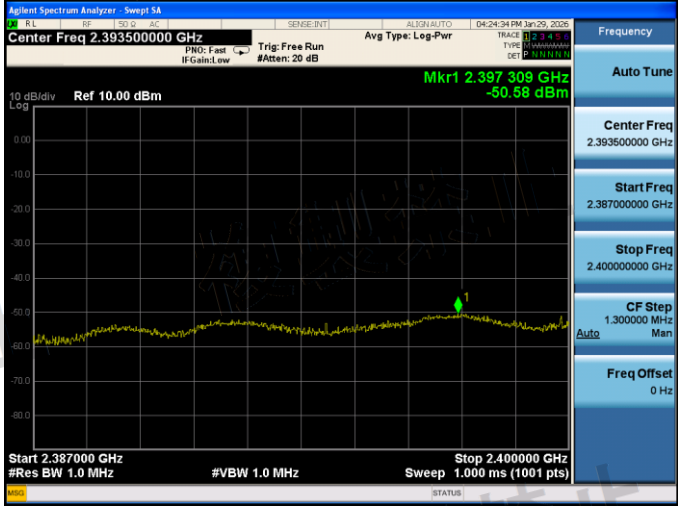
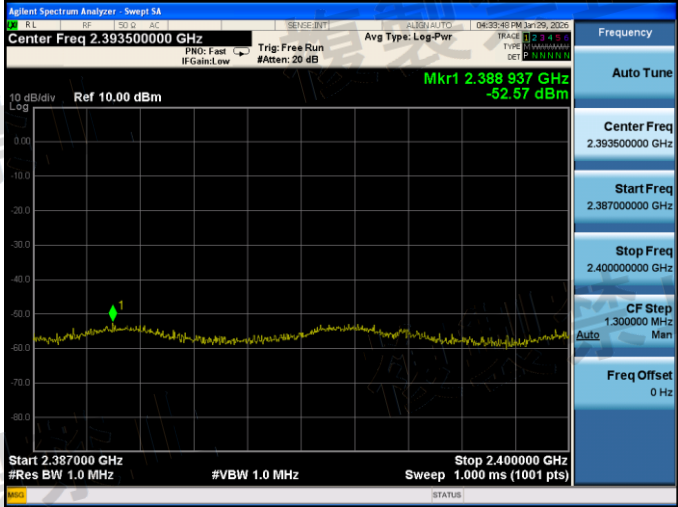
BLE 1M	
Secondarily Emitted Radio Wave Strength Measurement	
1 GHz – 12.5 GHz	
Low Voltage Low CH	
Low Voltage Middle CH	
Low Voltage High CH	

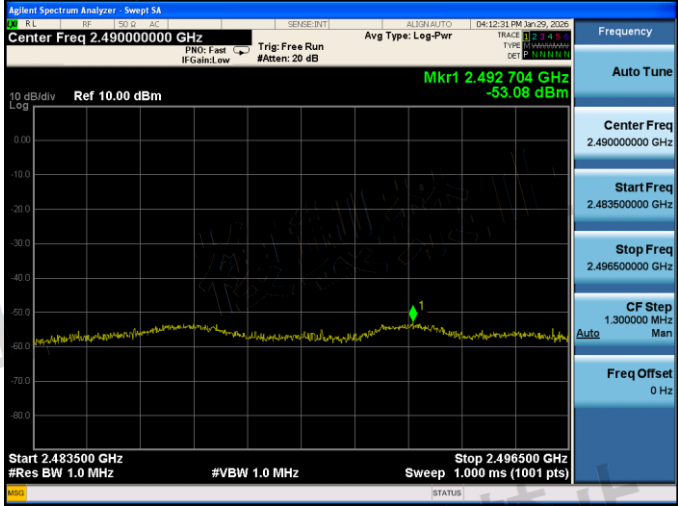
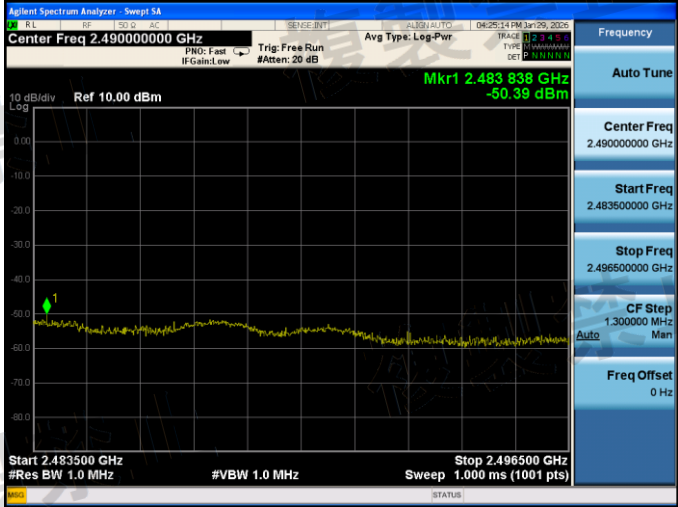


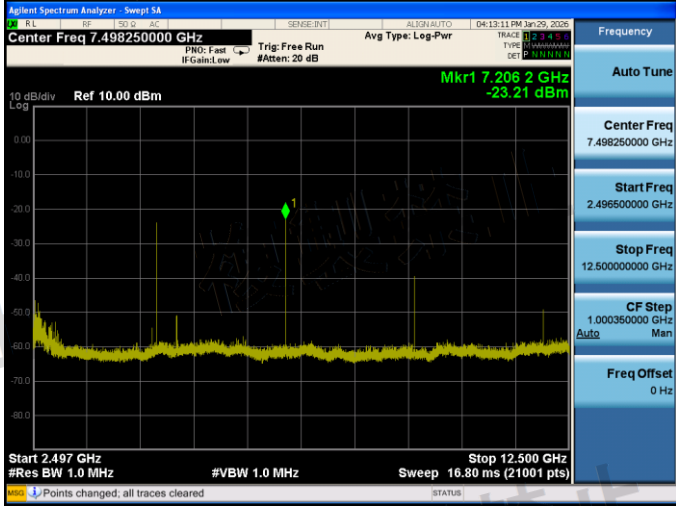
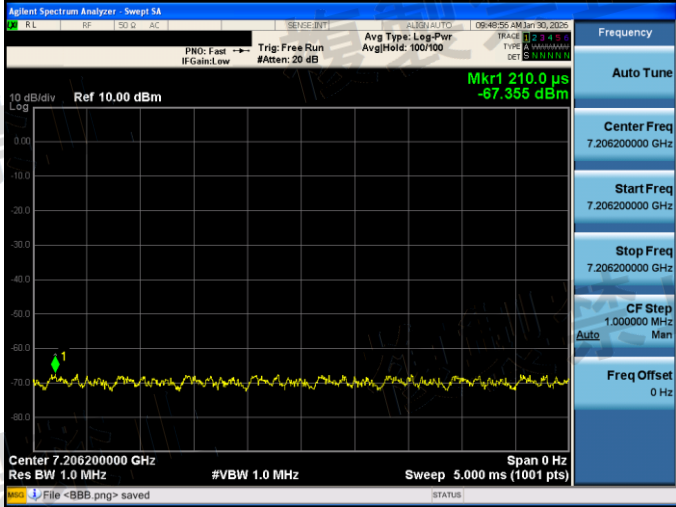
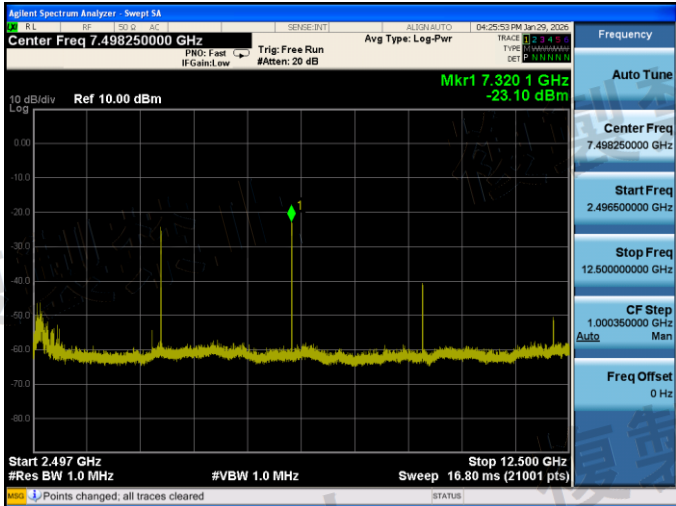
BLE 2M	
Occupied Bandwidth Measurement	
Normal Voltage Low CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.40200000 GHz Center Freq: 2.40200000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref 20.00 dBm Center 2.402 GHz #Res BW 300 kHz #VBW 300 kHz Span 6 MHz Sweep 1 ms Occupied Bandwidth 2.1945 MHz Total Power 10.9 dBm Transmit Freq Error -11.030 kHz OBW Power 99.00 % x dB Bandwidth 2.794 MHz x dB -26.00 dB Undefined header:TRAC1.OBW.UPD<Err> STATUS
Normal Voltage Middle CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.44000000 GHz Center Freq: 2.44000000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref 20.00 dBm Center 2.44 GHz #Res BW 300 kHz #VBW 300 kHz Span 6 MHz Sweep 1 ms Occupied Bandwidth 2.1962 MHz Total Power 11.0 dBm Transmit Freq Error -12.170 kHz OBW Power 99.00 % x dB Bandwidth 2.786 MHz x dB -26.00 dB Undefined header:TRAC1.OBW.UPD<Err> STATUS
Normal Voltage High CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.48000000 GHz Center Freq: 2.48000000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref 20.00 dBm Center 2.48 GHz #Res BW 300 kHz #VBW 300 kHz Span 6 MHz Sweep 1 ms Occupied Bandwidth 2.1984 MHz Total Power 11.3 dBm Transmit Freq Error -11.613 kHz OBW Power 99.00 % x dB Bandwidth 2.790 MHz x dB -26.00 dB Undefined header:TRAC1.OBW.UPD<Err> STATUS

