

Test Report

Applicant	ID TECH
Product	VP7225
Brand	ID TECH
Model	ID72-808HF; ID72-808HFD; ID72-800HF; ID72-800HFD; ID72-008HF; ID72-008HFD; ID72-000HF; ID72-000HFD
Report No.	EFTA26010166-IE-12-R1V3
Issue Date	June 4, 2026

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **Article 49-20, MIC notification. No.88 of 2004, Annex 43**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Prepared by: Xu Ying

Approved by: Xu Kai

Eurofins TA Technology (Shanghai) Co., Ltd.

Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China

TEL: +86-021-50791141/2/3

FAX: +86-021-50791141/2/3-8000

TABLE OF CONTENT

1. Test Laboratory	6
1.1. Notes of the Test Report.....	6
1.2. Testing Location.....	6
2. General Description of Equipment Under Test.....	7
2.1. Applicant and Manufacturer Information.....	7
2.2. General Information.....	7
3. Applied Standards	8
4. Test Configuration	9
5. Test Case Results.....	10
5.1. Frequency Error Measurement	10
5.2. Occupied Bandwidth Measurement	18
5.3. Spread Bandwidth and Spread Factor Measurement.....	26
5.4. Antenna Power (Conducted) Measurement.....	28
5.5. Transmission Radiation Angle Width (3dB Beamwidth)	31
5.6. Unwanted Emission Strength Measurement.....	33
5.7. Secondly Emitted Radio Wave Strength Measurement.....	60
5.8. Retention Time	71
5.9. Radio Interference Prevention Capability Measurement	73
5.10. Construction Protection Confirmation Method	75
6. Uncertainty Measurement	77
7. Main Test Instruments.....	78
8. The EUT Appearance	79
9. Test Setup Photos.....	80
10. Product Change Description.....	81

Version	Revision Description	Issue Date
Rev.0	Initial issue of report.	February 14, 2026
Rev.1	Updated information and description.	May 8, 2026
Rev.2	Updated information and description.	June 3, 2026
Rev.3	Updated description.	June 4, 2026
Note: This revised report (Report No.: EFTA26010166-IE-12-R1V3) supersedes and replaces the previously issued report (Report No.: EFTA26010166-IE-12-R1V2). Please discard or destroy the previously issued report and dispose of it accordingly.		

Summary of Measurement Results

Number	Summary of Measurements of Results	Verdict
1	Frequency Error Measurement	PASS
2	Occupied Bandwidth Measurement	PASS
3	Spread Bandwidth and Spread Factor Measurement	NA
4	Antenna Power (Conducted) Measurement	PASS
5	Transmission Radiation Angle Width (3dB Beamwidth)	N/A
6	Unwanted Emission Strength Measurement	PASS
7	Secondarily Emitted Radio Wave Strength Measurement	PASS
8	Retention Time	NA
9	Radio Interference Prevention Capability Measurement	PASS
10	Construction Protection Confirmation Method	PASS
Date of Testing: (Original) February 14, 2023 ~ March 9, 2023 (Variant) June 2, 2026 Date of Sample Received: (Original) January 16, 2023 (Variant) January 26, 2026 Note: N/A = Not applicable. All indications of Pass/Fail in this report are opinions expressed by Eurofins TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.		

VP7225 (Report No.: EFTA26010166-IE-12-R1V3) is a variant model of VP7200 (Report No.: R2301A0067-R1V1).

The VP7200 has been certified under R:205-230088, and the VP7225 is a product that integrates the VP7200 into a new enclosure, differences between it and the VP7225 are as follows.

Its RF performance is exactly the same.

(The PCB, circuit patterns, RF software, and antenna are all identical.)

The difference between VP7225 and VP7200 are show in the below table:

	Original	Variant
Product	VP7200	VP7225
Model	ID72-808; ID72-808D; ID72-800; ID72-800D; ID72-008; ID72-008D; ID72-000; ID72-000D	ID72-808HF; ID72-808HFD; ID72-800HF; ID72-800HFD; ID72-008HF; ID72-008HFD; ID72-000HF; ID72-000HFD

HARDWARE MODIFICATION:

LCD changes: Add LCD outside of VP7200

MECHANICAL MODIFICATIONS:

New plastic: Front/back cover outside of VP7200

There is no additional test for variant in this report. Test values all duplicated from original report (Report No.: R2301A0067-R1V1).

This report tests Occupied Bandwidth Measurement and Secondly Emitted Radio Wave Strength Measurement, and recorded in the report.

However, revisions were made to the RF protective structure and the method of listing measuring instruments.

The detailed product change description please refers to the *Difference Declaration Letter*.

1. Test Laboratory

1.1. Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **Eurofins TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2. Testing Location

Company: Eurofins TA Technology (Shanghai) Co., Ltd.
Address: Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
City: Shanghai
Post code: 201201
Country: P. R. China
Contact: Xu Kai
Telephone: +86-021-50791141/2/3
Fax: +86-021-50791141/2/3-8000
Website: <https://www.eurofins.com/electrical-and-electronics>
E-mail: Kain.Xu@cpt.eurofinscn.com

2. General Description of Equipment Under Test

2.1. Applicant and Manufacturer Information

Applicant	ID TECH
Applicant address	10721 Walker Street, Cypress, California 90630, United States
Manufacturer	ID TECH TAIWAN
Manufacturer address	No. 16, Lane 22, GaoQing Rd., YanMei Dist., TaoYuan City 326, Taiwan

2.2. General Information

EUT Description	
Model	ID72-808HF; ID72-808HFD; ID72-800HF; ID72-800HFD; ID72-008HF; ID72-008HFD; ID72-000HF; ID72-000HFD
SN	(Original): 2521027618 (Variant): MPY22HQ2B001319
Hardware Version	Rev.A
Software Version	v1.00
Antenna Type	Chip Antenna
Antenna Gain	-1.60 dBi
Device Operating Configurations	
Test Mode	Bluetooth (Low Energy);
Operating Frequency Range(s)	2402MHz ~ 2480MHz
Test Frequency Range(s)	Bluetooth (Low Energy): 2402MHz ~ 2480MHz
Rate Voltage	DC 5V
Extreme Voltage	4.75V to 5.25V
Test Voltage	4.5V to 5.5V
Note: 1.The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.	

3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Article 49-20

MIC notification. No.88 of 2004, Annex 43

Article 2, Paragraph 1, Item (19)

4. Test Configuration

For all the test items, an engineering test program installed in notebook was used to make the EUT continuously transmit/receive.

Packet Type	Frequency (MHz)	Channel
Bluetooth LE	2402	0
	2440	19
	2480	39

5. Test Case Results

5.1. Frequency Error Measurement

Ambient Condition

Temperature	Relative humidity
20°C ~25°C	45%~50%

Methods of Measurement

Spectrum Analyzer Setting

BT: RBW: 1 kHz; VBW: 30 kHz

Bluetooth LE: RBW: 10 kHz; VBW: 10 kHz

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

Data Points: 401 points or more

Sweep Mode: Single Sweep

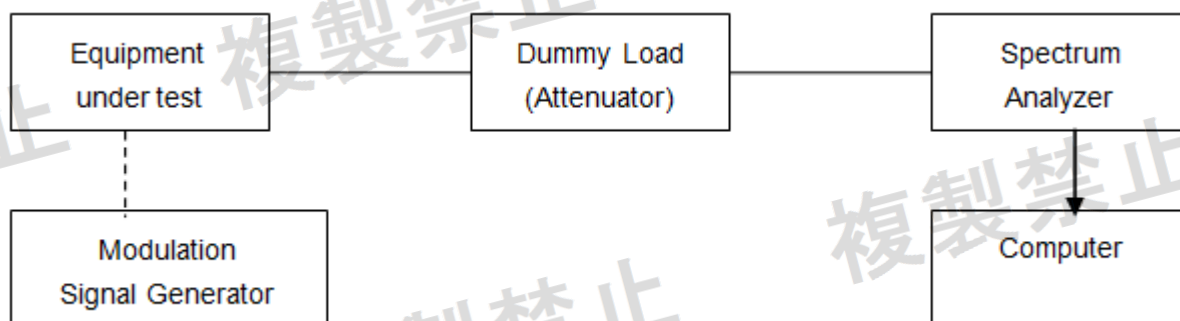
Detection Mode: Positive Peak

Storage Mode: Normal

Y-axis Scale: 10 dB/Div.

Reference Level: Enough level for maximum dynamic range

Test Setup



Limits

Frequency Tolerance +/-50 ppm.

Test Results

LV

Test Mode	Test Frequency (MHz)	Frequency Tolerance (ppm)	Limit (ppm)	Result
Bluetooth (Low Energy)	2402	-3.33	+/-50	Pass
	2440	-3.69	+/-50	Pass
	2480	-3.63	+/-50	Pass

NV

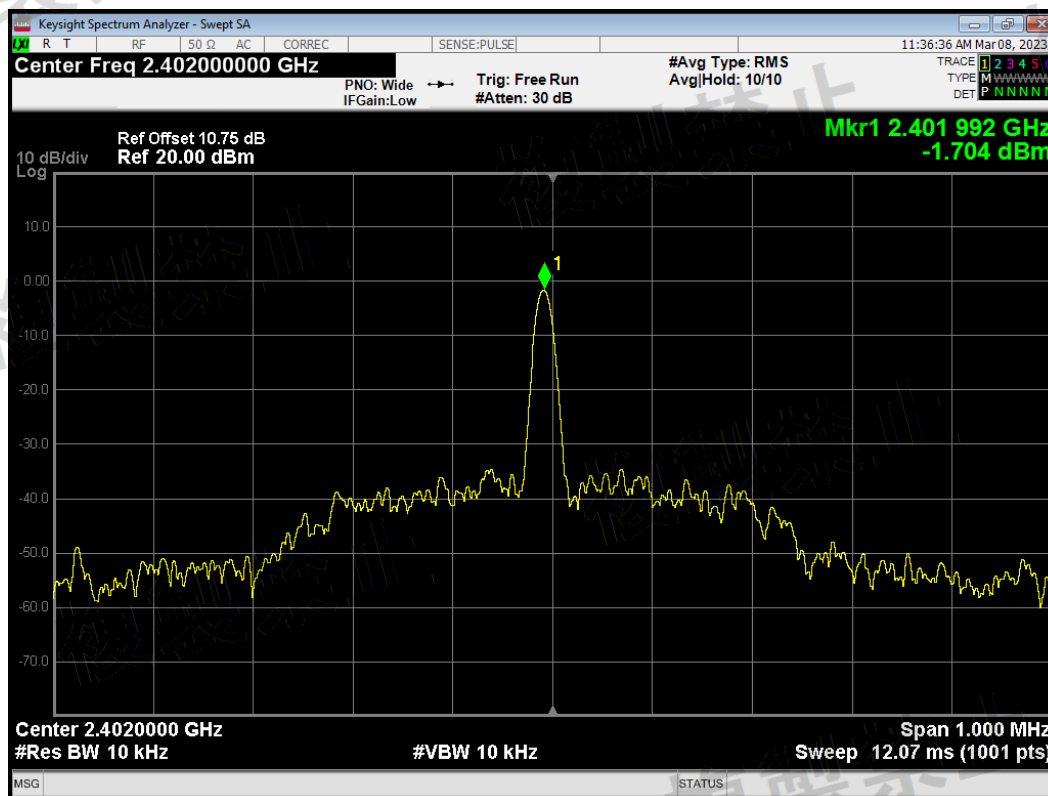
Test Mode	Test Frequency (MHz)	Frequency Tolerance (ppm)	Limit (ppm)	Result
Bluetooth (Low Energy)	2402	-1.25	+/-50	Pass
	2440	-0.41	+/-50	Pass
	2480	-0.4	+/-50	Pass

HV

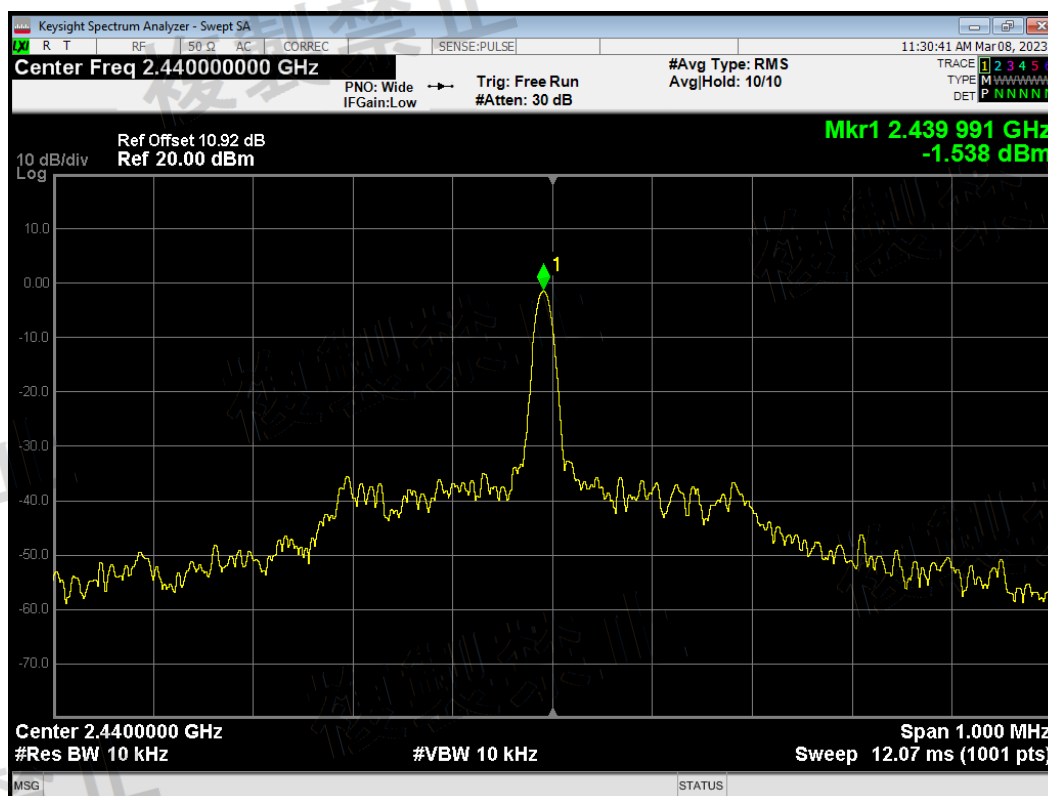
Test Mode	Test Frequency (MHz)	Frequency Tolerance (ppm)	Limit (ppm)	Result
Bluetooth (Low Energy)	2402	-3.75	+/-50	Pass
	2440	-3.69	+/-50	Pass
	2480	-3.63	+/-50	Pass