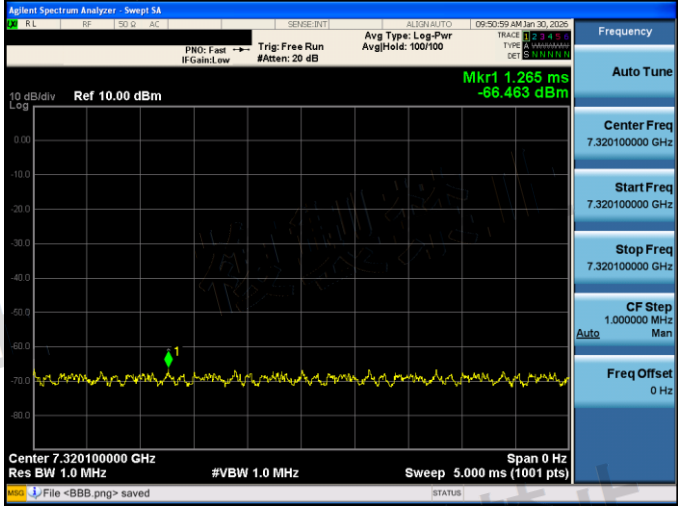
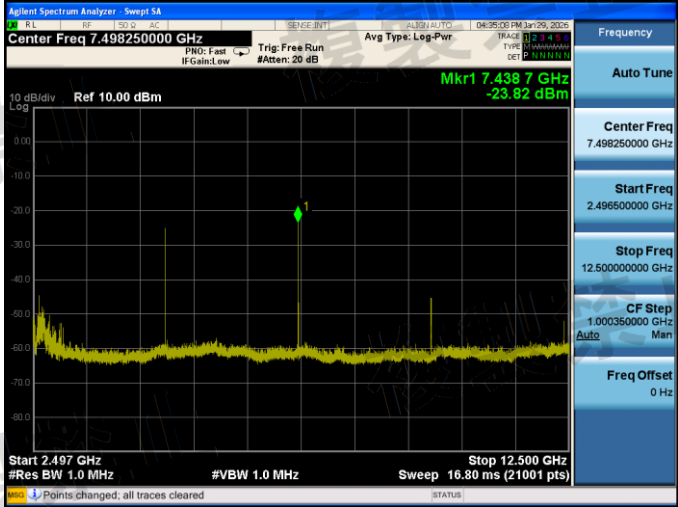
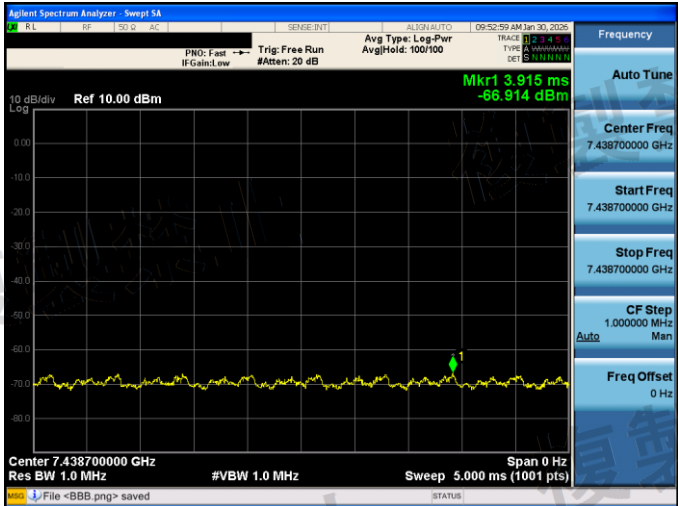
BLE 2M	
Unwanted Emission Strength Measurement	
30 MHz – 2387 MHz	
Normal Voltage Low CH	
Normal Voltage Middle CH	
Normal Voltage High CH	

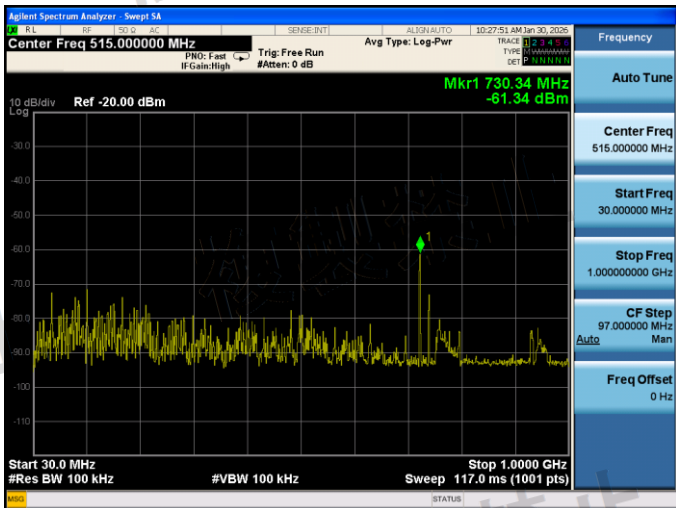
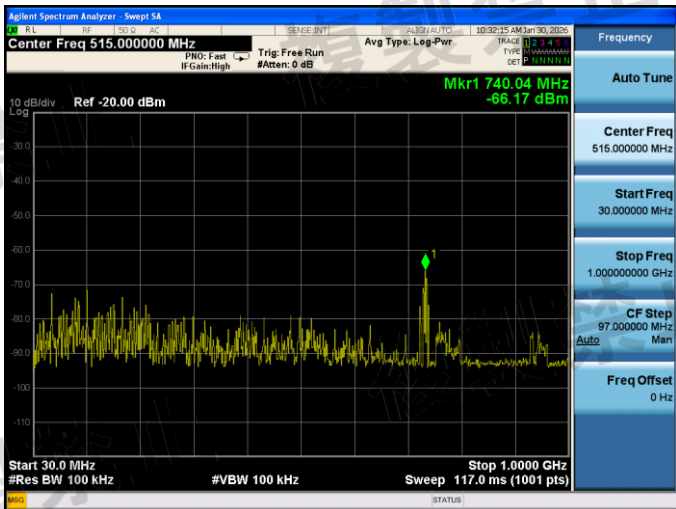
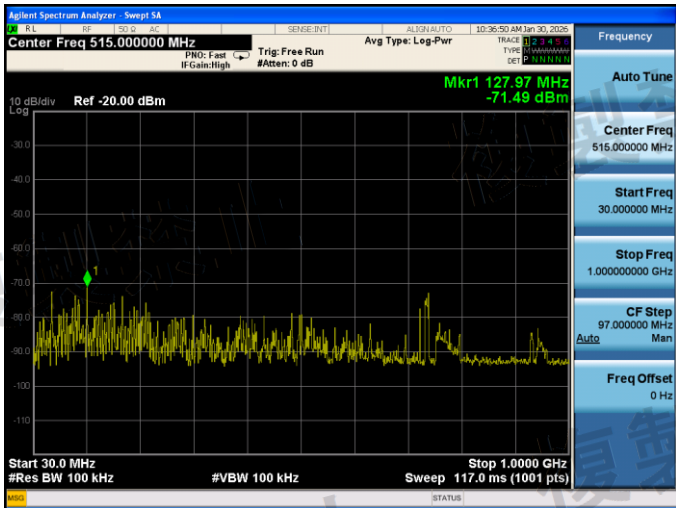
BLE 2M	
Unwanted Emission Strength Measurement	
2387 MHz – 2400 MHz	
Normal Voltage Low CH	
Normal Voltage Low CH	

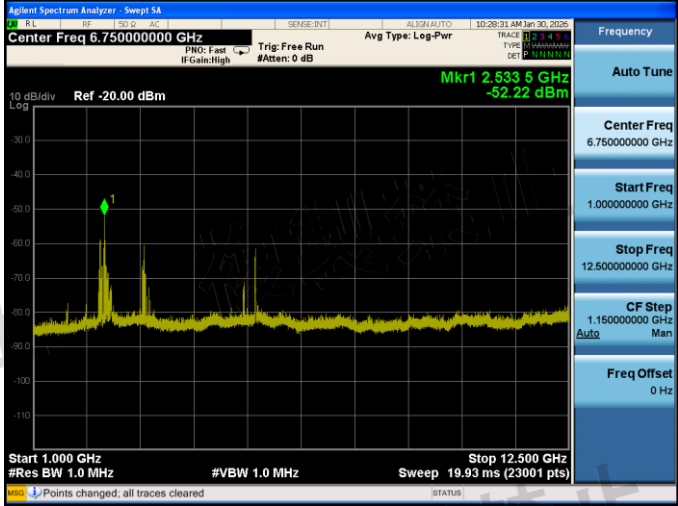
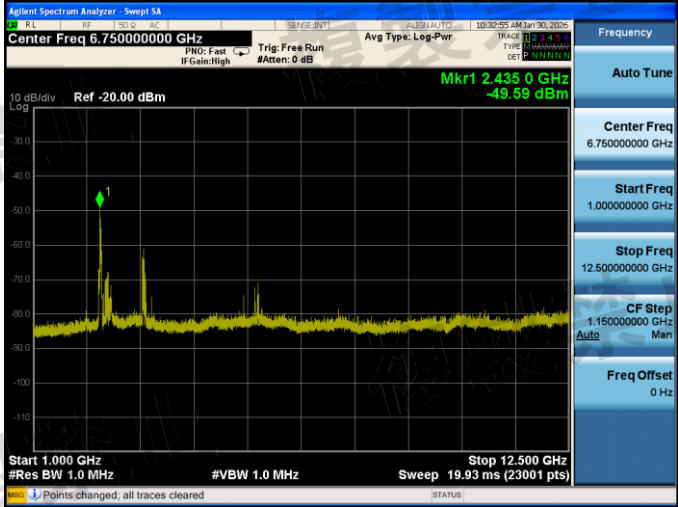
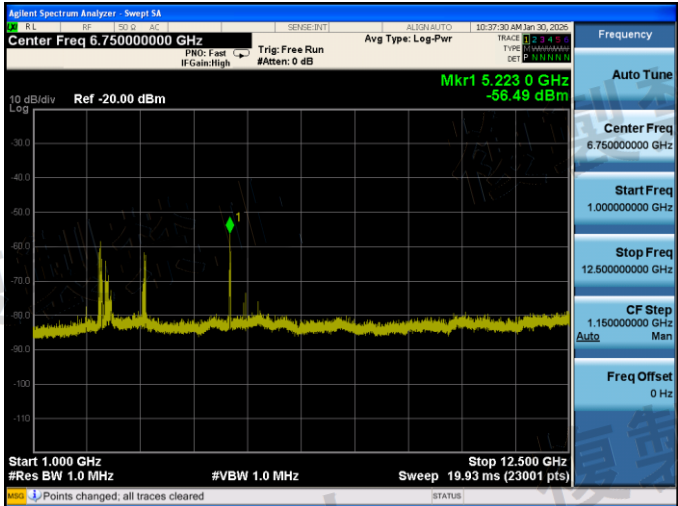
BLE 2M	
Unwanted Emission Strength Measurement	
2387 MHz – 2400 MHz	
Normal Voltage Middle CH	
Normal Voltage High CH	

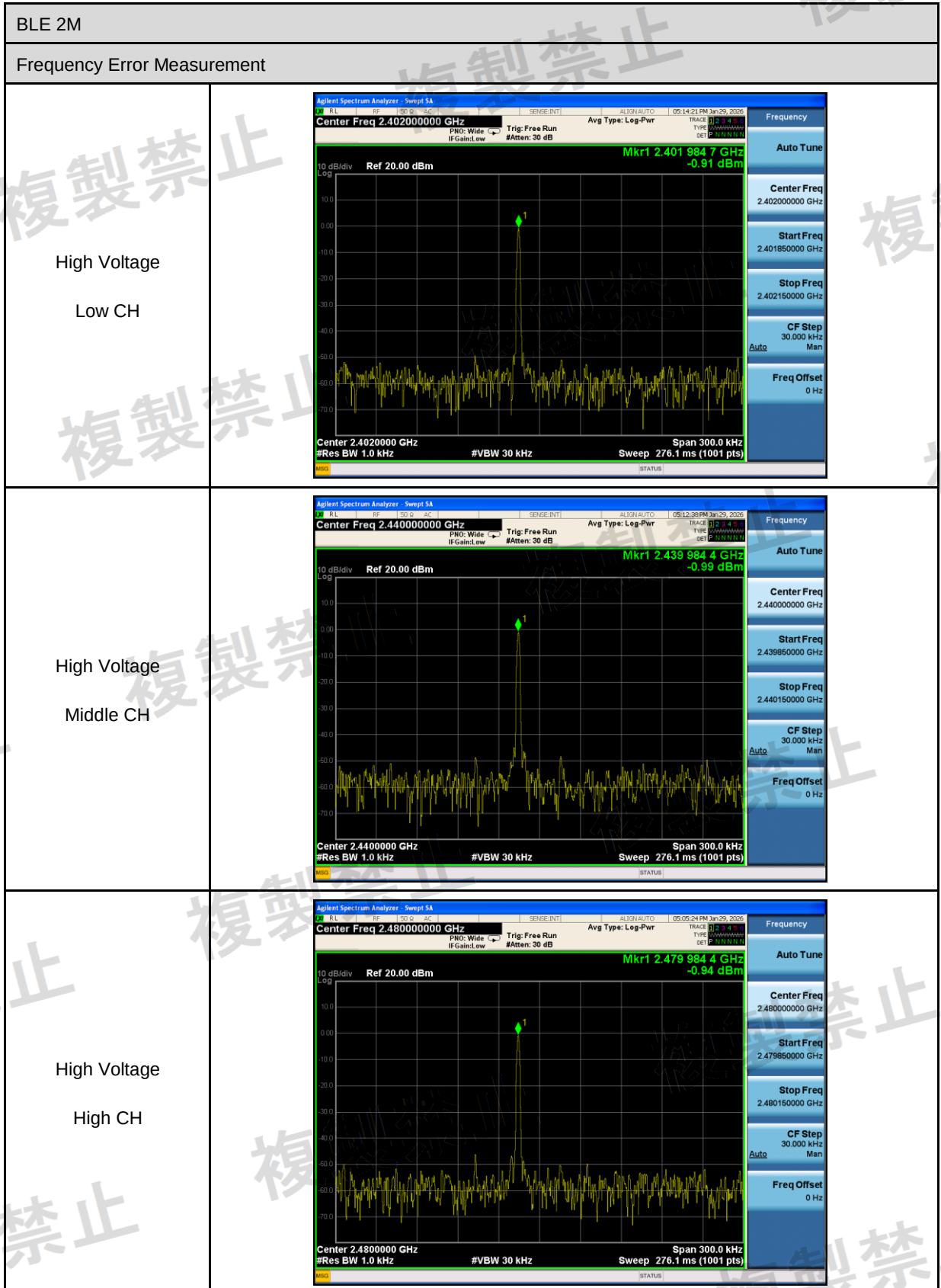
BLE 2M	
Unwanted Emission Strength Measurement	
2483.5 MHz – 2496.5 MHz	
Normal Voltage Low CH	
Normal Voltage Middle CH	
Normal Voltage High CH	

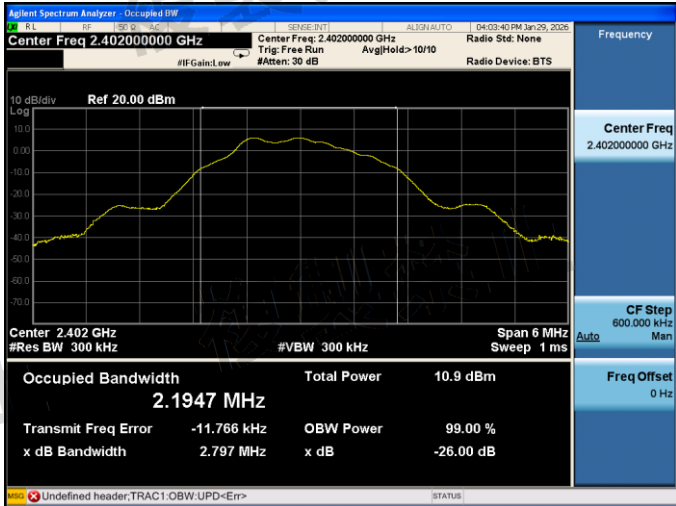
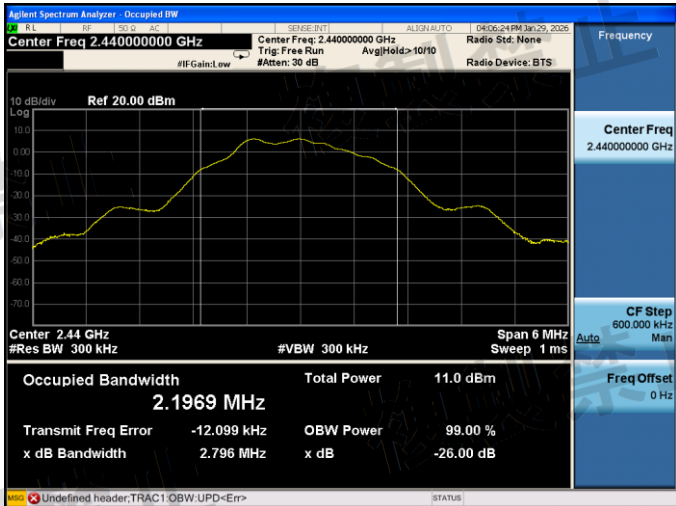
BLE 2M	
Unwanted Emission Strength Measurement	
2496.5 MHz – 12.5 GHz	
Normal Voltage Low CH	
Normal Voltage Low CH	
Normal Voltage Middle CH	

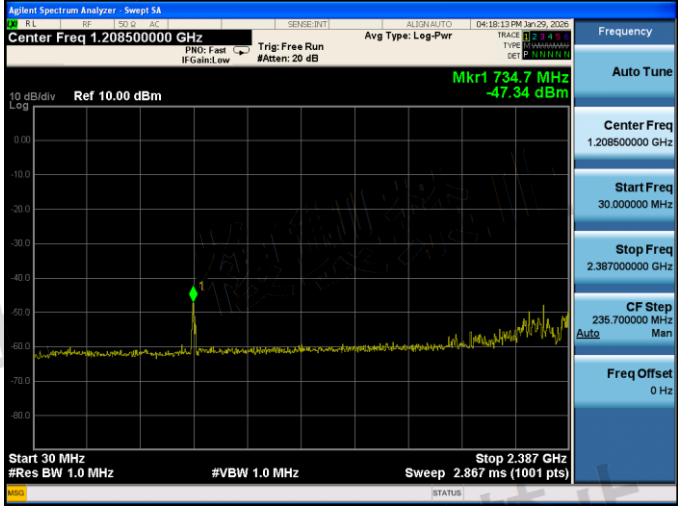
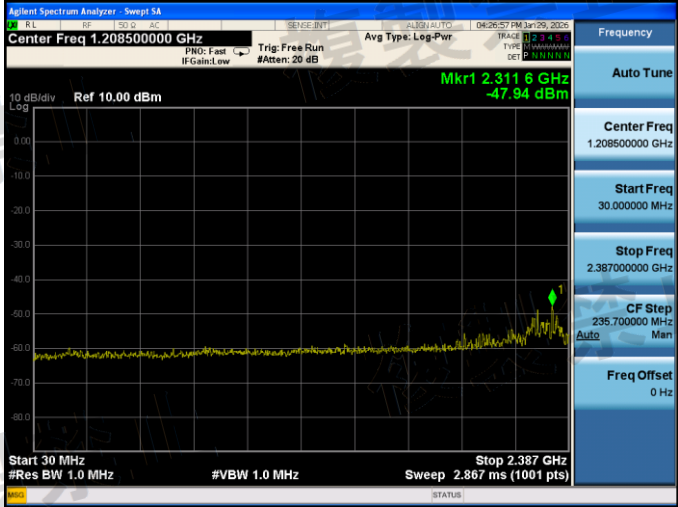
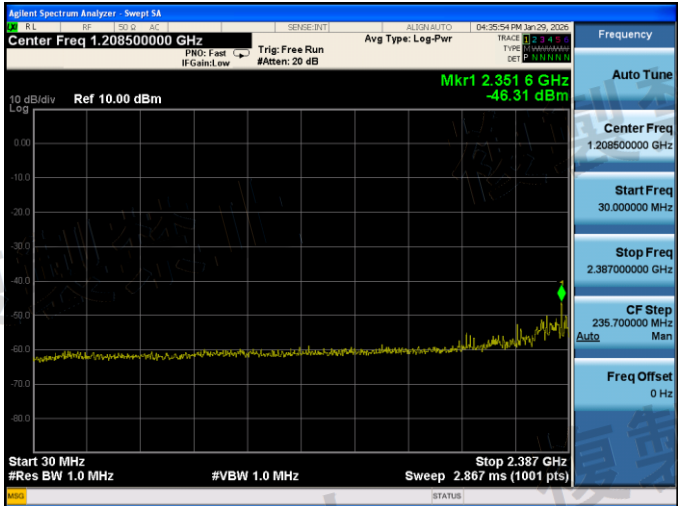
BLE 2M	
Unwanted Emission Strength Measurement	
2496.5 MHz – 12.5 GHz	
Normal Voltage Middle CH	 Agilent Spectrum Analyzer - Swept SA Ref 10.00 dBm Mkr1 1.265 ms -66.463 dBm Center 7.320100000 GHz Res BW 1.0 MHz #VBW 1.0 MHz Sweep 5.000 ms (1001 pts) File <BBB.png> saved
Normal Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 7.498250000 GHz Ref 10.00 dBm Mkr1 7.438 7 GHz -23.82 dBm Start 2.497 GHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 16.80 ms (21001 pts) Points changed; all traces cleared
Normal Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Ref 10.00 dBm Mkr1 3.915 ms -66.914 dBm Center 7.438700000 GHz Res BW 1.0 MHz #VBW 1.0 MHz Sweep 5.000 ms (1001 pts) File <BBB.png> saved

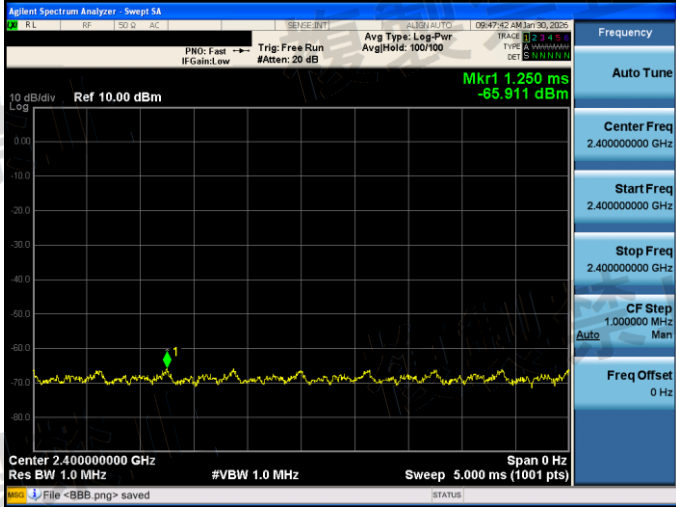
BLE 2M	
Secondarily Emitted Radio Wave Strength Measurement	
30 MHz – 1 GHz	
Normal Voltage Low CH	
Normal Voltage Middle CH	
Normal Voltage High CH	