LV

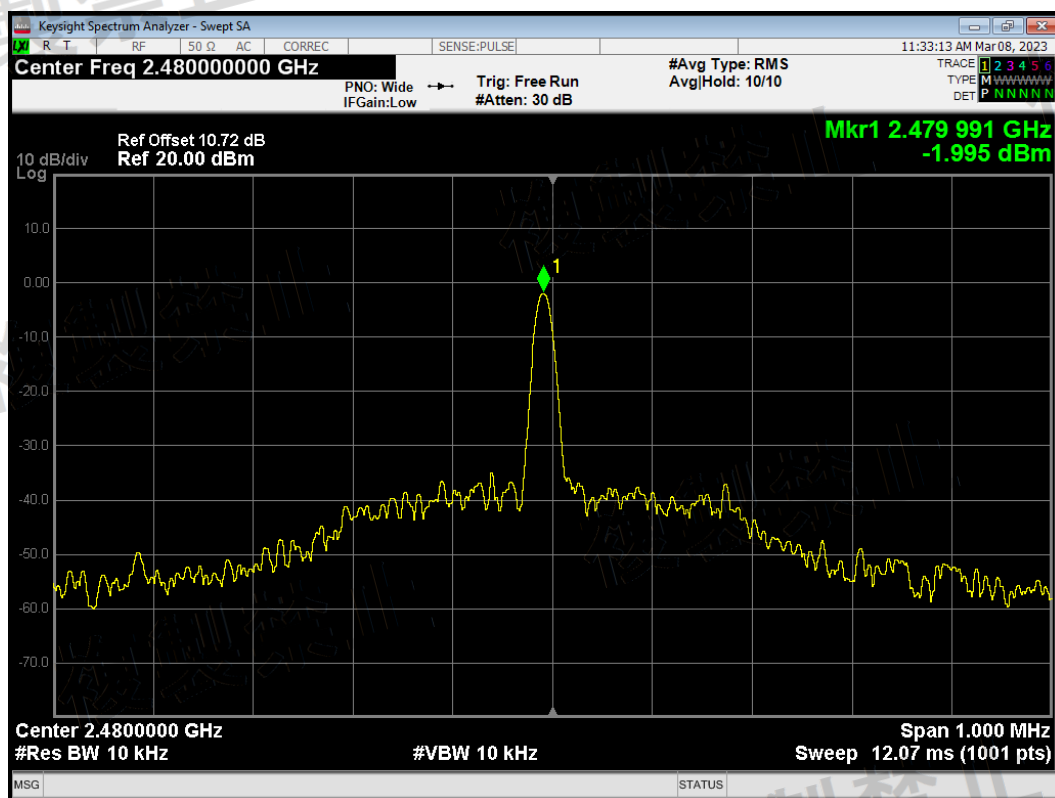
Freq. Error BLE 2402MHz



Freq. Error BLE 2440MHz

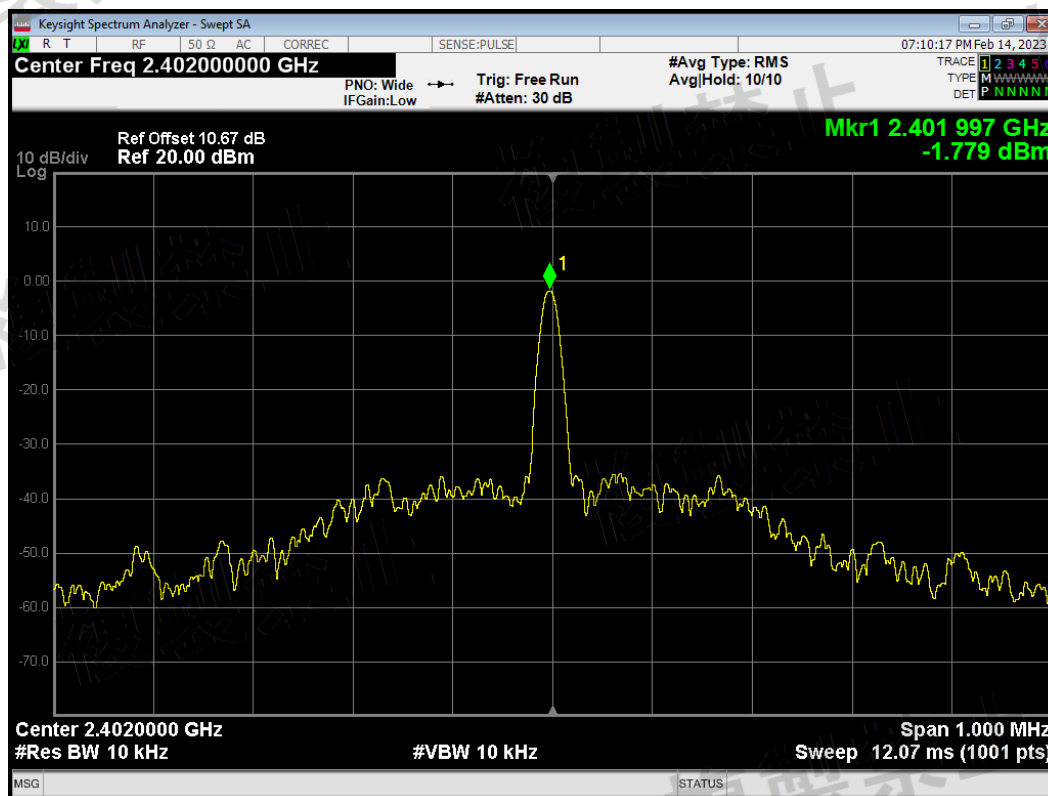


Freq. Error BLE 2480MHz

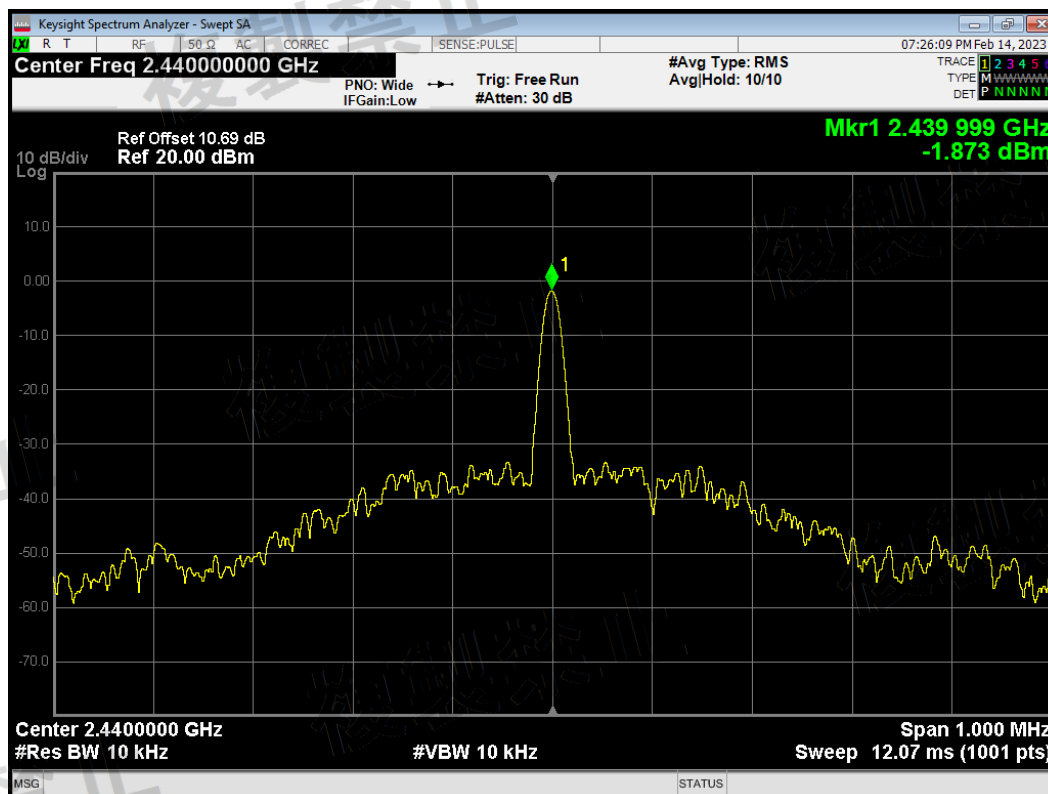


NV

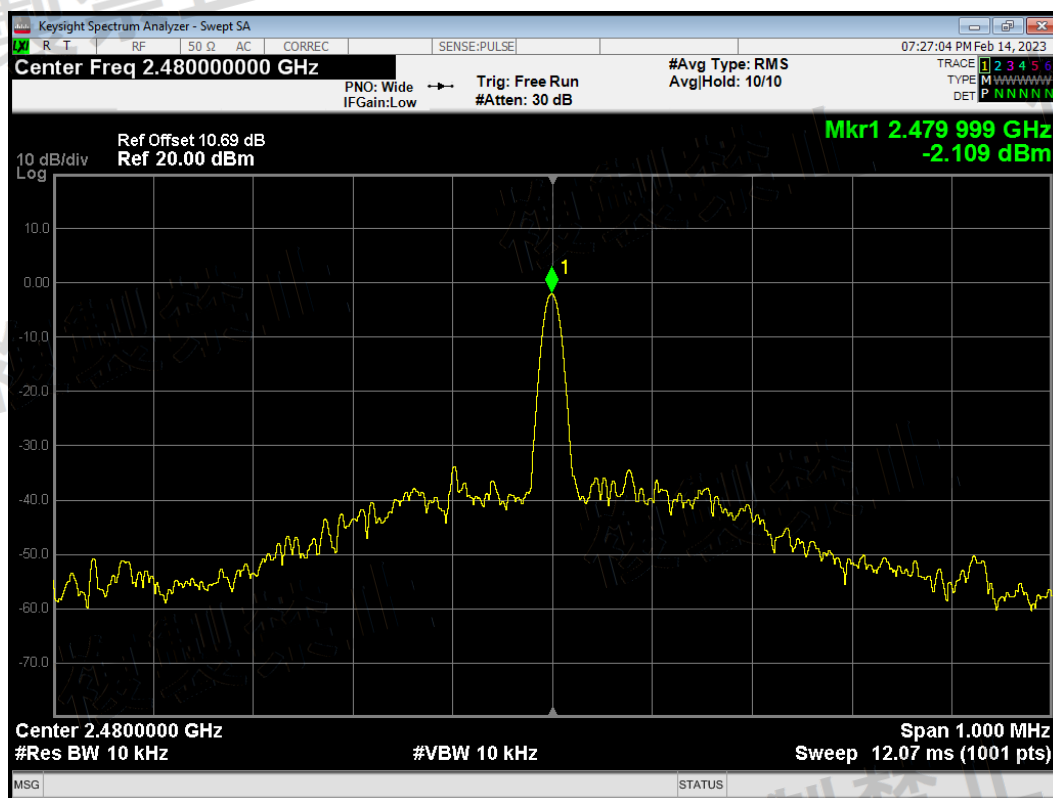
Freq. Error BLE 2402MHz



Freq. Error BLE 2440MHz

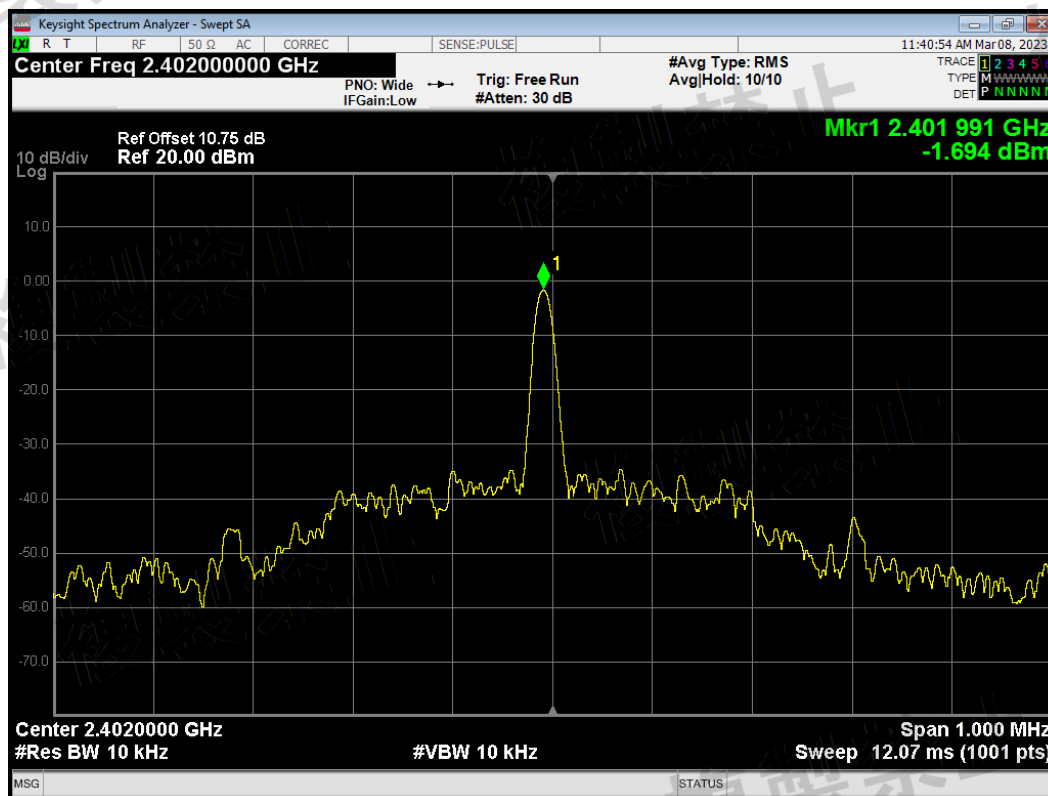


Freq. Error BLE 2480MHz

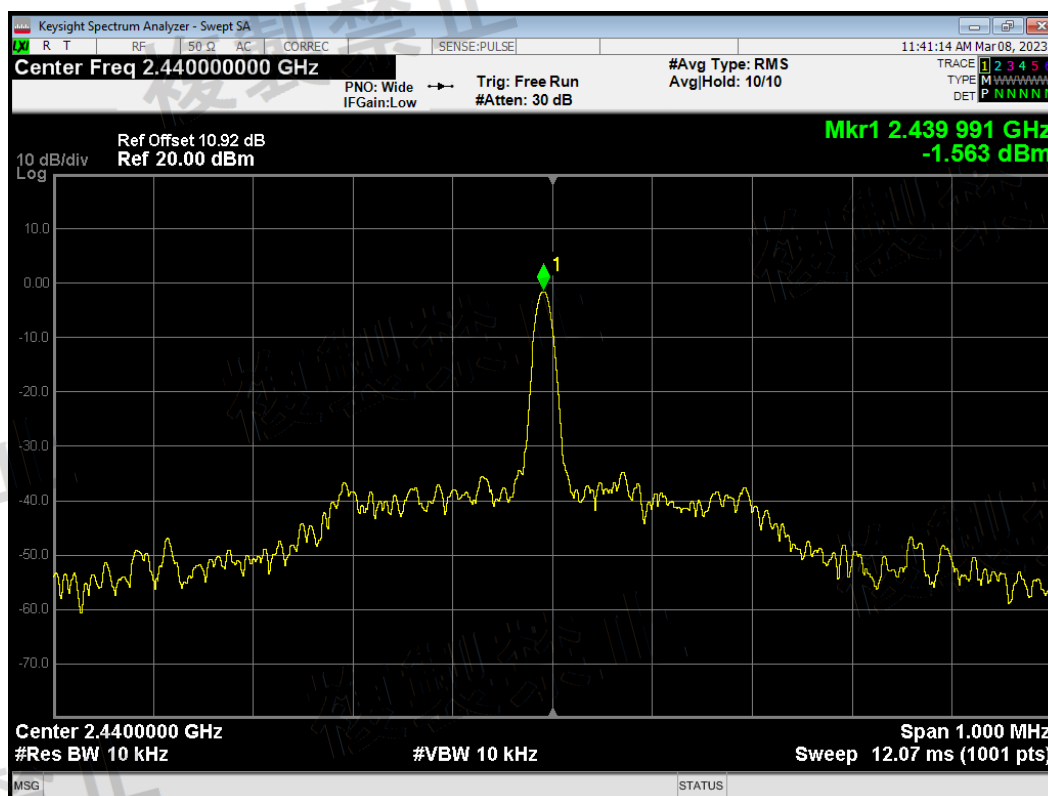


HV

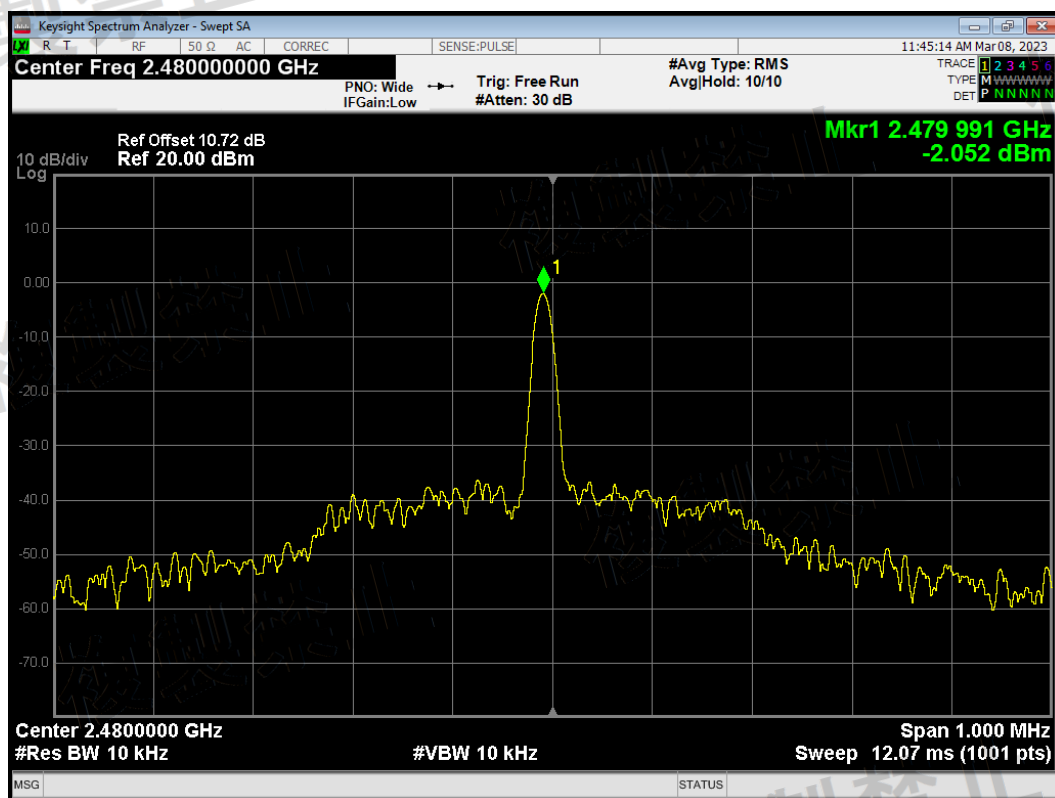
Freq. Error BLE 2402MHz



Freq. Error BLE 2440MHz



Freq. Error BLE 2480MHz



5.2. Occupied Bandwidth Measurement

Ambient Condition

Temperature	Relative humidity
20°C ~25°C	45%~50%

Method of Measurement

Spectrum Analyzer Setting

SPAN: $2BW \leq \text{SPAN} \leq 3.5BW$

RBW: Less than 3% of BW

VBW: Equal RBW

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

Data Points: 401 points or more

Indication mode: Max hold

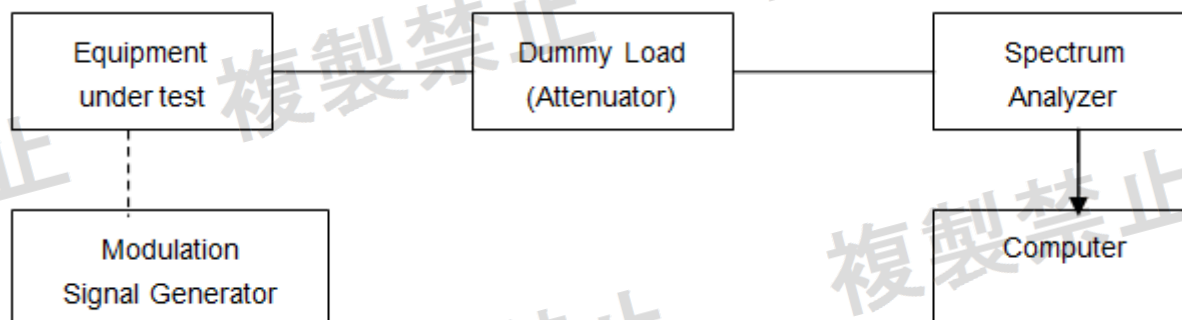
Detection Mode: Positive Peak

Storage Mode: Normal

Y-axis Scale: 10 dB/Div.