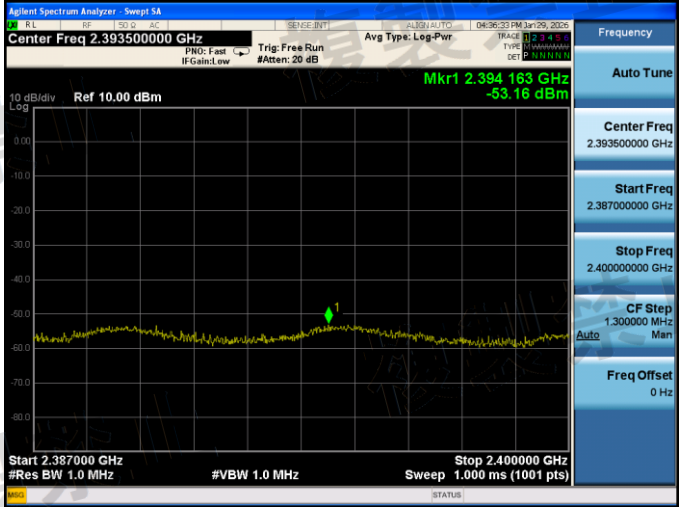
BLE 2M	
Secondarily Emitted Radio Wave Strength Measurement	
1 GHz – 12.5 GHz	
Normal Voltage Low CH	
Normal Voltage Middle CH	
Normal Voltage High CH	

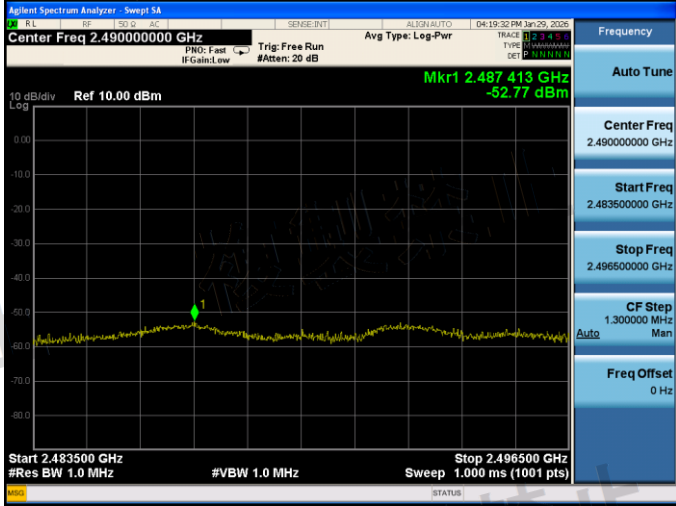
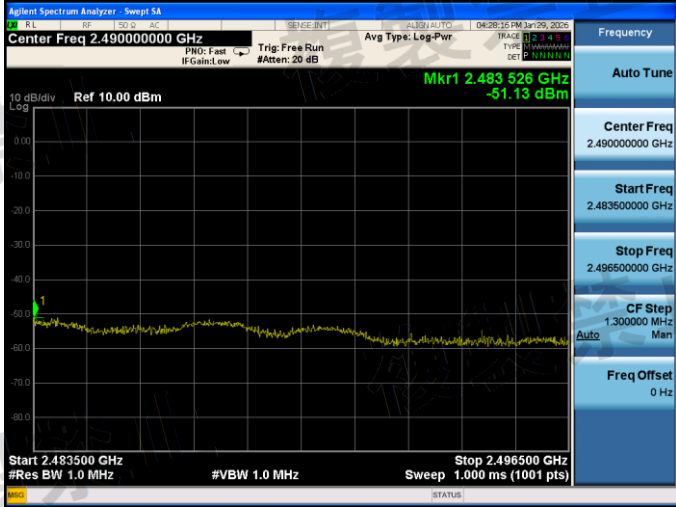


BLE 2M	
Occupied Bandwidth Measurement	
High Voltage Low CH	 Center Freq 2.40200000 GHz Center Freq: 2.402000000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref 20.00 dBm Center 2.402 GHz #Res BW 300 kHz #VBW 300 kHz Span 6 MHz Sweep 1 ms Occupied Bandwidth 2.1947 MHz Total Power 10.9 dBm Transmit Freq Error -11.766 kHz OBW Power 99.00 % x dB Bandwidth 2.797 MHz x dB -26.00 dB Undefined header:TRAC1.OBW.UPD<Err>
High Voltage Middle CH	 Center Freq 2.44000000 GHz Center Freq: 2.440000000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref 20.00 dBm Center 2.44 GHz #Res BW 300 kHz #VBW 300 kHz Span 6 MHz Sweep 1 ms Occupied Bandwidth 2.1969 MHz Total Power 11.0 dBm Transmit Freq Error -12.099 kHz OBW Power 99.00 % x dB Bandwidth 2.796 MHz x dB -26.00 dB Undefined header:TRAC1.OBW.UPD<Err>
High Voltage High CH	 Center Freq 2.48000000 GHz Center Freq: 2.480000000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref 20.00 dBm Center 2.48 GHz #Res BW 300 kHz #VBW 300 kHz Span 6 MHz Sweep 1 ms Occupied Bandwidth 2.1996 MHz Total Power 11.3 dBm Transmit Freq Error -11.048 kHz OBW Power 99.00 % x dB Bandwidth 2.783 MHz x dB -26.00 dB Undefined header:TRAC1.OBW.UPD<Err>

BLE 2M	
Unwanted Emission Strength Measurement	
30 MHz – 2387 MHz	
High Voltage Low CH	
High Voltage Middle CH	
High Voltage High CH	

BLE 2M	
Unwanted Emission Strength Measurement	
2387 MHz – 2400 MHz	
High Voltage Low CH	
High Voltage Low CH	

BLE 2M	
Unwanted Emission Strength Measurement	
2387 MHz – 2400 MHz	
High Voltage Middle CH	
High Voltage High CH	

BLE 2M	
Unwanted Emission Strength Measurement	
2483.5 MHz – 2496.5 MHz	
High Voltage Low CH	
High Voltage Middle CH	
High Voltage High CH	

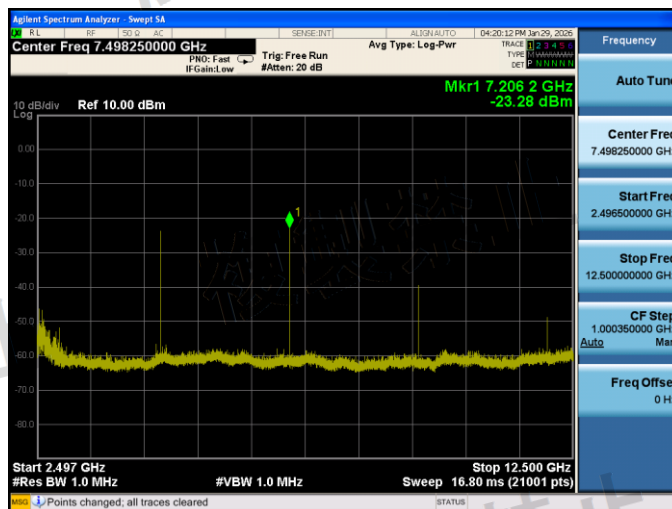
BLE 2M

Unwanted Emission Strength Measurement

2496.5 MHz – 12.5 GHz

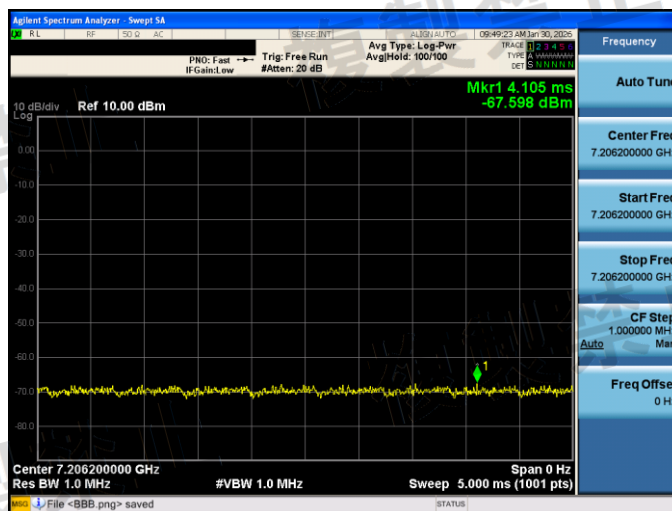
High Voltage

Low CH



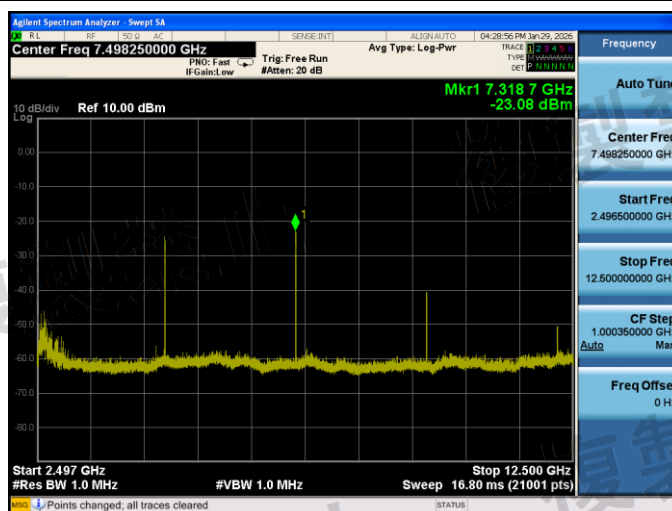
High Voltage

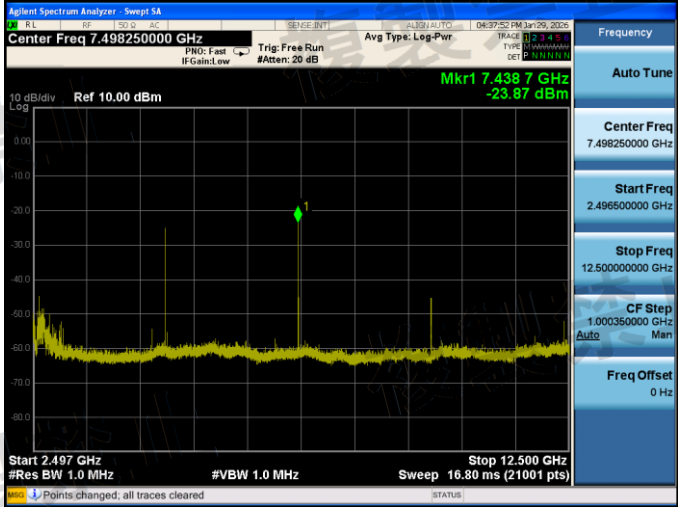
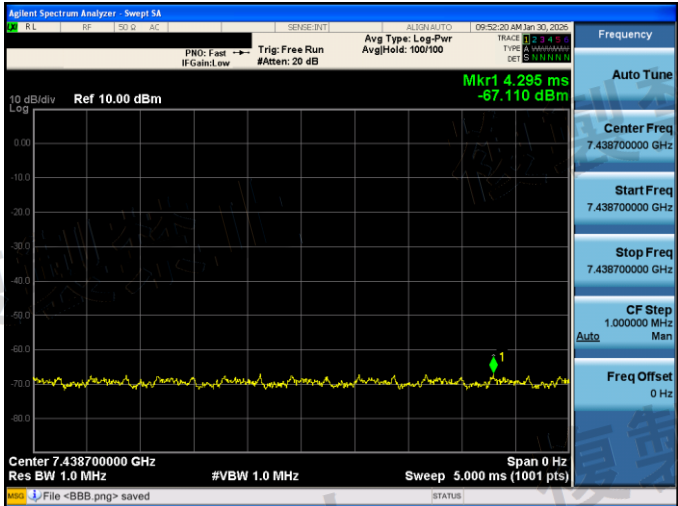
Low CH



High Voltage

Middle CH



BLE 2M	
Unwanted Emission Strength Measurement	
2496.5 MHz – 12.5 GHz	
High Voltage Middle CH	 Agilent Spectrum Analyzer - Swept SA Ref 10.00 dBm Mkr1 3.920 ms -66.022 dBm Center 7.318700000 GHz Res BW 1.0 MHz #VBW 1.0 MHz Sweep 5.000 ms (1001 pts) File <BBB.png> saved
High Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 7.498250000 GHz Ref 10.00 dBm Mkr1 7.438 7 GHz -23.87 dBm Start 2.497 GHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 16.80 ms (21001 pts) Points changed; all traces cleared
High Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Ref 10.00 dBm Mkr1 4.295 ms -67.110 dBm Center 7.438700000 GHz Res BW 1.0 MHz #VBW 1.0 MHz Sweep 5.000 ms (1001 pts) File <BBB.png> saved

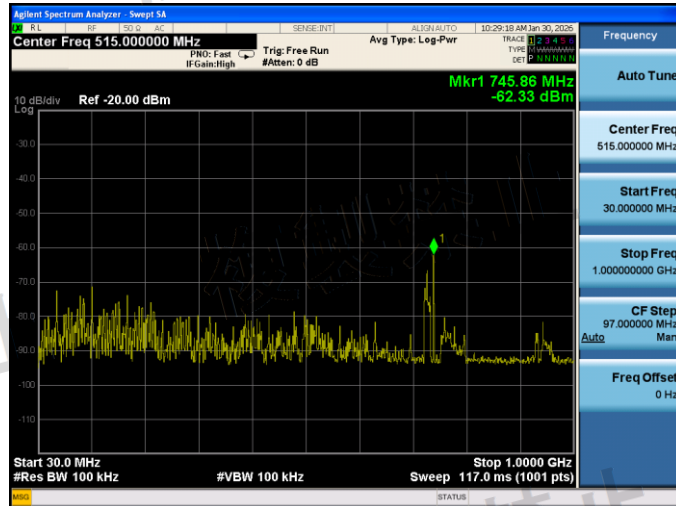
BLE 2M

Secondarily Emitted Radio Wave Strength Measurement

30 MHz – 1 GHz

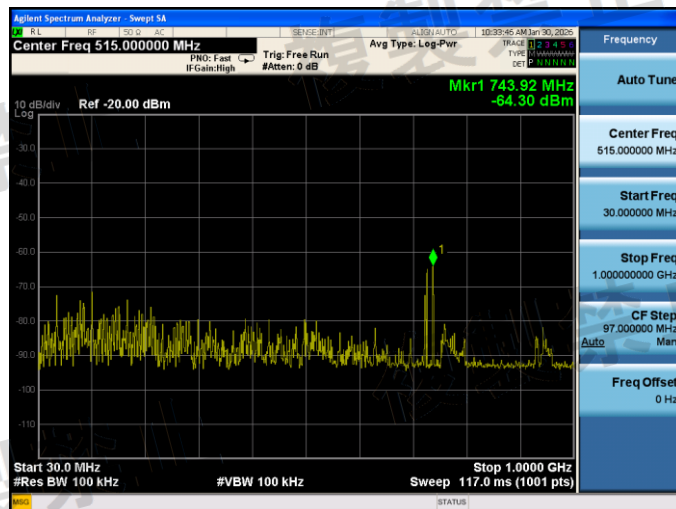
High Voltage

Low CH



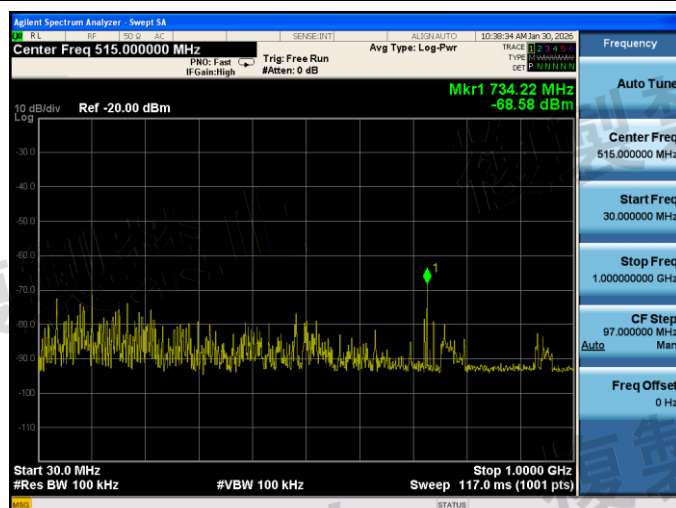
High Voltage

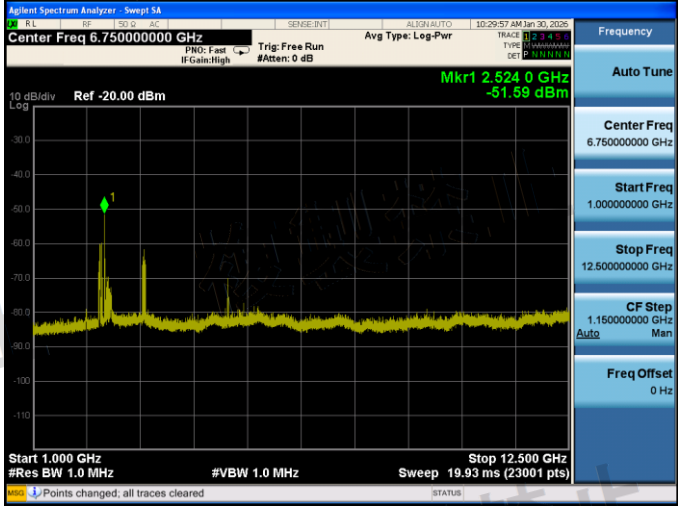
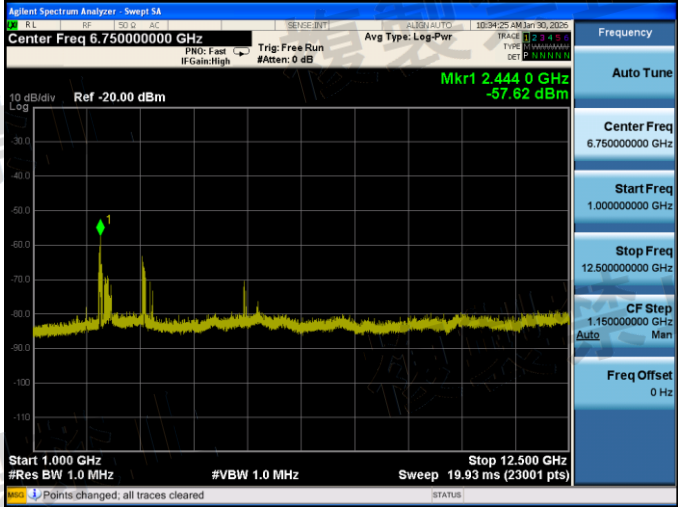
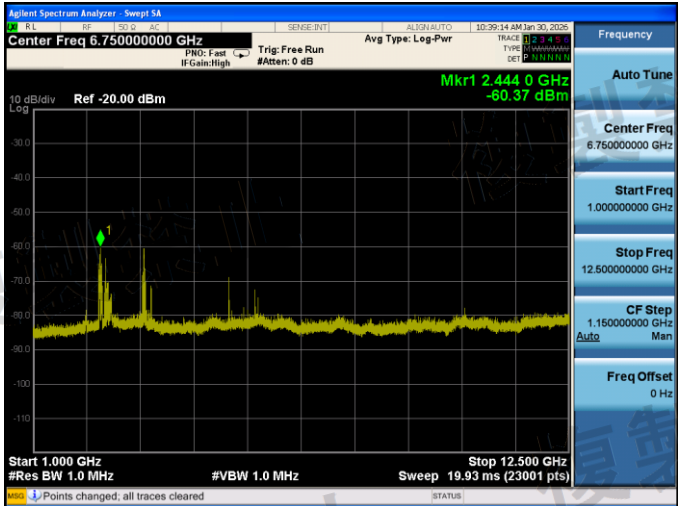
Middle CH