Reference Level: Enough level for maximum dynamic range

Test Setup



Limits

Others: Occupied Bandwidth ≤ 26 MHz.

FHSS: Occupied Bandwidth ≤ 83.5 MHz.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 936$ Hz.

Test Results

NV

Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Limit (MHz)	Result
Bluetooth LE	2402	1.0632	≤ 26	Pass
	2440	1.0623	≤ 26	Pass
	2480	1.0648	≤ 26	Pass

LV

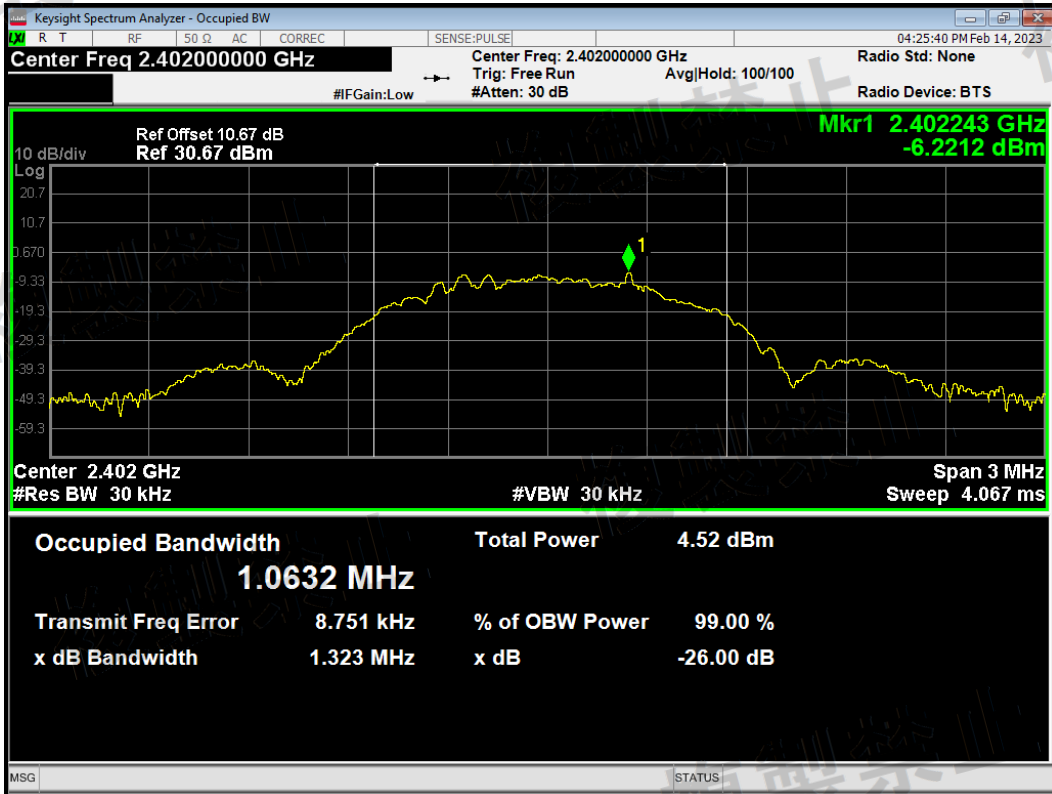
Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Limit (MHz)	Result
Bluetooth LE	2402	1.0607	≤ 26	Pass
	2440	1.0640	≤ 26	Pass
	2480	1.0646	≤ 26	Pass

HV

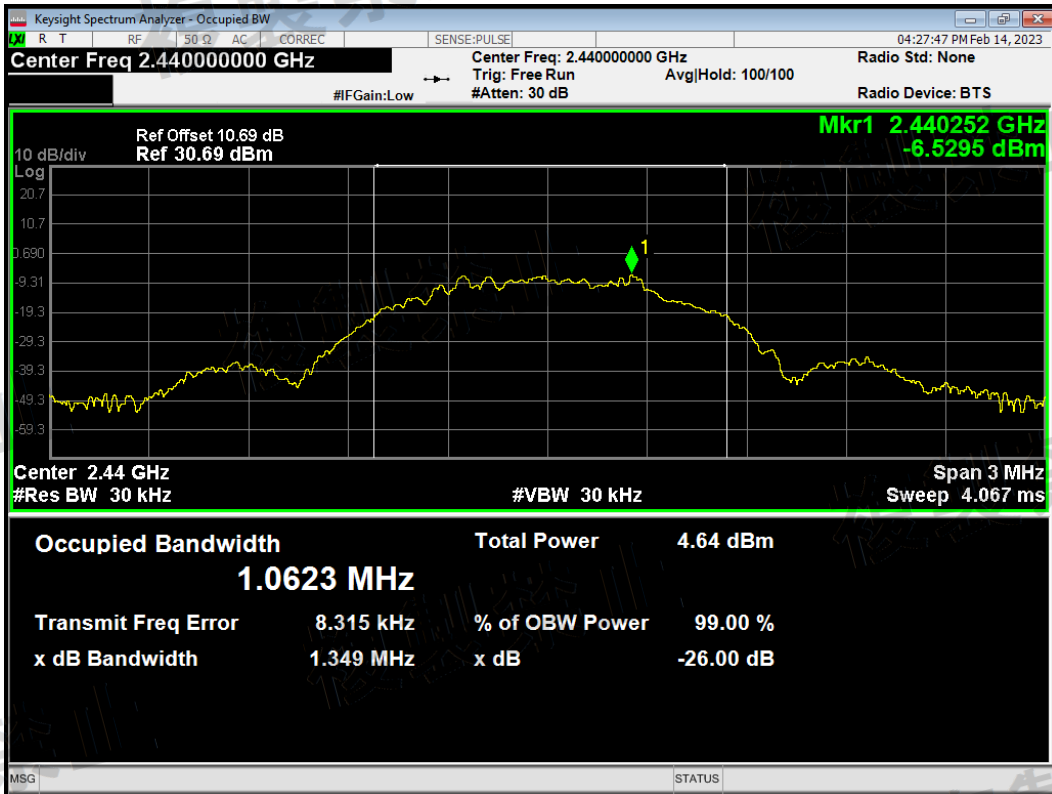
Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Limit (MHz)	Result
Bluetooth LE	2402	1.0608	≤ 26	Pass
	2440	1.0690	≤ 26	Pass
	2480	1.0715	≤ 26	Pass

NV

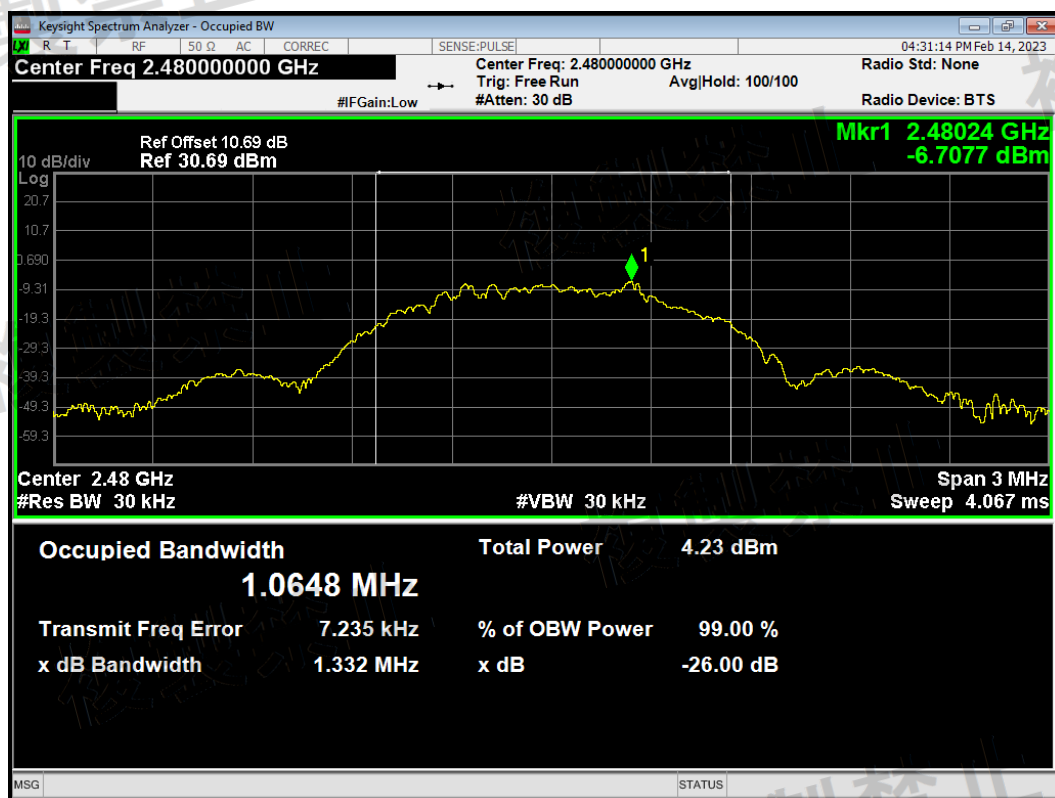
OBW BLE 2402MHz



OBW BLE 2440MHz

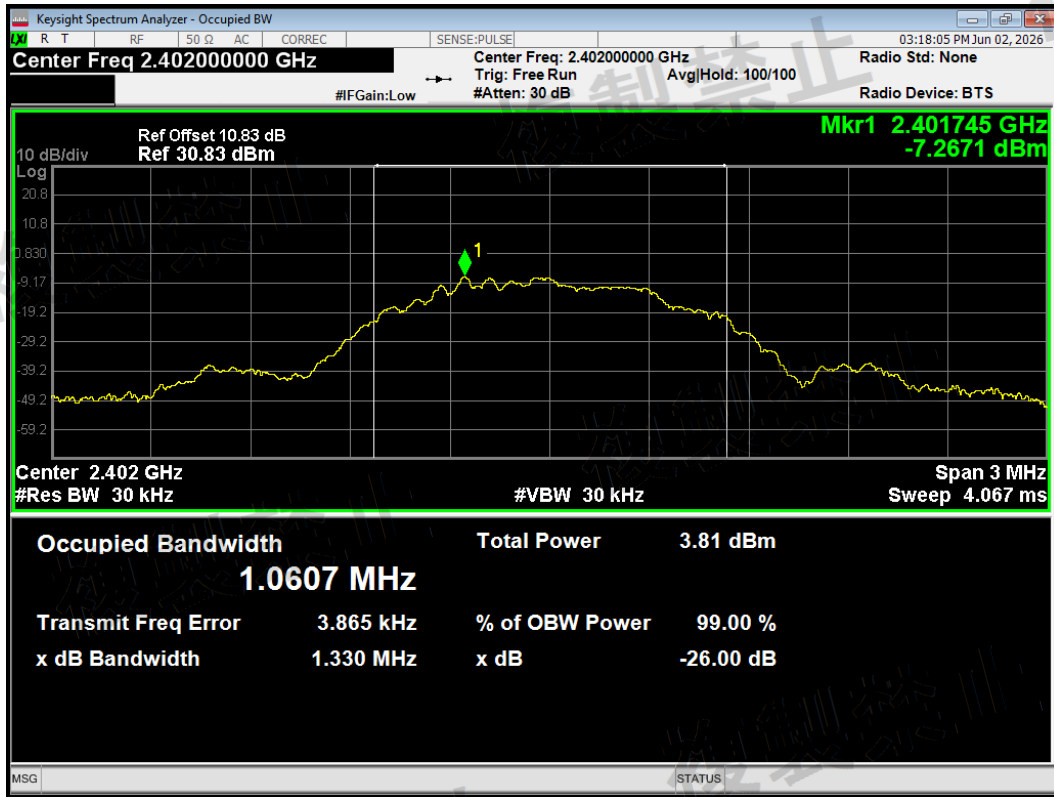


OBW BLE 2480MHz



LV

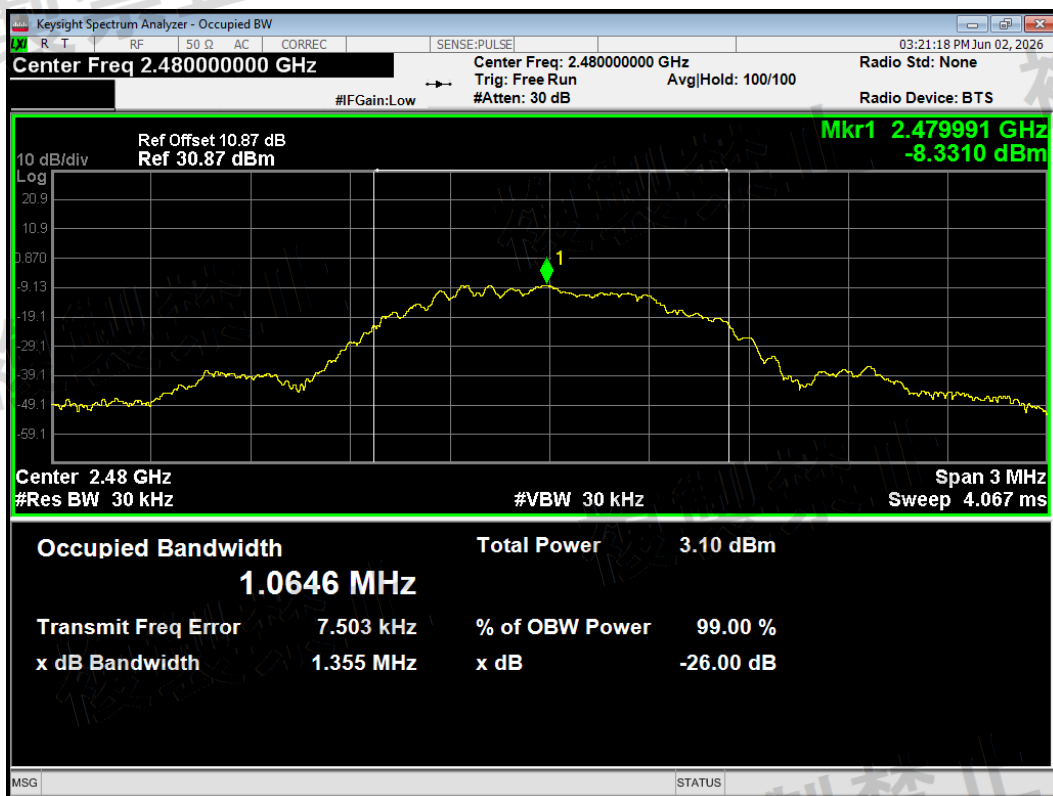
OBW BLE 2402MHz



OBW BLE 2440MHz

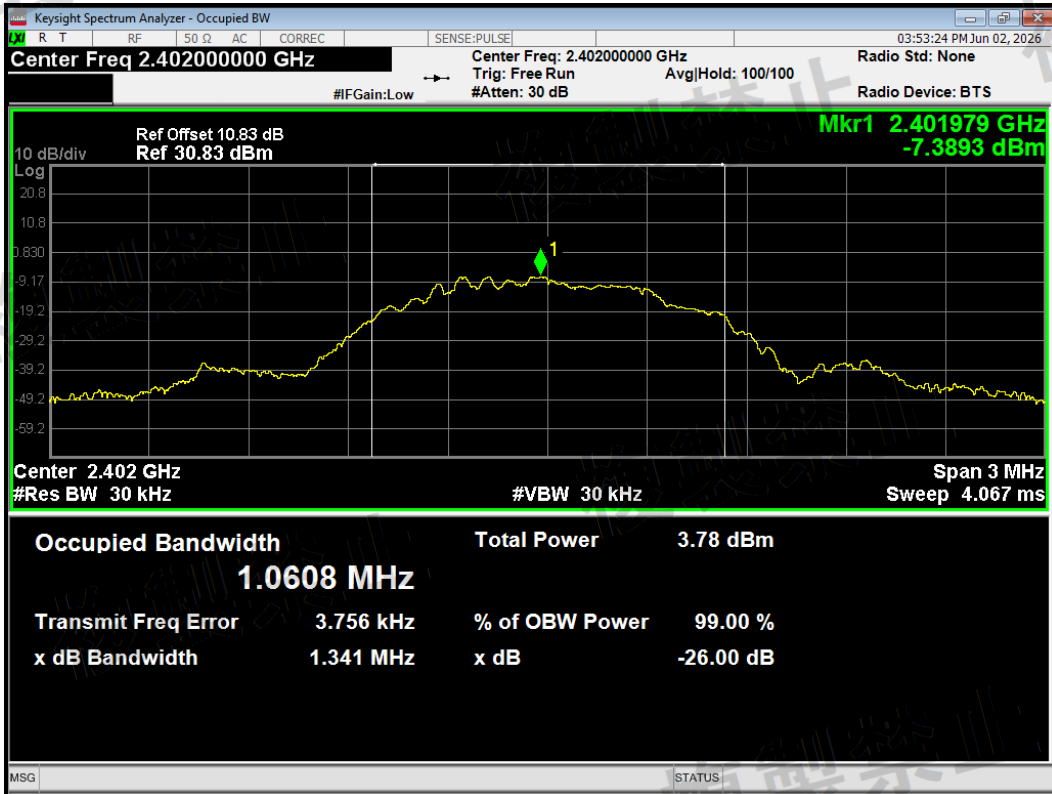


OBW BLE 2480MHz

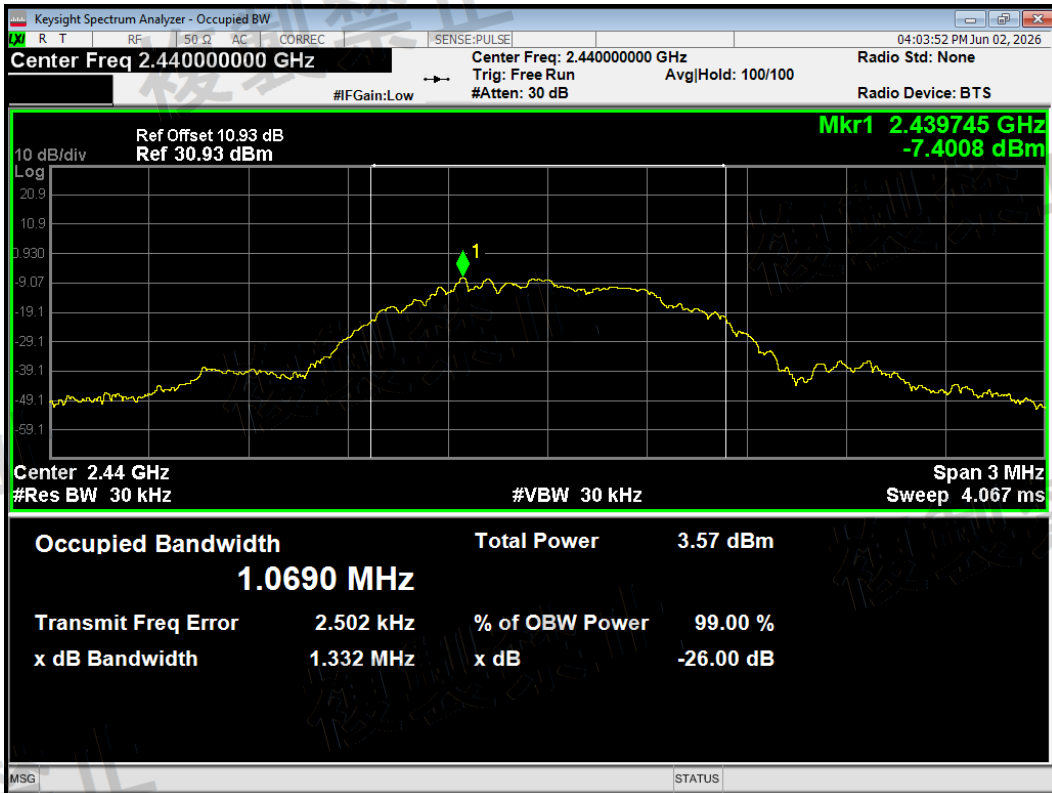


HV

OBW BLE 2402MHz



OBW BLE 2440MHz



OBW BLE 2480MHz



5.3. Spread Bandwidth and Spread Factor Measurement

Ambient Condition

Temperature	Relative humidity
20°C ~25°C	45%~50%

Method of Measurement

Spectrum Analyzer Setting

SPAN: $2BW \leq \text{SPAN} \leq 3.5BW$

RBW: Less than 3% of BW

VBW: Equal RBW

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

Data Points: 401 points or more

Indication mode: Max hold

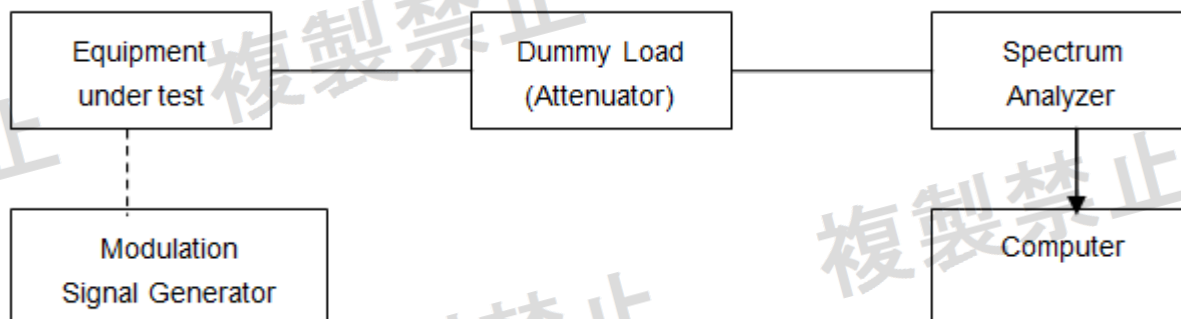
Detection Mode: Positive Peak

Storage Mode: Normal

Y-axis Scale: 10 dB/Div.

Reference Level: Enough level for maximum dynamic range

Test Setup



Limits

FHSS and DSSS: Spread Bandwidth ≥ 0.5 MHz.

FHSS and DSSS: Spread Factor ≥ 5

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 936$ Hz.

Test Results

Only applicable for FHSS and DSSS.

5.4. Antenna Power (Conducted) Measurement

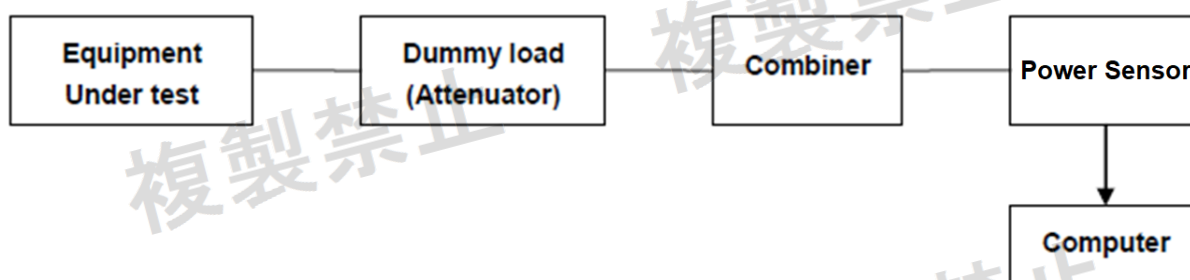
Ambient Condition

Temperature	Relative humidity
20°C ~25°C	45%~50%

Methods of Measurement

The Equipment Under Test connects to the power sensor to read the power.

Test Setup



Limits

FHSS: Antenna Power ≤ 3 mW/MHz;

EIRP Limit ≤ 6.91 dBm/MHz - 16.91 dBm/MHz (Limit is variable by the HPBA)

Others: Antenna Power ≤ 10 mW;

EIRP Limit ≤ 12.14 dBm - 22.14 dBm (Limit is variable by the HPBA)

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.44$ dB.

Test Results:

LV

Test Mode	Carrier Frequency (MHz)	Antenna Power (dBm)	Total Power Density (mW)	Limit (mW)	Declaration Antenna Power (mW)	Tolerance	Tolerance Limit	Result
Bluetooth (Low Energy)	2402	4.57	2.86	10	3	-4.67%	[-80%, 20%]	Pass
	2440	5.00	3.16	10	3	5.33%	[-80%, 20%]	Pass
	2480	4.04	2.54	10	3	-15.33%	[-80%, 20%]	Pass

Test Mode	Carrier Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Conclusion
Bluetooth (Low Energy)	2402	2.97	12.14	PASS
	2440	3.40	12.14	PASS
	2480	2.44	12.14	PASS

Note: 1. EIRP = Antenna Power + Antenna Gain (Antenna Gain = -1.6 dBi)

2. Gain $\leq$ 2.14 dBi, EIRP Limit = 12.14 dBm

Gain $>$ 2.14 dBi, EIRP Limit = 12.14+ (Gain -2.14) dBm

NV

Test Mode	Carrier Frequency (MHz)	Antenna Power (dBm)	Total Power Density (mW)	Limit (mW)	Declaration Antenna Power (mW)	Tolerance	Tolerance Limit	Result
Bluetooth (Low Energy)	2402	4.53	2.84	10	3	-5.33%	[-80%, 20%]	Pass
	2440	5.18	3.30	10	3	10.00%	[-80%, 20%]	Pass
	2480	3.34	2.16	10	3	-28.00%	[-80%, 20%]	Pass

Test Mode	Carrier Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Conclusion
Bluetooth (Low Energy)	2402	2.93	12.14	PASS
	2440	3.58	12.14	PASS
	2480	1.74	12.14	PASS

Note: 1. EIRP = Antenna Power + Antenna Gain (Antenna Gain = -1.6 dBi)

2. Gain $\leq$ 2.14 dBi, EIRP Limit = 12.14 dBm

Gain $>$ 2.14 dBi, EIRP Limit = 12.14+ (Gain -2.14) dBm

HV

Test Mode	Carrier Frequency (MHz)	Antenna Power (dBm)	Total Power Density (mW)	Limit (mW)	Declaration Antenna Power (mW)	Tolerance	Tolerance Limit	Result
Bluetooth (Low Energy)	2402	4.01	2.52	10	3	-16.00%	[-80%, 20%]	Pass
	2440	5.14	3.27	10	3	9.00%	[-80%, 20%]	Pass
	2480	4.35	2.72	10	3	-9.33%	[-80%, 20%]	Pass

Test Mode	Carrier Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Conclusion
Bluetooth (Low Energy)	2402	2.41	12.14	PASS
	2440	3.54	12.14	PASS
	2480	2.75	12.14	PASS

Note: 1. EIRP = Antenna Power + Antenna Gain (Antenna Gain = -1.6 dBi)

2. Gain $\leq$ 2.14 dBi, EIRP Limit = 12.14 dBm

Gain > 2.14 dBi, EIRP Limit = 12.14+ (Gain -2.14) dBm

5.5. Transmission Radiation Angle Width (3dB Beamwidth)

Ambient Condition

Temperature	Relative humidity
20°C ~25°C	45%~50%

Methods of Measurement

Set EUT and measuring antenna at the same height and roughly facing each other.

Set spectrum analyzer RBW=1MHz,VBW=1MHz,SPAN=0Hz,Dector=Positive Peak and tune reference level to observer receiving signal position.

Rotate directions of the EUT horizontally and vertically to find the maximum receiving power.

Move the measuring antenna height up and down with $\pm 50\text{cm}$ of EUT height and swing it to find the maximum output of measuring antenna. The output level at the spectrum analyzer is read as "E".

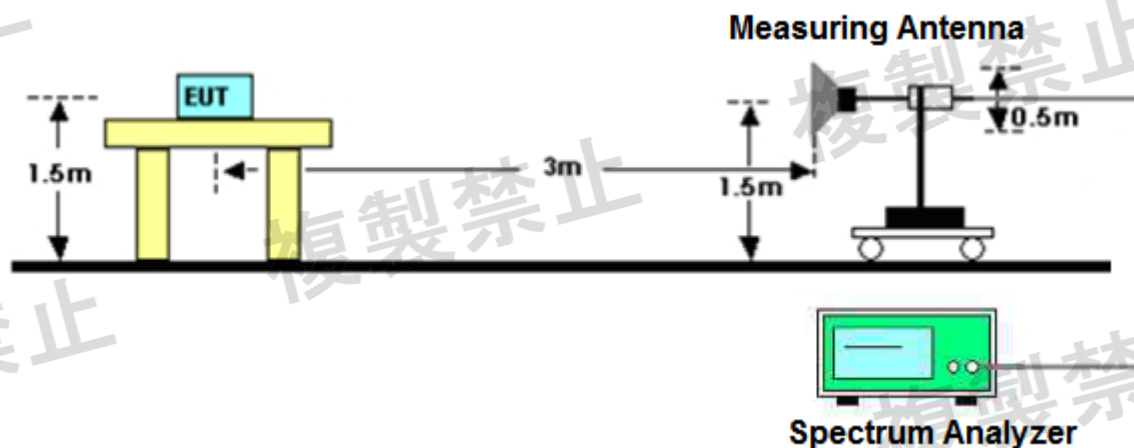
Calculate permitted radiation angle in horizontal and vertical using EIRP measured in another test method.

Calculate 3dB antenna beam width by the formula below $360/A$ (if $A < 1$; then $A = 1$).

$A = \{\text{EIRP Power [mW]} / 16.36 \text{ for DS, OFDM}\}$ or

$A = \{\text{EIRP Power [mW]} / 4.9 \text{ for FH}\}$

Test Setup



Limit

Item	Limits
3dB Antenna beamwidth	$360/A$ (if $A < 1$; then $A = 1$) $A = \{ \text{EIRP Power [mW]} / 16.36 \text{ for DS, OFDM} \}$ or $A = \{ \text{EIRP Power [mW]} / 4.9 \text{ for FH} \}$
Remark: This test item will not be applied to Antenna Gain of EUT is lower than 2.14dBi.	

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U = 3.55 \text{ dB}$.

Test Results

This test item will not be applied to Antenna Gain of EUT is lower than 2.14dBi.

5.6. Unwanted Emission Strength Measurement

Ambient Condition

Temperature	Relative humidity
20°C ~25°C	45%~50%

Method of Measurement

Step-1

Spectrum Analyzer Setting

RBW: 1MHz

VBW: Same as RBW

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

Sweep Mode: Single Sweep

Detection Mode: Positive Peak

Step-2

Spectrum Analyzer Setting

Center Frequency: Searched Frequency

SPAN: 0 Hz

RBW: 100kHz for frequencies below 1GHz, 1MHz for frequencies above 1GHz

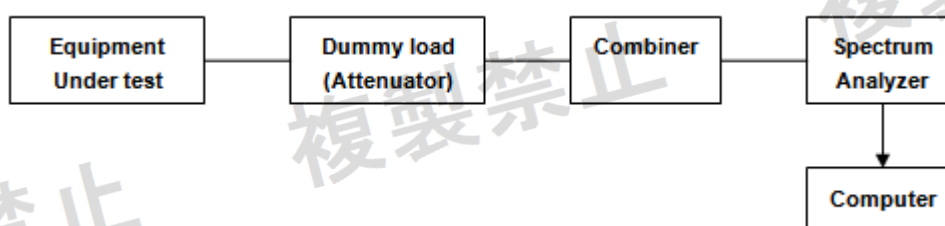
VBW: Same as RBW

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

Sweep Mode: Single Sweep

Detection Mode: Sample

Test Setup



Limit

Frequency Range	Limits(μ W/MHz)
30MHz - 2387 MHz	2.5 μ W/MHz
2387MHz - 2400MHz	25 μ W/MHz
2483.5MHz - 2496.5MHz	25 μ W/MHz
2496.5MHz - 12.5GHz	2.5 μ W/MHz

Test Results

Note: Since the measurements from 30 MHz to 1 GHz were performed with an RBW of 100 kHz, the conversion value plus 10 dB was added to the measurement results.