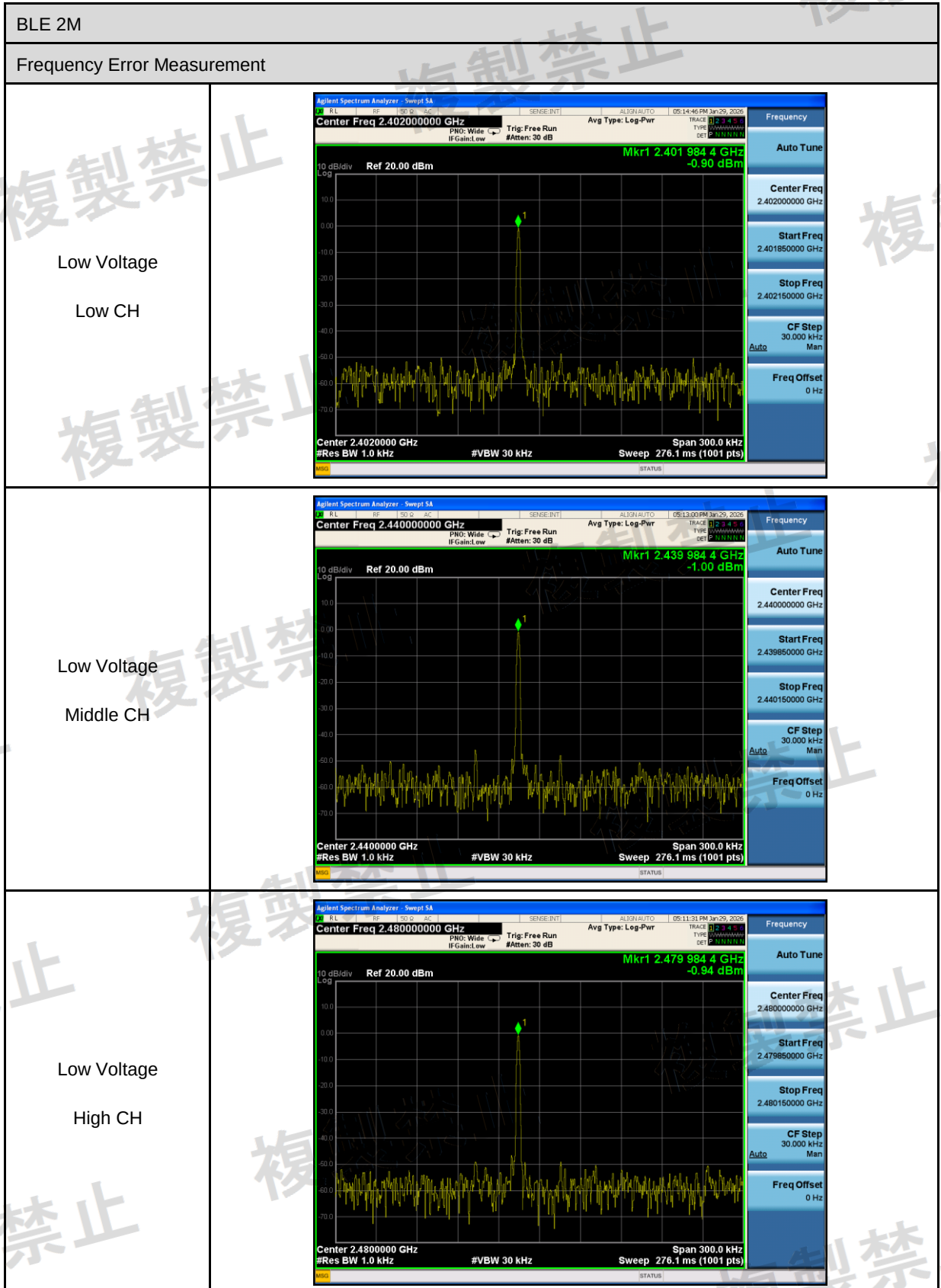


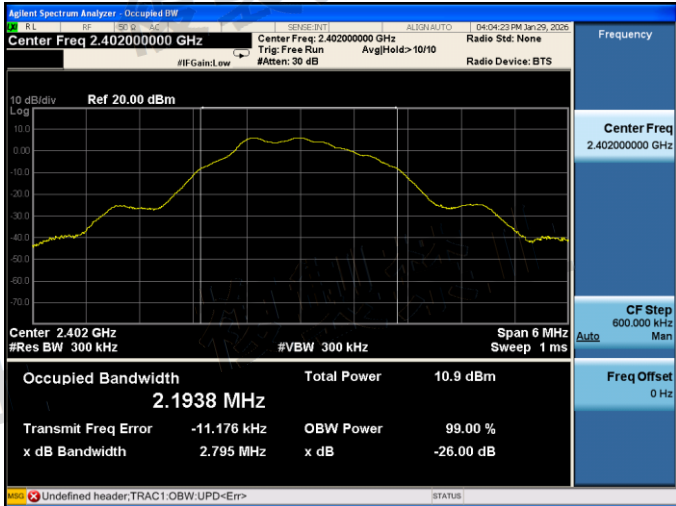
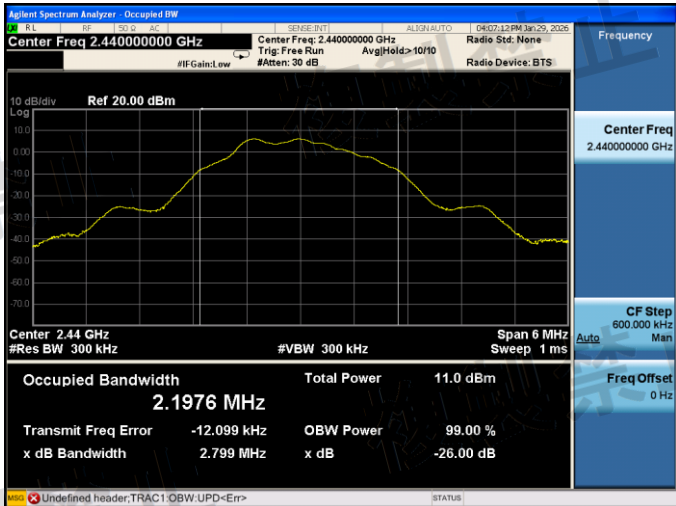
High Voltage

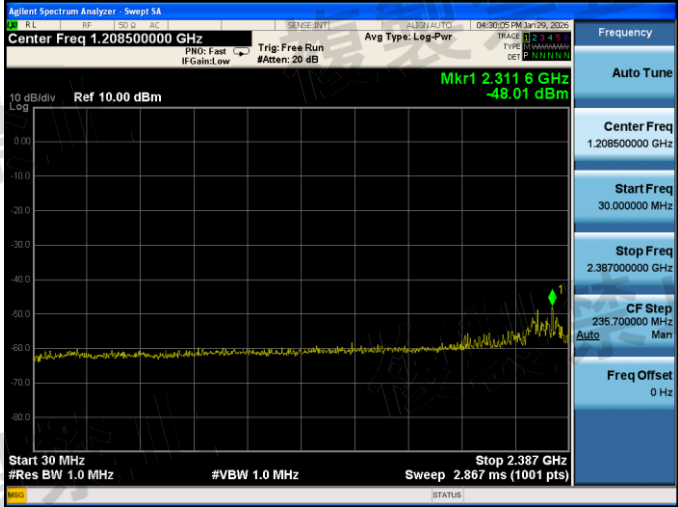
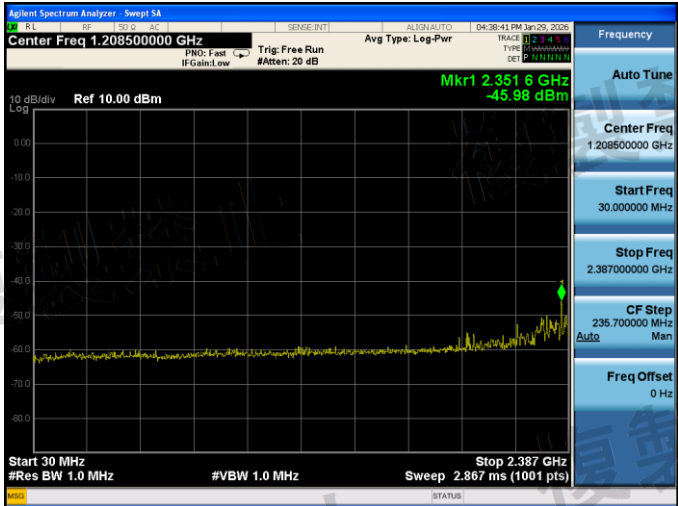
High CH



BLE 2M	
Secondarily Emitted Radio Wave Strength Measurement	
1 GHz – 12.5 GHz	
High Voltage Low CH	
High Voltage Middle CH	
High Voltage High CH	



BLE 2M	
Occupied Bandwidth Measurement	
Low Voltage Low CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.40200000 GHz, Center Freq: 2.402000000 GHz, Radio Std: None Trig: Free Run, #IF Gain: Low, #Atten: 30 dB, Avg/Hold: 10/10, Radio Device: BTS 10 dB/div, Log, Ref 20.00 dBm Center 2.402 GHz, #Res BW 300 kHz, #VBW 300 kHz, Span 6 MHz, Sweep 1 ms Occupied Bandwidth: 2.1938 MHz, Total Power: 10.9 dBm Transmit Freq Error: -11.176 kHz, OBW Power: 99.00 % x dB Bandwidth: 2.795 MHz, x dB: -26.00 dB Undefined header:TRAC1.OBW.UPD<Err>
Low Voltage Middle CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.44000000 GHz, Center Freq: 2.440000000 GHz, Radio Std: None Trig: Free Run, #IF Gain: Low, #Atten: 30 dB, Avg/Hold: 10/10, Radio Device: BTS 10 dB/div, Log, Ref 20.00 dBm Center 2.44 GHz, #Res BW 300 kHz, #VBW 300 kHz, Span 6 MHz, Sweep 1 ms Occupied Bandwidth: 2.1976 MHz, Total Power: 11.0 dBm Transmit Freq Error: -12.099 kHz, OBW Power: 99.00 % x dB Bandwidth: 2.799 MHz, x dB: -26.00 dB Undefined header:TRAC1.OBW.UPD<Err>
Low Voltage High CH	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.48000000 GHz, Center Freq: 2.480000000 GHz, Radio Std: None Trig: Free Run, #IF Gain: Low, #Atten: 30 dB, Avg/Hold: 10/10, Radio Device: BTS 10 dB/div, Log, Ref 20.00 dBm Center 2.48 GHz, #Res BW 300 kHz, #VBW 300 kHz, Span 6 MHz, Sweep 1 ms Occupied Bandwidth: 2.1991 MHz, Total Power: 11.3 dBm Transmit Freq Error: -11.295 kHz, OBW Power: 99.00 % x dB Bandwidth: 2.789 MHz, x dB: -26.00 dB Undefined header:TRAC1.OBW.UPD<Err>

BLE 2M	
Unwanted Emission Strength Measurement	
30 MHz – 2387 MHz	
Low Voltage Low CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 1.208500000 GHz Ref 10.00 dBm Mkr1 2.2739 GHz -47.95 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 2.867 ms (1001 pts) Stop 2387 GHz
Low Voltage Middle CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 1.208500000 GHz Ref 10.00 dBm Mkr1 2.3116 GHz -48.01 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 2.867 ms (1001 pts) Stop 2387 GHz
Low Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 1.208500000 GHz Ref 10.00 dBm Mkr1 2.3516 GHz -45.98 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 2.867 ms (1001 pts) Stop 2387 GHz