LV

Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm/MHz)	Limit (dBm/MHz)	Verdict
Bluetooth LE	2402	30-1000	789.51	-47.83	-26	Pass
		1000-2387	2377.29	-44.37	-26	Pass
		2387-2400	2399.8	-22.16	-16	Pass
		2483.5-2496.5	2491.92	-47.37	-16	Pass
		2496.5-13000	5805.1	-36.22	-26	Pass
	2440	30-1000	781.75	-47.57	-26	Pass
		1000-2387	1930.68	-47.82	-26	Pass
		2387-2400	2398.02	-46.94	-16	Pass
		2483.5-2496.5	2487.56	-46.87	-16	Pass
		2496.5-13000	5805.1	-38.6	-26	Pass
	2480	30-1000	868.08	-48.3	-26	Pass
		1000-2387	2054.12	-47.49	-26	Pass
		2387-2400	2390.21	-47.99	-16	Pass
		2483.5-2496.5	2483.66	-27.62	-16	Pass
		2496.5-13000	12516.84	-43.49	-26	Pass

NV

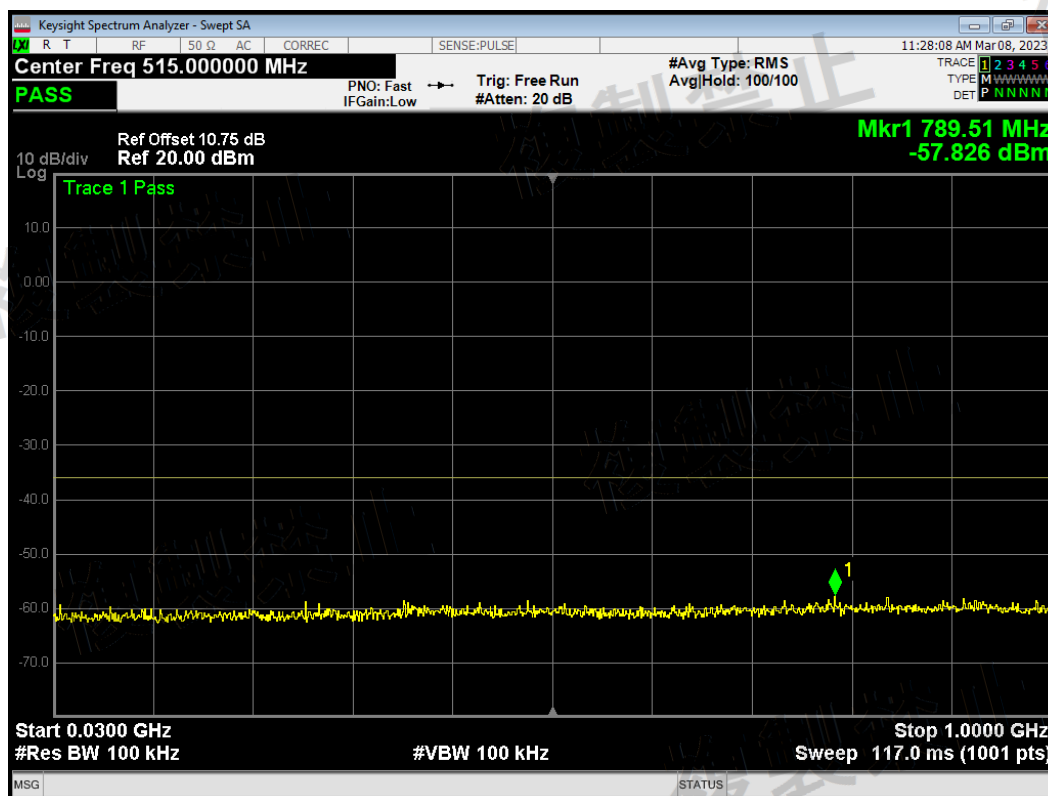
Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm/MHz)	Limit (dBm/MHz)	Verdict
Bluetooth LE	2402	30-1000	815.7	-48.14	-26	Pass
		1000-2387	2384.23	-41.61	-26	Pass
		2387-2400	2399.82	-21.93	-16	Pass
		2483.5-2496.5	2484.77	-48.03	-16	Pass
		2496.5-13000	5794.6	-33.54	-26	Pass
	2440	30-1000	675.05	-47.47	-26	Pass
		1000-2387	2356.49	-47.93	-26	Pass
		2387-2400	2398.43	-46.17	-16	Pass
		2483.5-2496.5	2490.08	-48.25	-16	Pass
		2496.5-13000	5752.59	-31.45	-26	Pass
	2480	30-1000	872.93	-47.84	-26	Pass
		1000-2387	2370.36	-48.32	-26	Pass
		2387-2400	2392.28	-48.63	-16	Pass
		2483.5-2496.5	2483.63	-27.89	-16	Pass
		2496.5-13000	5752.59	-31.66	-26	Pass

HV

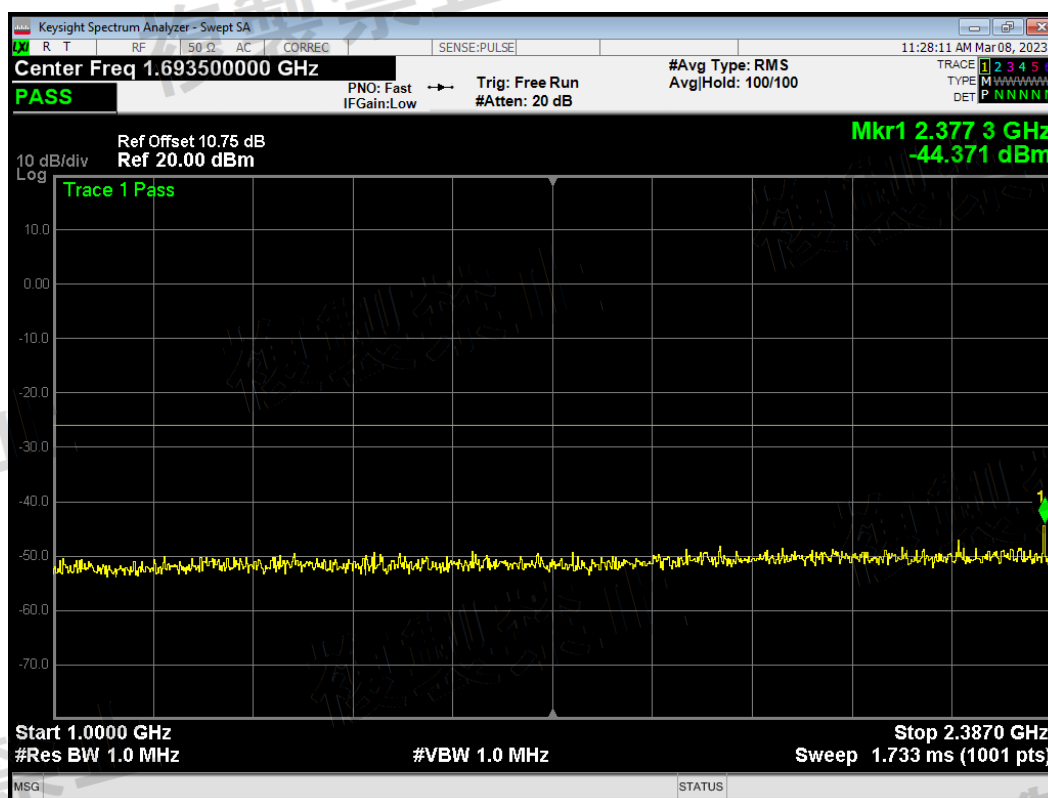
Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm/MHz)	Limit (dBm/MHz)	Verdict
Bluetooth LE	2402	30-1000	770.11	-47.66	-26	Pass
		1000-2387	2323.2	-47.42	-26	Pass
		2387-2400	2399.94	-21.34	-16	Pass
		2483.5-2496.5	2495.88	-47.89	-16	Pass
		2496.5-13000	5805.1	-35.7	-26	Pass
	2440	30-1000	870.99	-47.88	-26	Pass
		1000-2387	2346.78	-47.7	-26	Pass
		2387-2400	2398.53	-46.21	-16	Pass
		2483.5-2496.5	2491.22	-47.45	-16	Pass
		2496.5-13000	5805.1	-38.35	-26	Pass
	2480	30-1000	811.82	-47.58	-26	Pass
		1000-2387	2129.02	-47.95	-26	Pass
		2387-2400	2390.56	-47.9	-16	Pass
		2483.5-2496.5	2483.54	-27.6	-16	Pass
		2496.5-13000	5805.1	-38.53	-26	Pass

LV

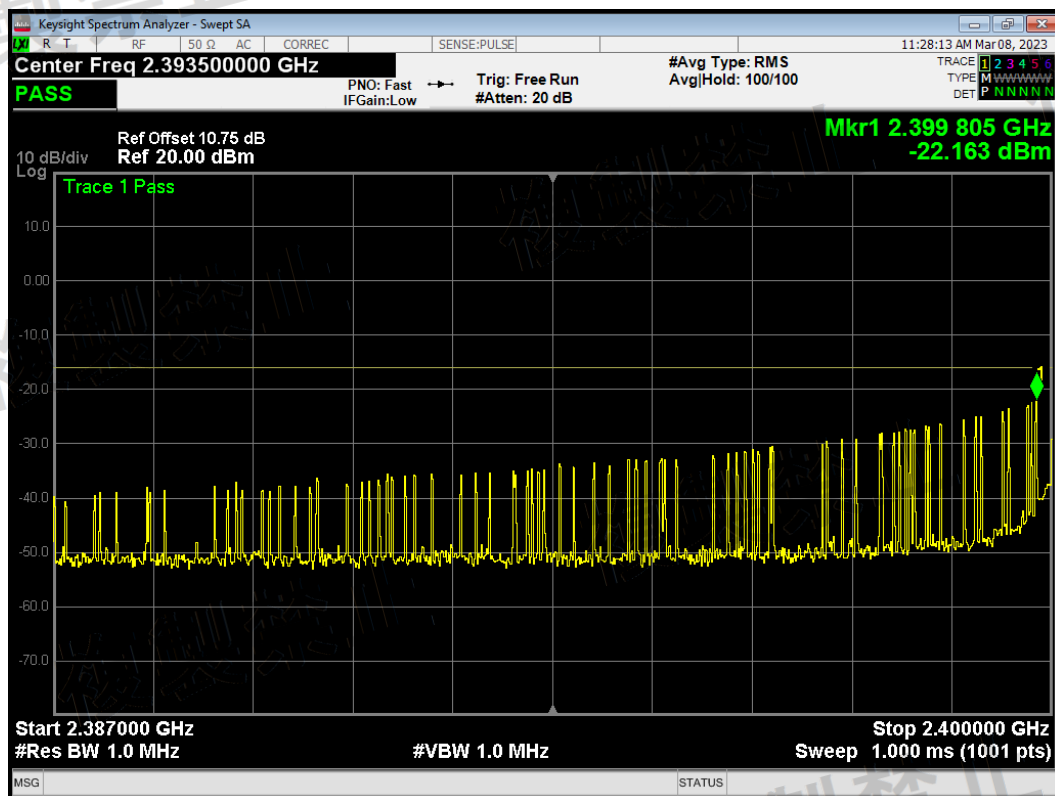
Tx. Spurious BLE 2402MHz @ 30MHz-1000MHz



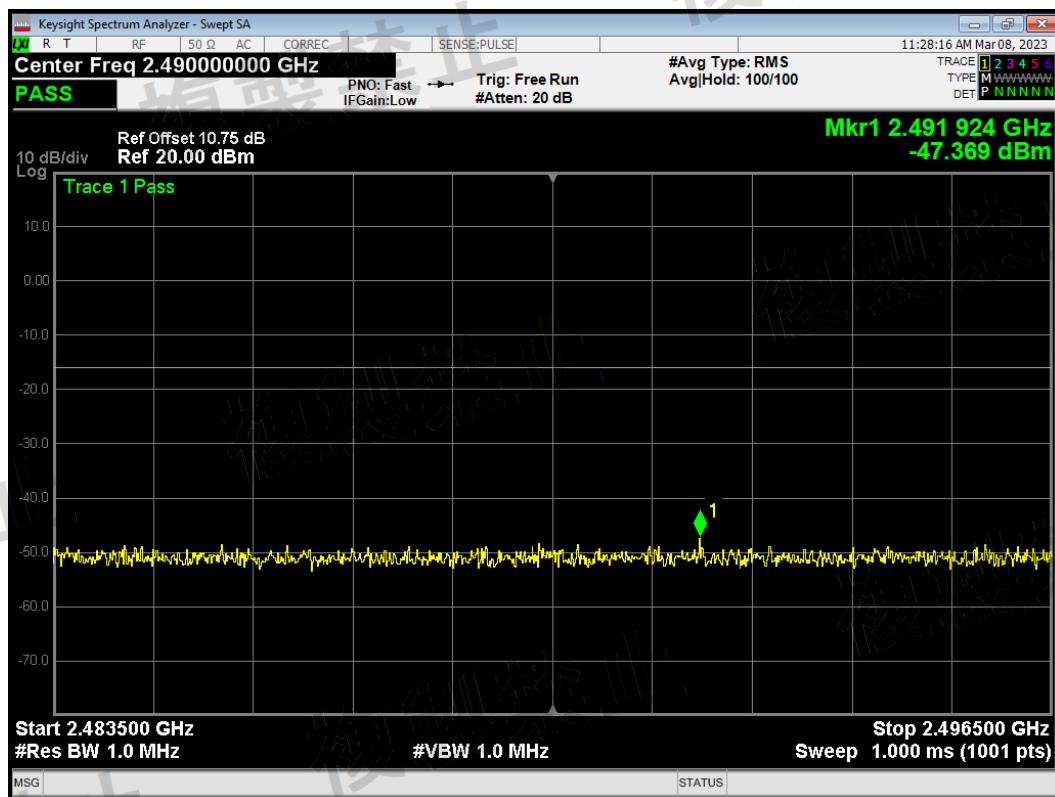
Tx. Spurious BLE 2402MHz @ 1000MHz-2387MHz



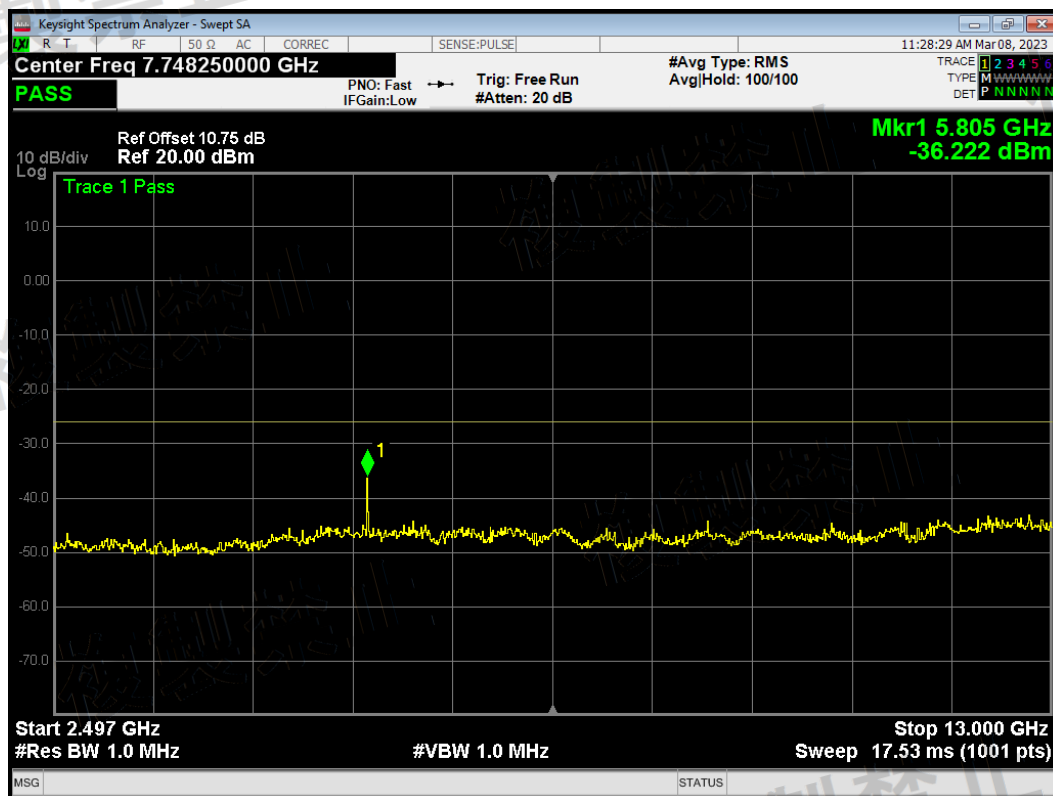
Tx. Spurious BLE 2402MHz @ 2387MHz-2400MHz



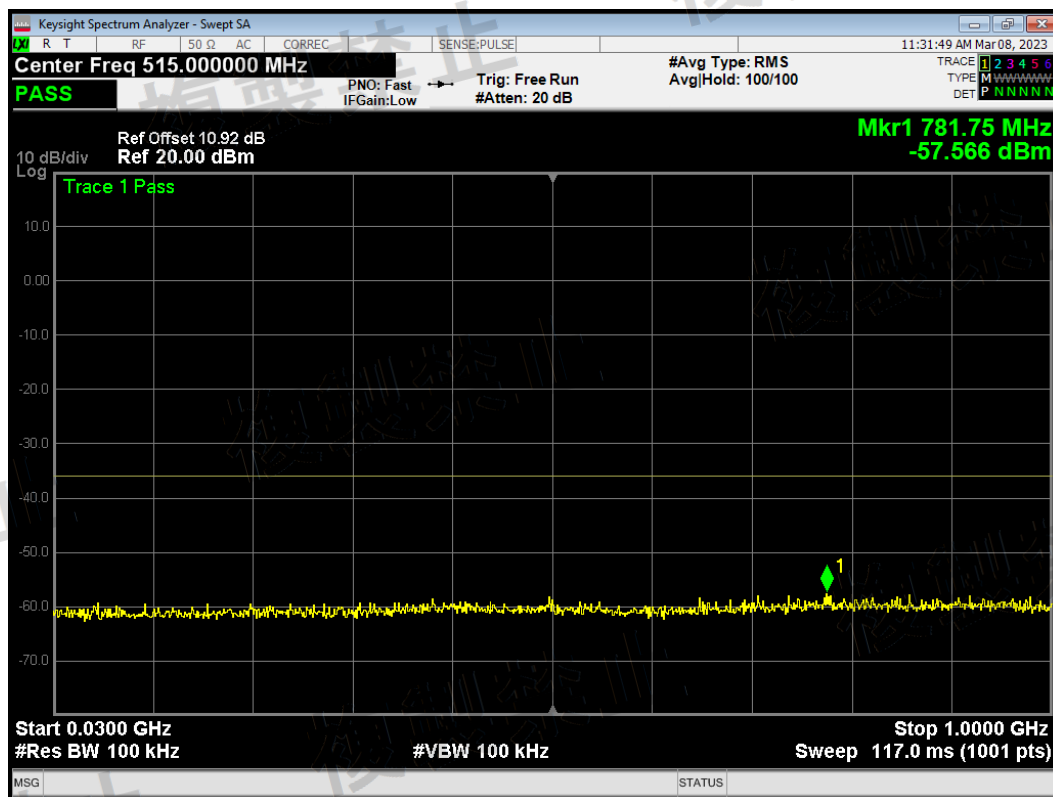
Tx. Spurious BLE 2402MHz @ 2483.5MHz-2496.5MHz



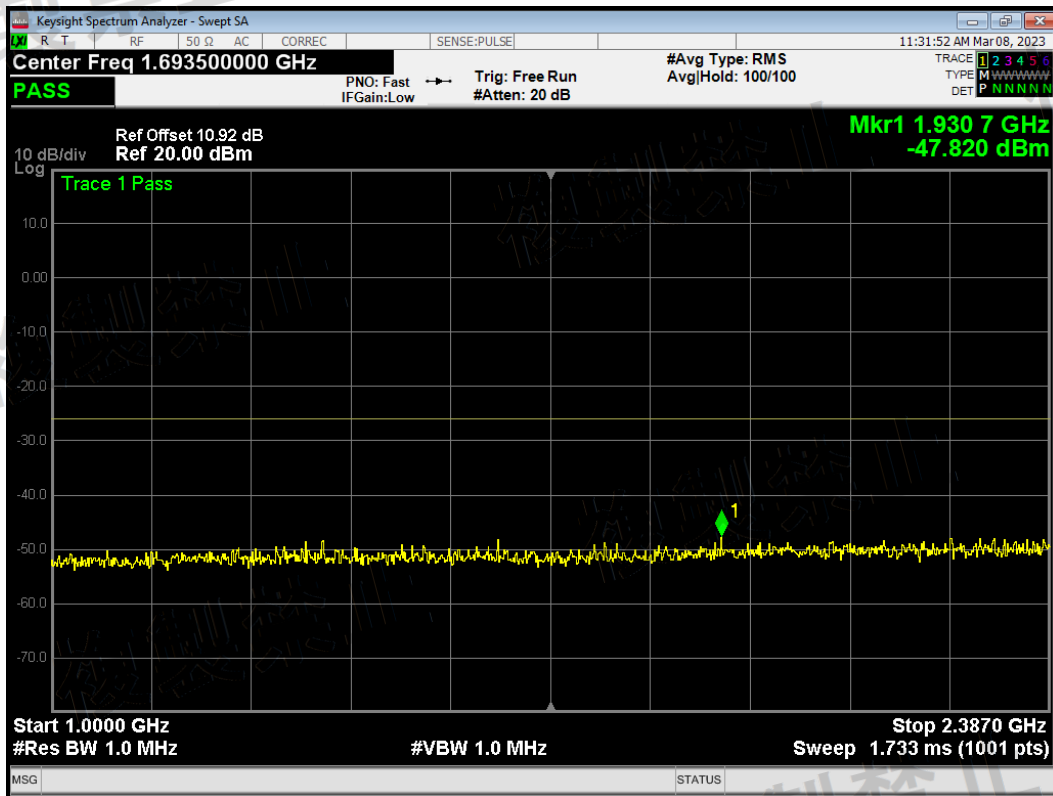
Tx. Spurious BLE 2402MHz @ 2496.5MHz-13000MHz



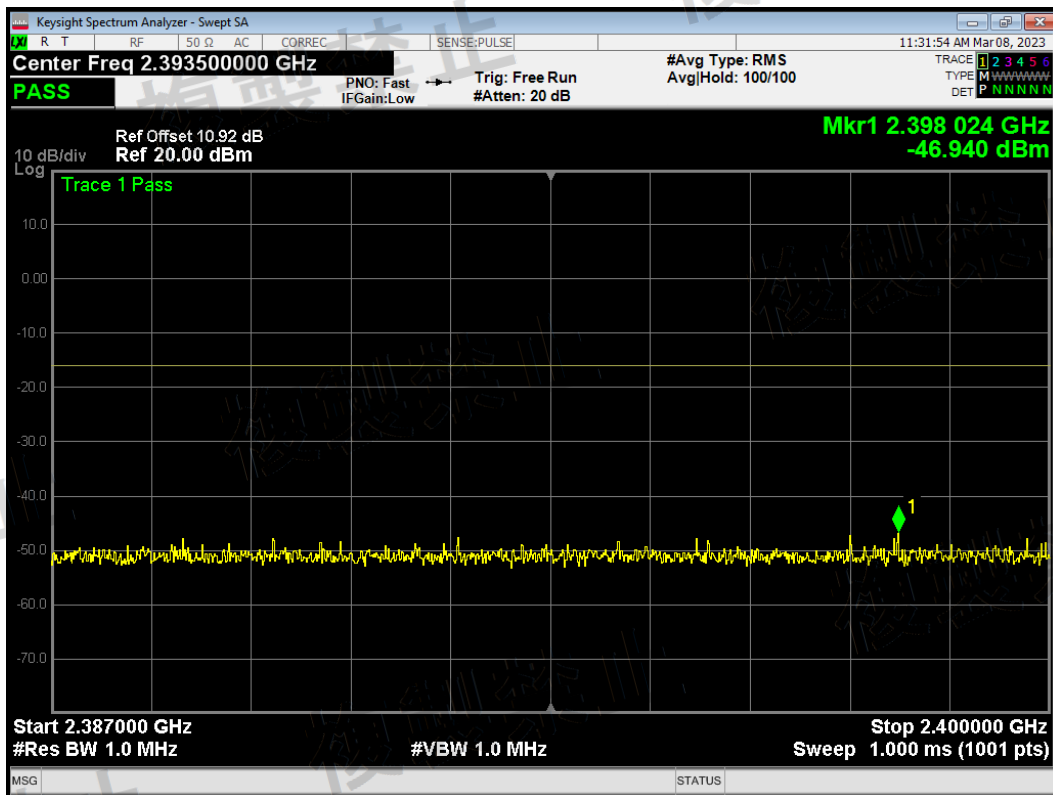
Tx. Spurious BLE 2440MHz @ 30MHz-1000MHz



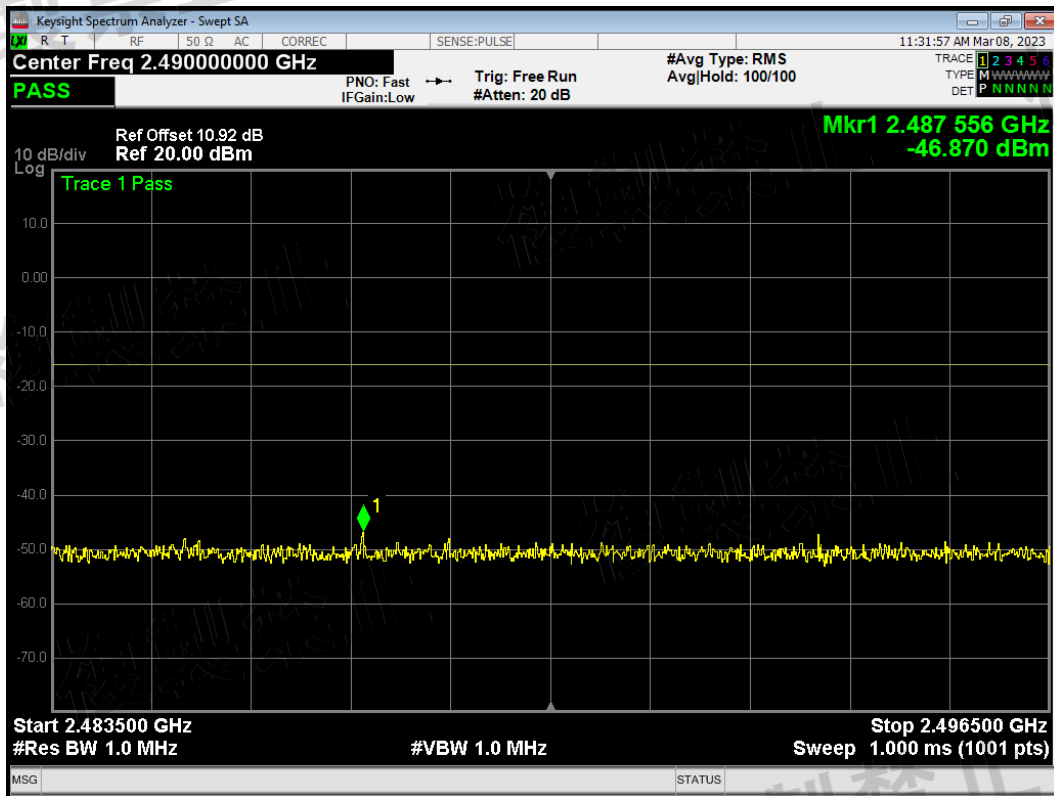
Tx. Spurious BLE 2440MHz @ 1000MHz-2387MHz



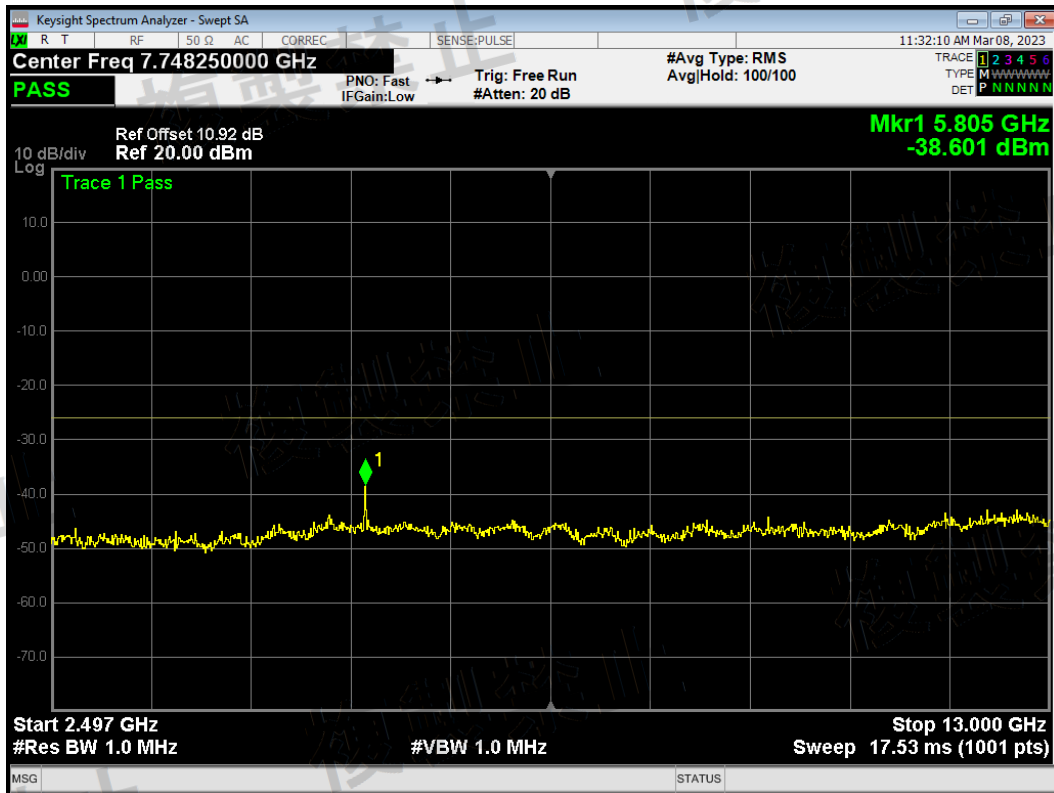
Tx. Spurious BLE 2440MHz @ 2387MHz-2400MHz



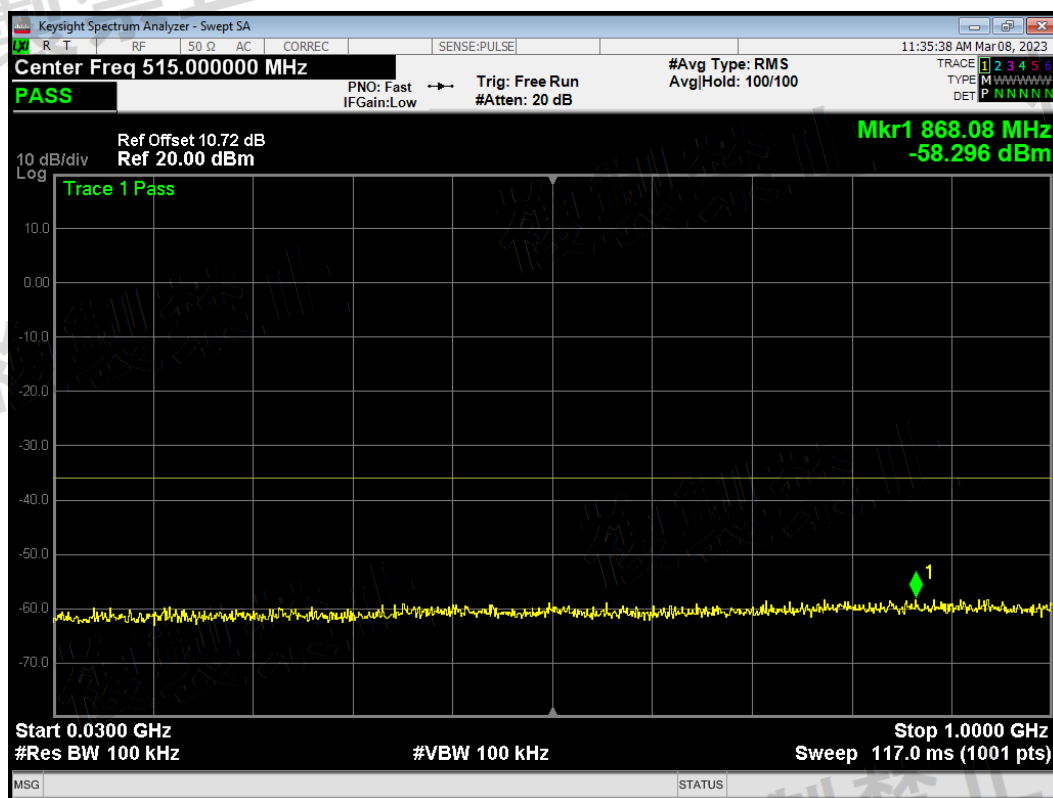
Tx. Spurious BLE 2440MHz @ 2483.5MHz-2496.5MHz