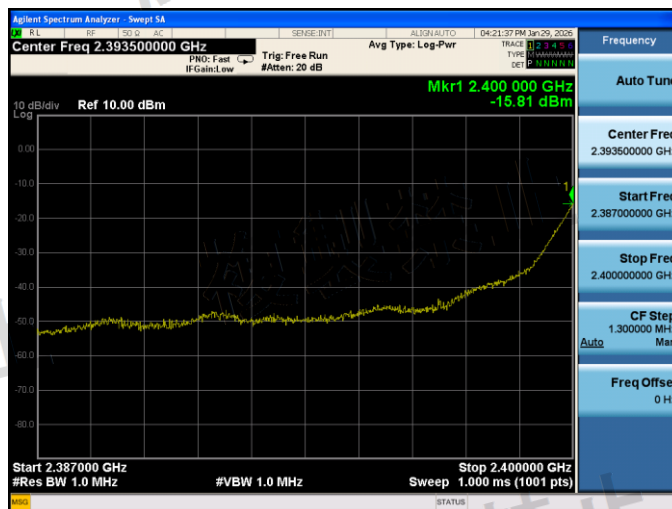
BLE 2M

Unwanted Emission Strength Measurement

2387 MHz – 2400 MHz

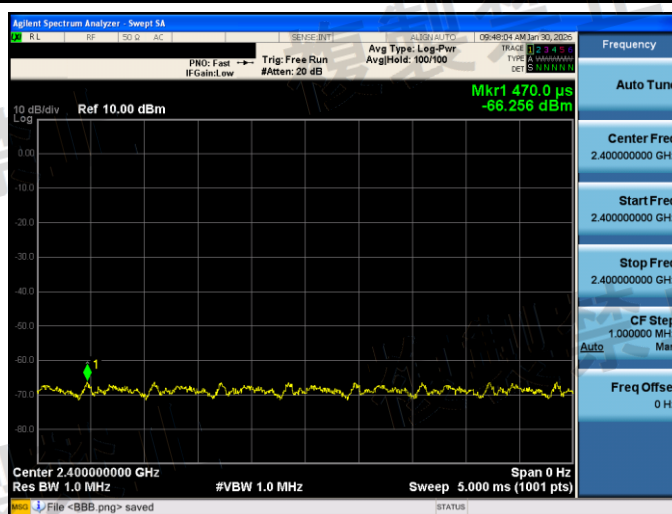
Low Voltage

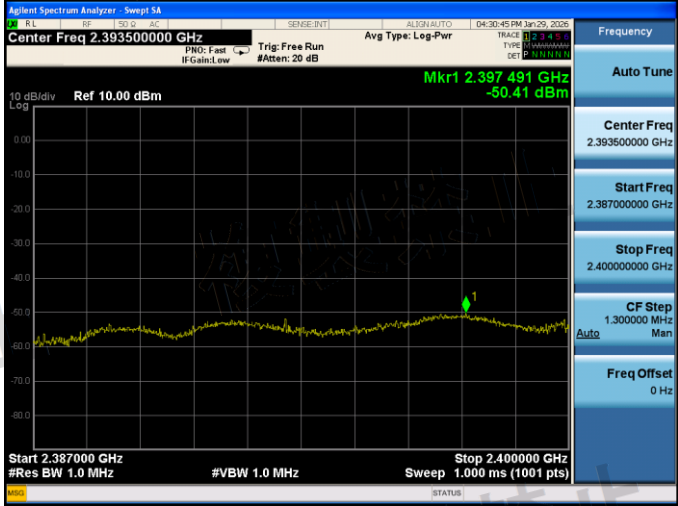
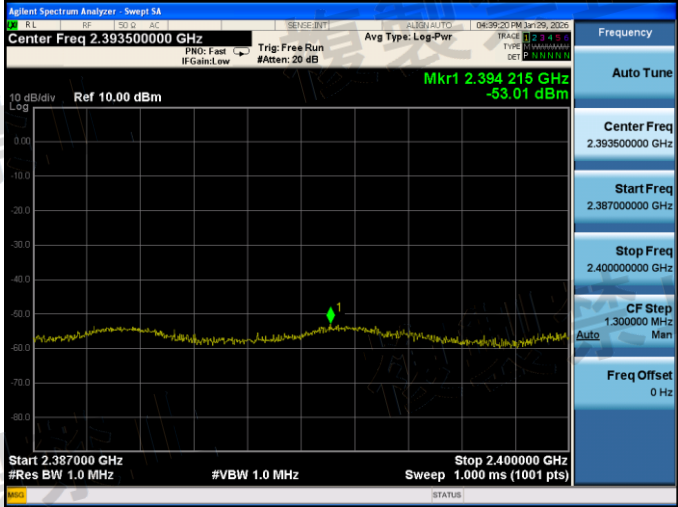
Low CH

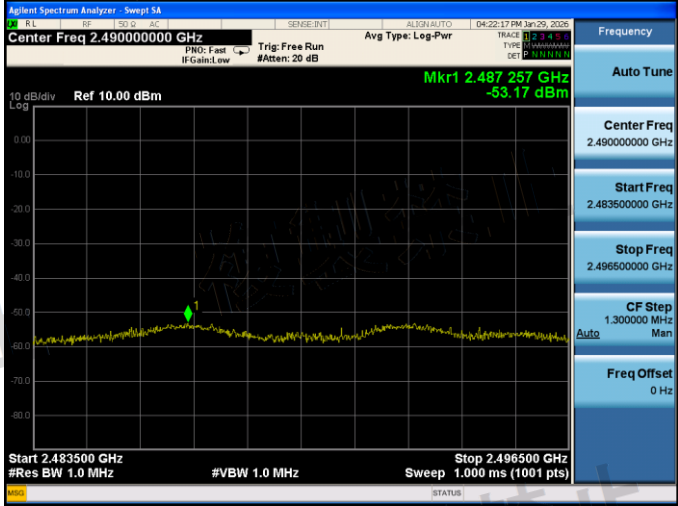
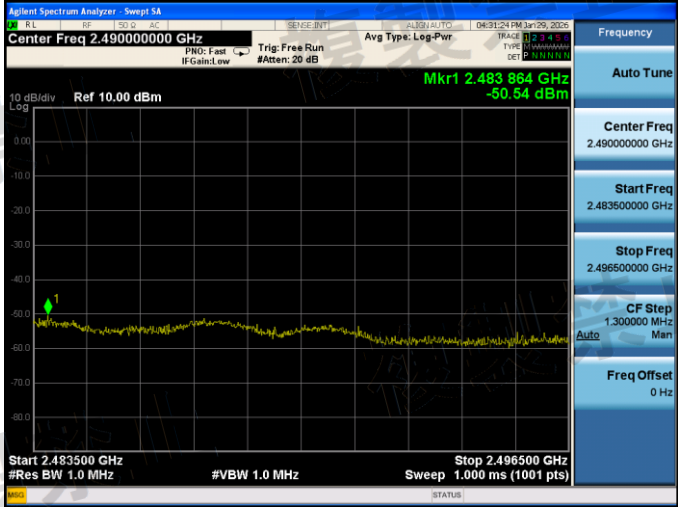


Low Voltage

Low CH



BLE 2M	
Unwanted Emission Strength Measurement	
2387 MHz – 2400 MHz	
Low Voltage Middle CH	
Low Voltage High CH	

BLE 2M	
Unwanted Emission Strength Measurement	
2483.5 MHz – 2496.5 MHz	
Low Voltage Low CH	
Low Voltage Middle CH	
Low Voltage High CH	