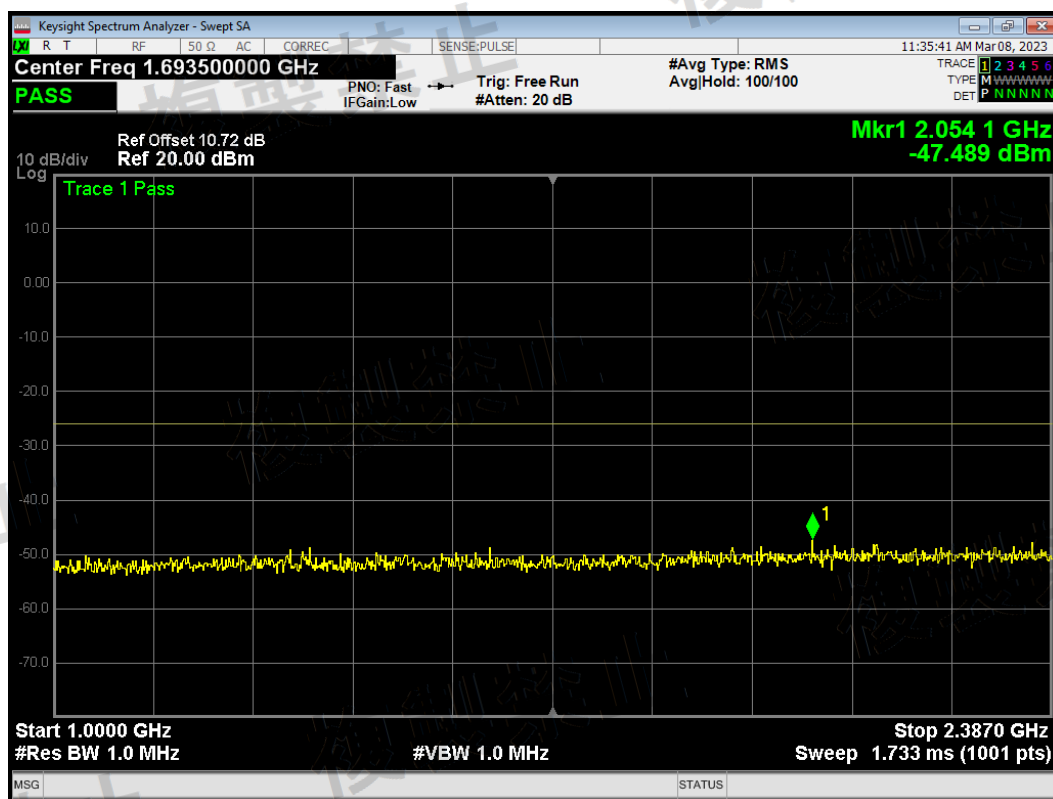
Tx. Spurious BLE 2440MHz @ 2496.5MHz-13000MHz



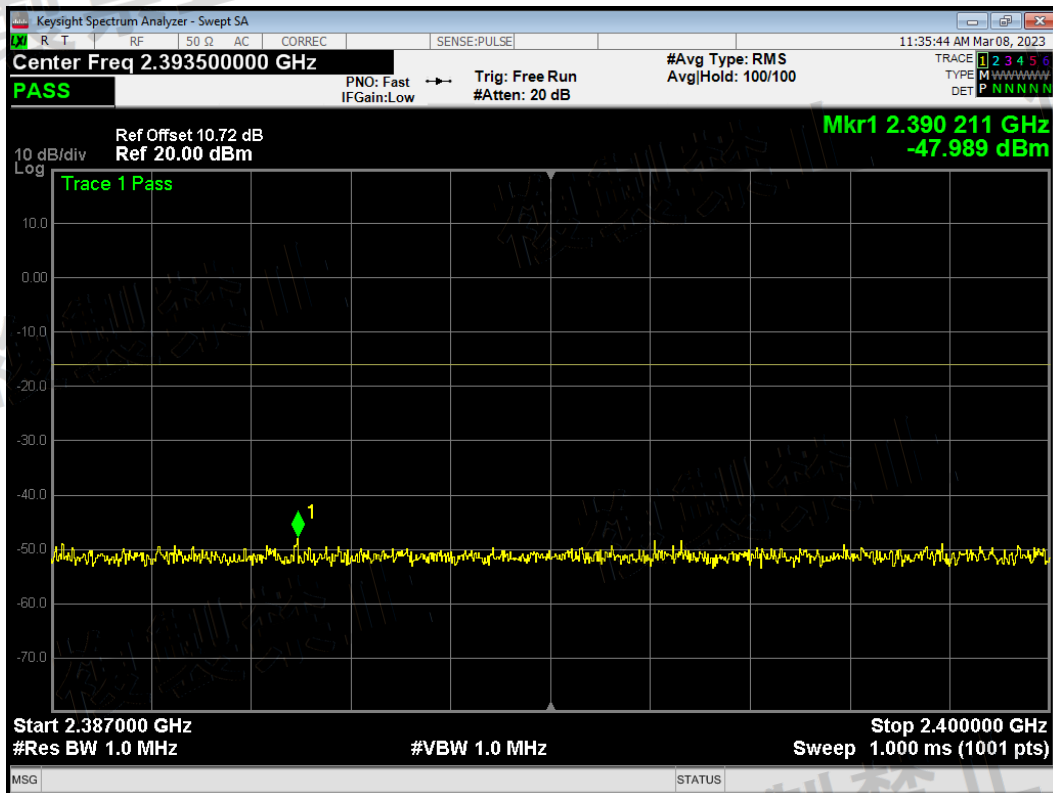
Tx. Spurious BLE 2480MHz @ 30MHz-1000MHz



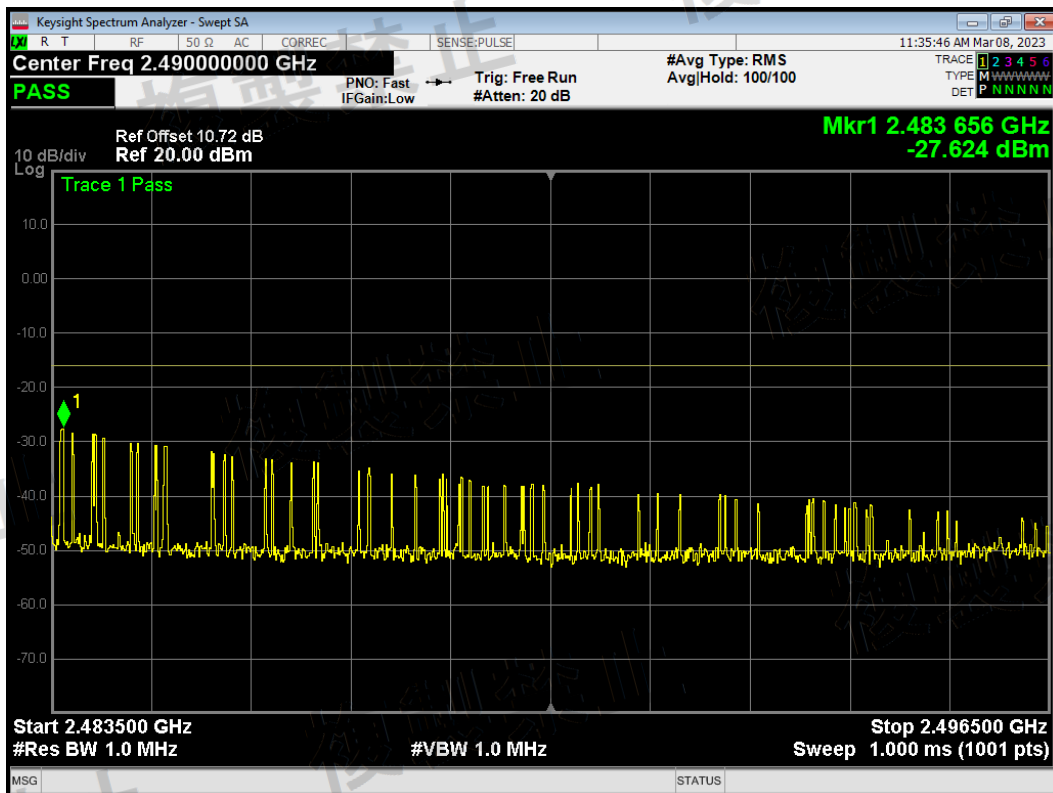
Tx. Spurious BLE 2480MHz @ 1000MHz-2387MHz



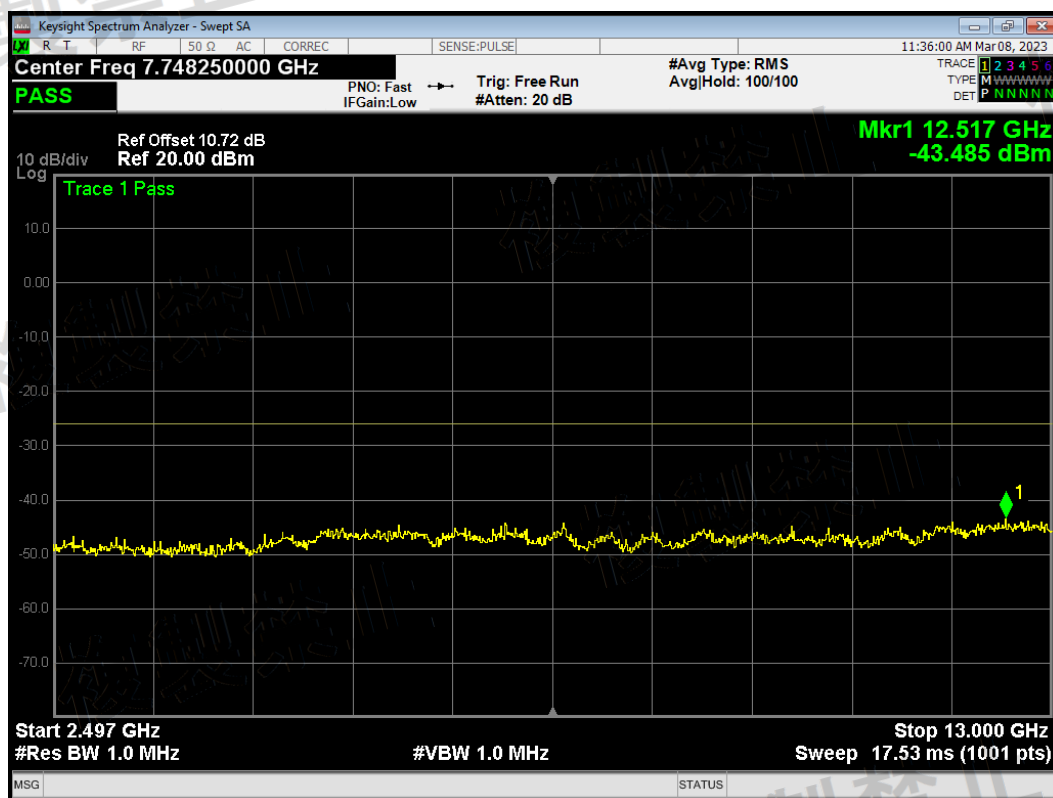
Tx. Spurious BLE 2480MHz @ 2387MHz-2400MHz