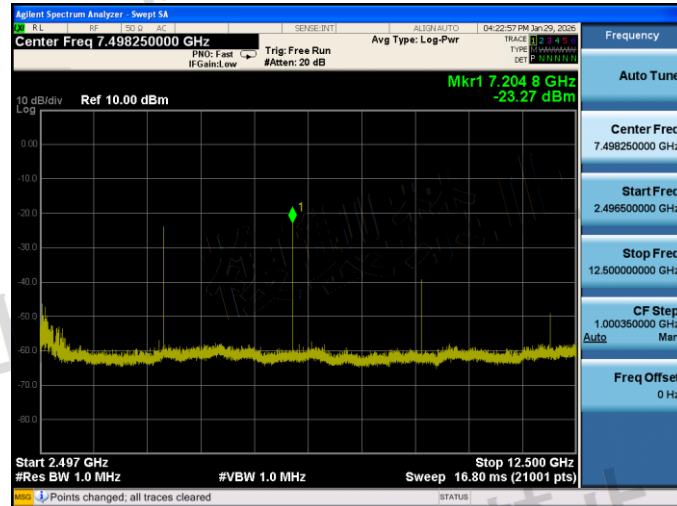
BLE 2M

Unwanted Emission Strength Measurement

2496.5 MHz – 12.5 GHz

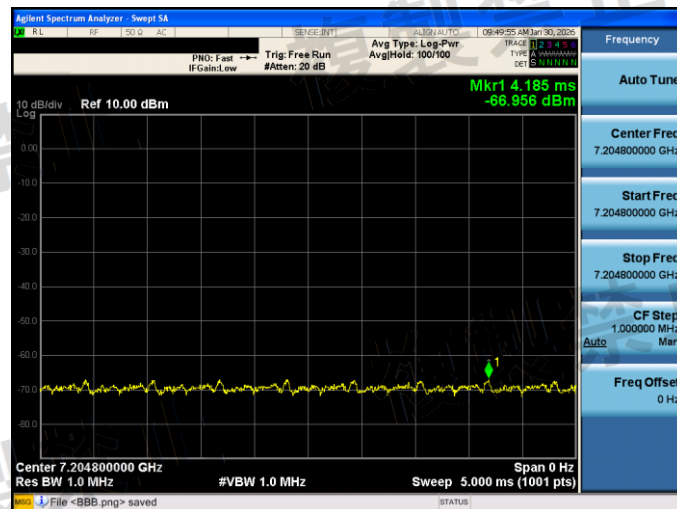
Low Voltage

Low CH



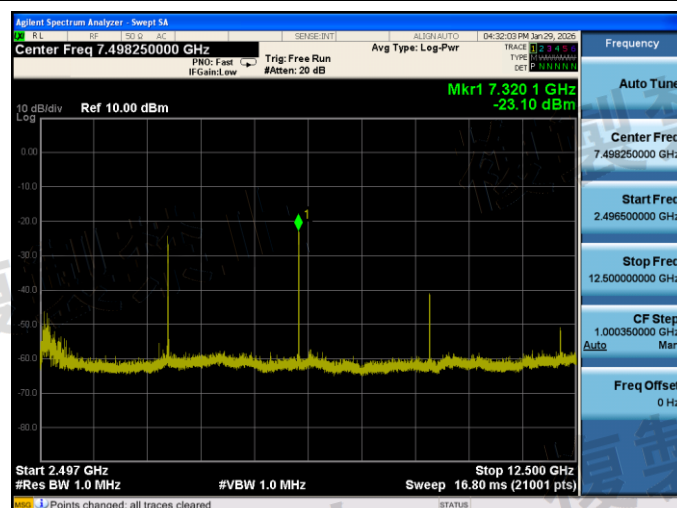
Low Voltage

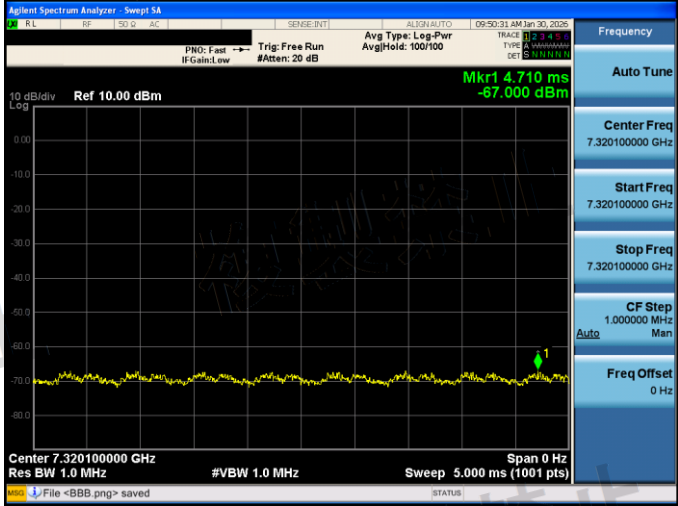
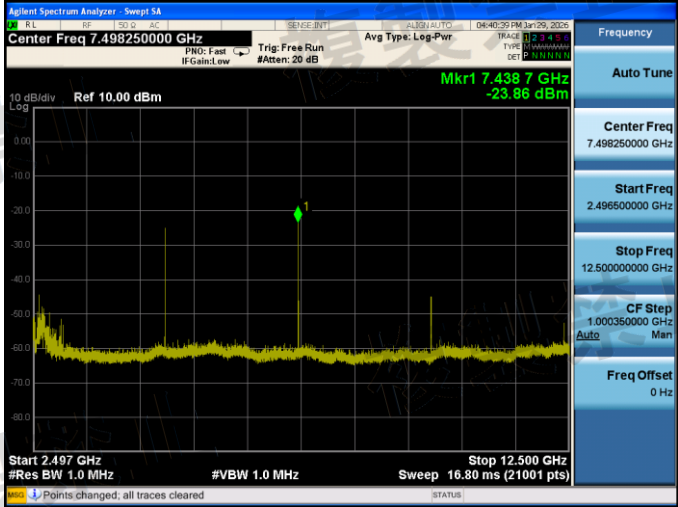
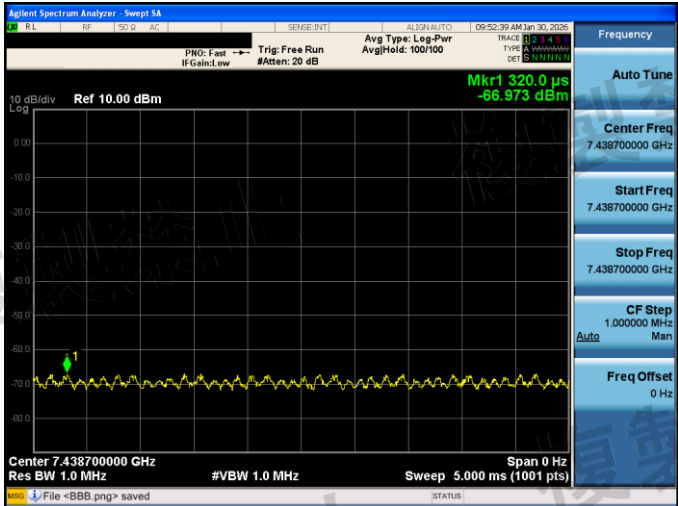
Low CH

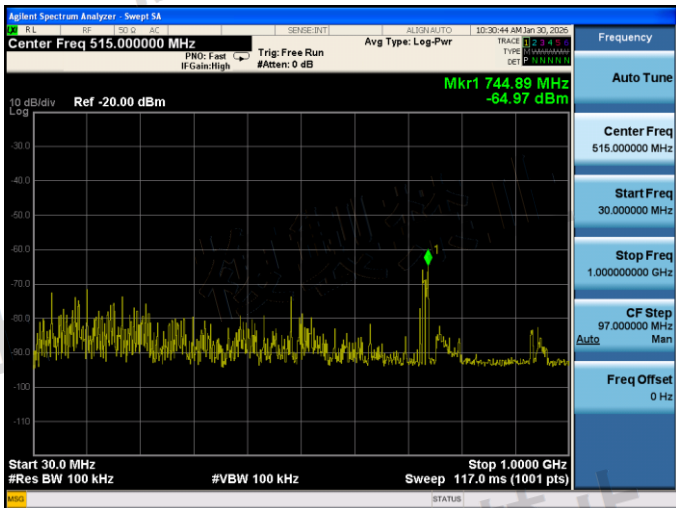
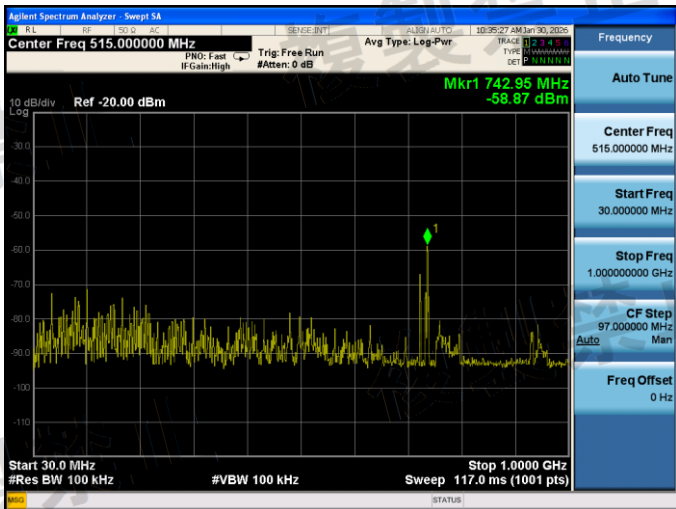
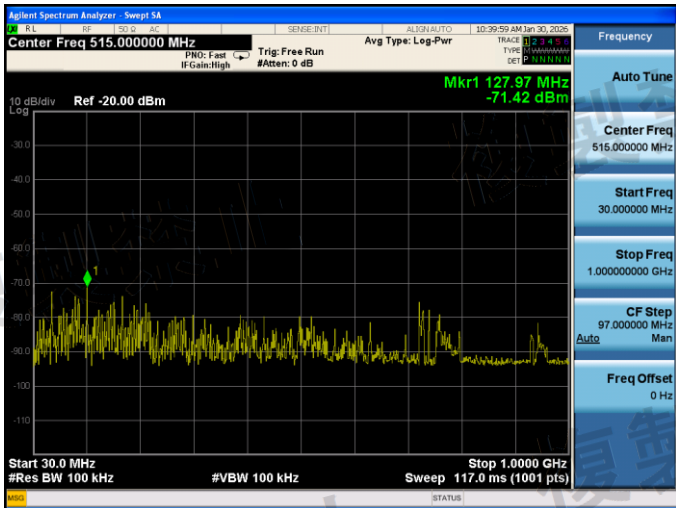


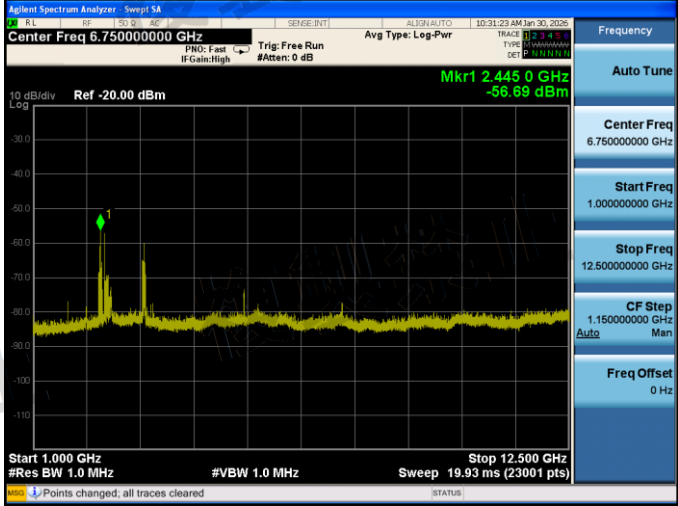
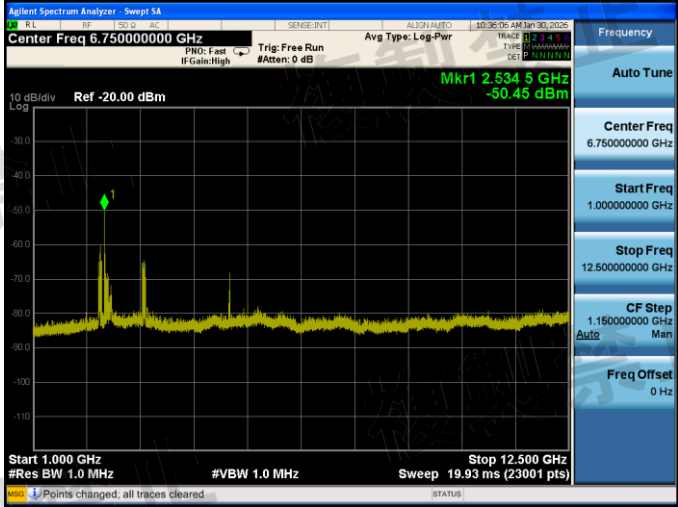
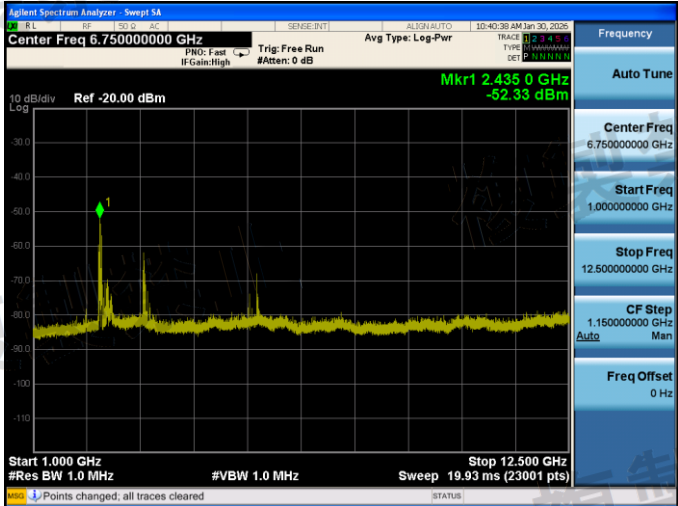
Low Voltage

Middle CH



BLE 2M	
Unwanted Emission Strength Measurement	
2496.5 MHz – 12.5 GHz	
Low Voltage Middle CH	 Agilent Spectrum Analyzer - Swept SA Ref 10.00 dBm Mkr1 4.710 ms -67.000 dBm Center Freq 7.320100000 GHz Res BW 1.0 MHz #VBW 1.0 MHz Sweep 5.000 ms (1001 pts) Span 0 Hz File <BBB.png> saved
Low Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Center Freq 7.498250000 GHz Ref 10.00 dBm Mkr1 7.438 7 GHz -23.86 dBm Start 2.497 GHz Stop 12.500 GHz #Res BW 1.0 MHz #VBW 1.0 MHz Sweep 16.80 ms (21001 pts) Points changed; all traces cleared
Low Voltage High CH	 Agilent Spectrum Analyzer - Swept SA Ref 10.00 dBm Mkr1 320.0 μs -66.973 dBm Center Freq 7.438700000 GHz Res BW 1.0 MHz #VBW 1.0 MHz Sweep 5.000 ms (1001 pts) Span 0 Hz File <BBB.png> saved

BLE 2M	
Secondarily Emitted Radio Wave Strength Measurement	
30 MHz – 1 GHz	
Low Voltage Low CH	
Low Voltage Middle CH	
Low Voltage High CH	

BLE 2M	
Secondarily Emitted Radio Wave Strength Measurement	
1 GHz – 12.5 GHz	
Low Voltage Low CH	
Low Voltage Middle CH	
Low Voltage High CH	

--- END---

Appendix A. Test Setup Photographs

Description: Test Circuit Photo



Description: Conducted Measurement Photo