Tx. Spurious BLE 2480MHz @ 2483.5MHz-2496.5MHz

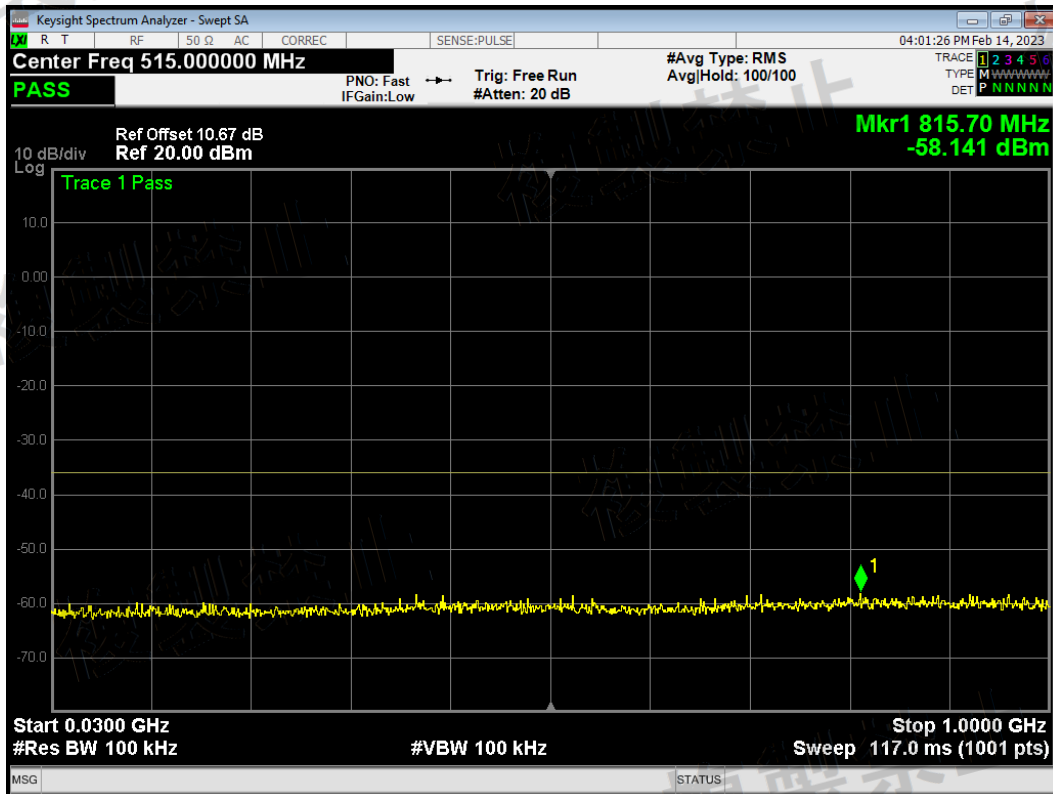


Tx. Spurious BLE 2480MHz @ 2496.5MHz-13000MHz

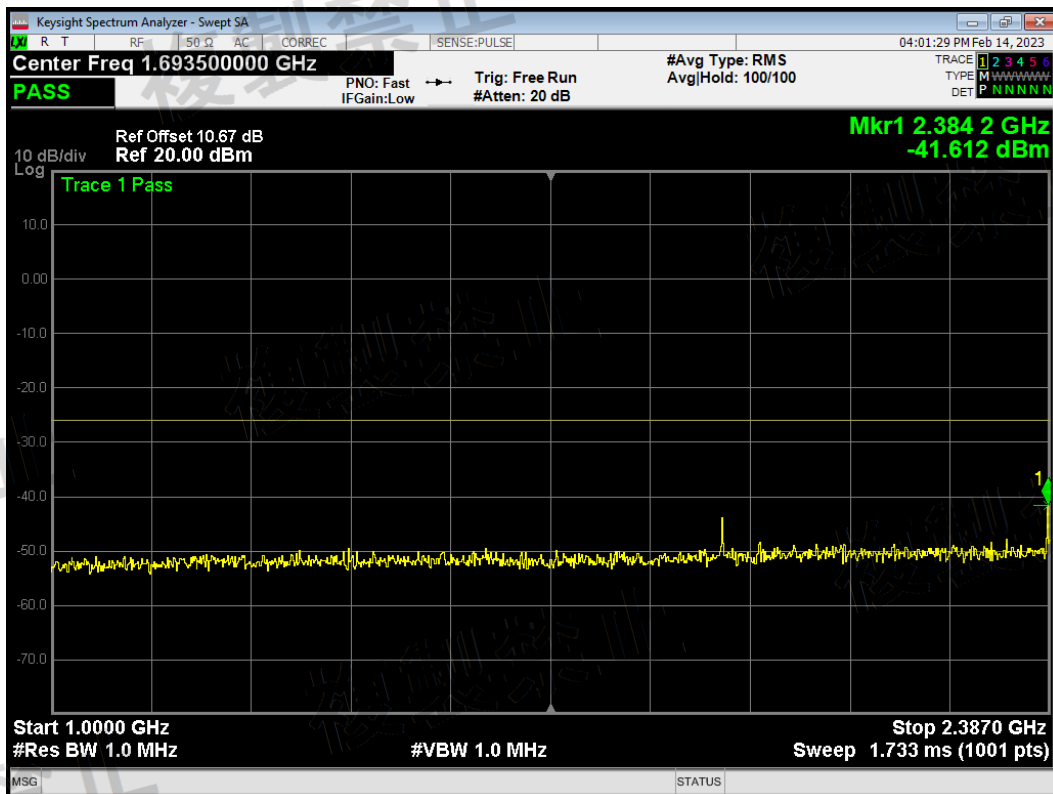


NV

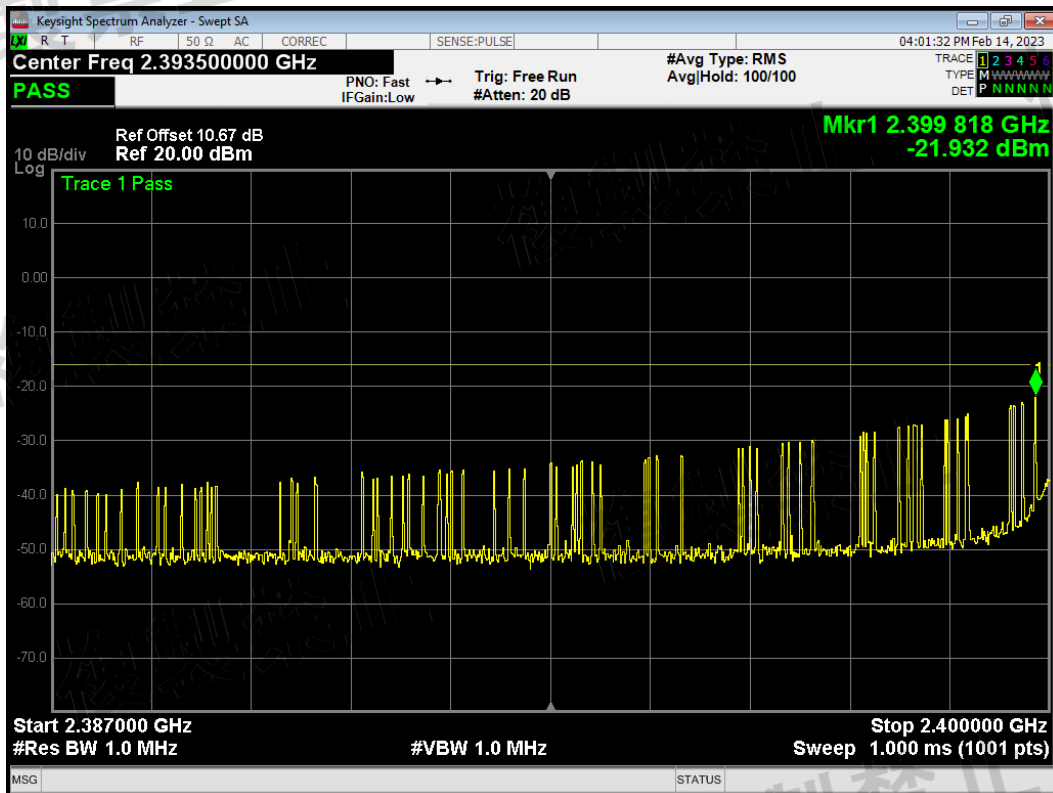
Tx. Spurious BLE 2402MHz @ 30MHz-1000MHz



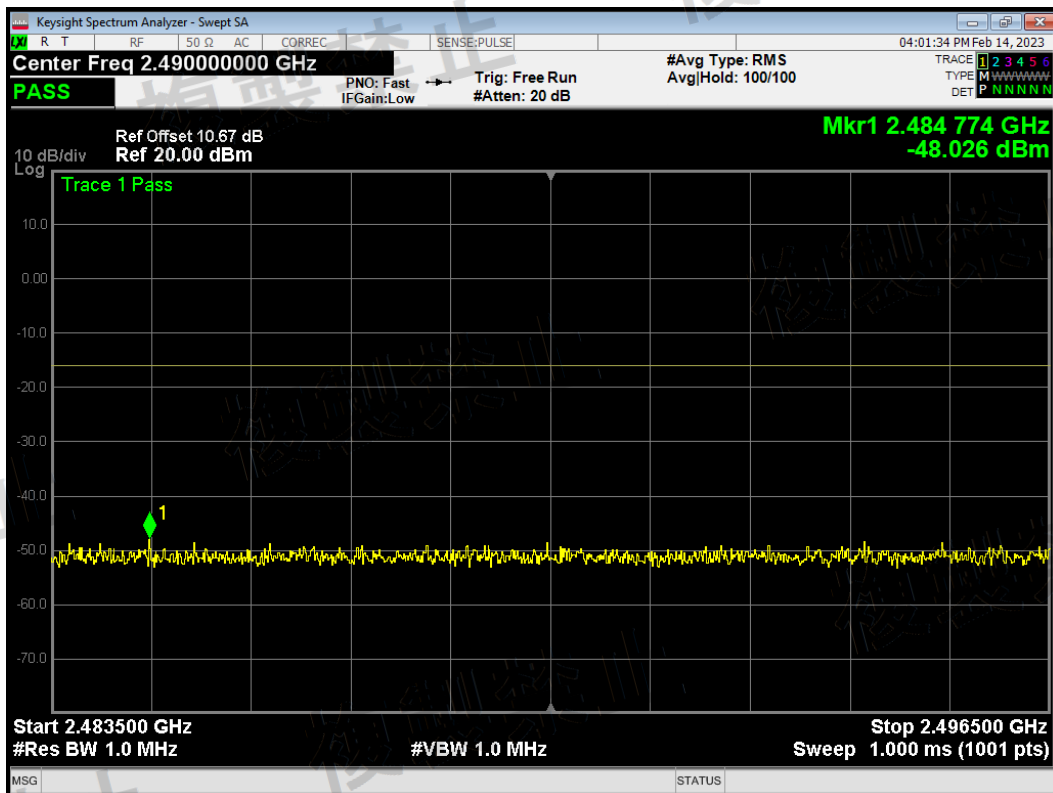
Tx. Spurious BLE 2402MHz @ 1000MHz-2387MHz



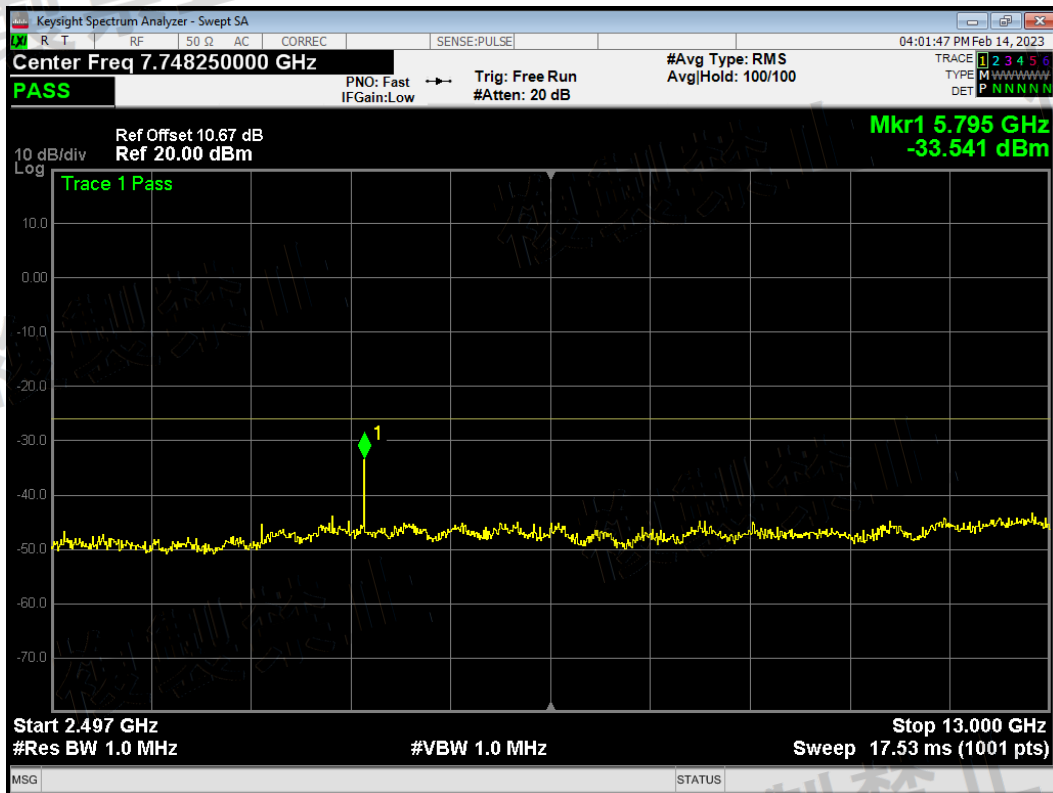
Tx. Spurious BLE 2402MHz @ 2387MHz-2400MHz



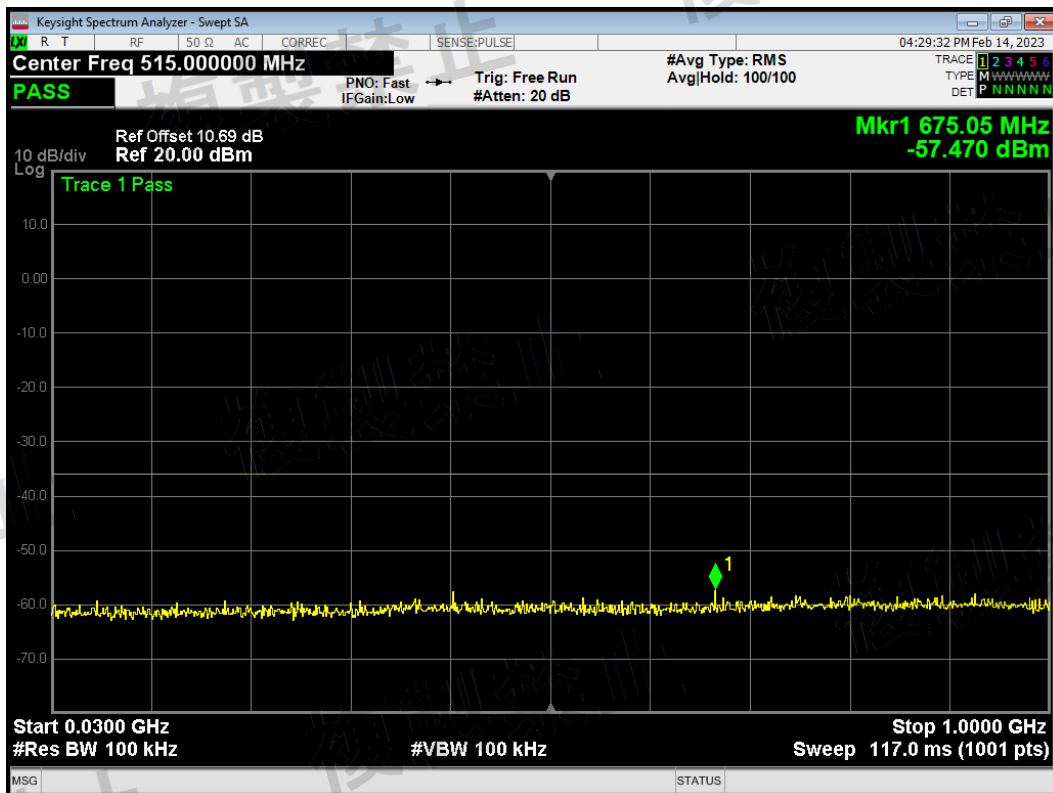
Tx. Spurious BLE 2402MHz @ 2483.5MHz-2496.5MHz



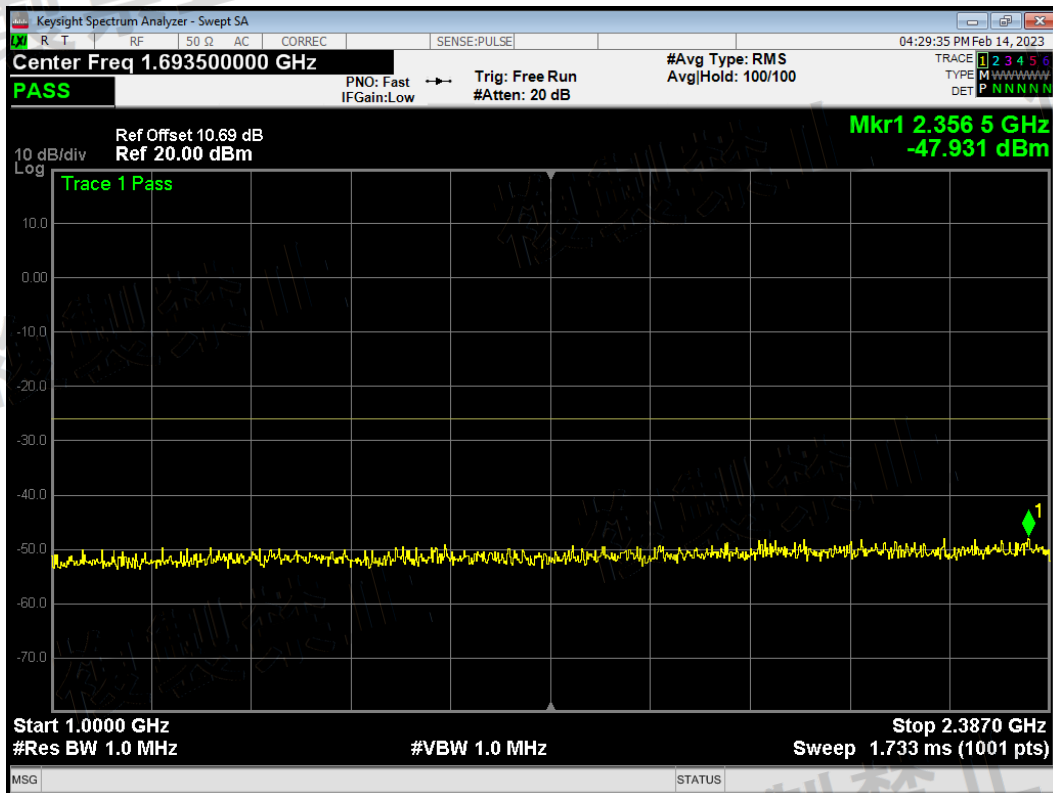
Tx. Spurious BLE 2402MHz @ 2496.5MHz-13000MHz



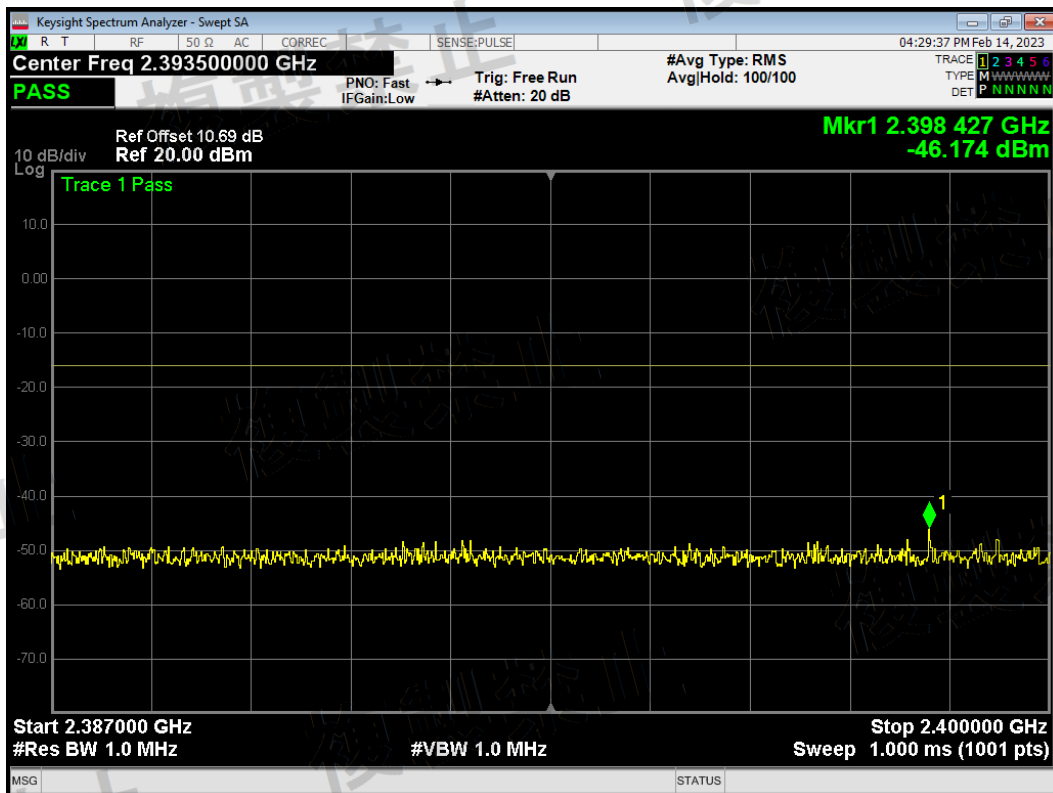
Tx. Spurious BLE 2440MHz @ 30MHz-1000MHz



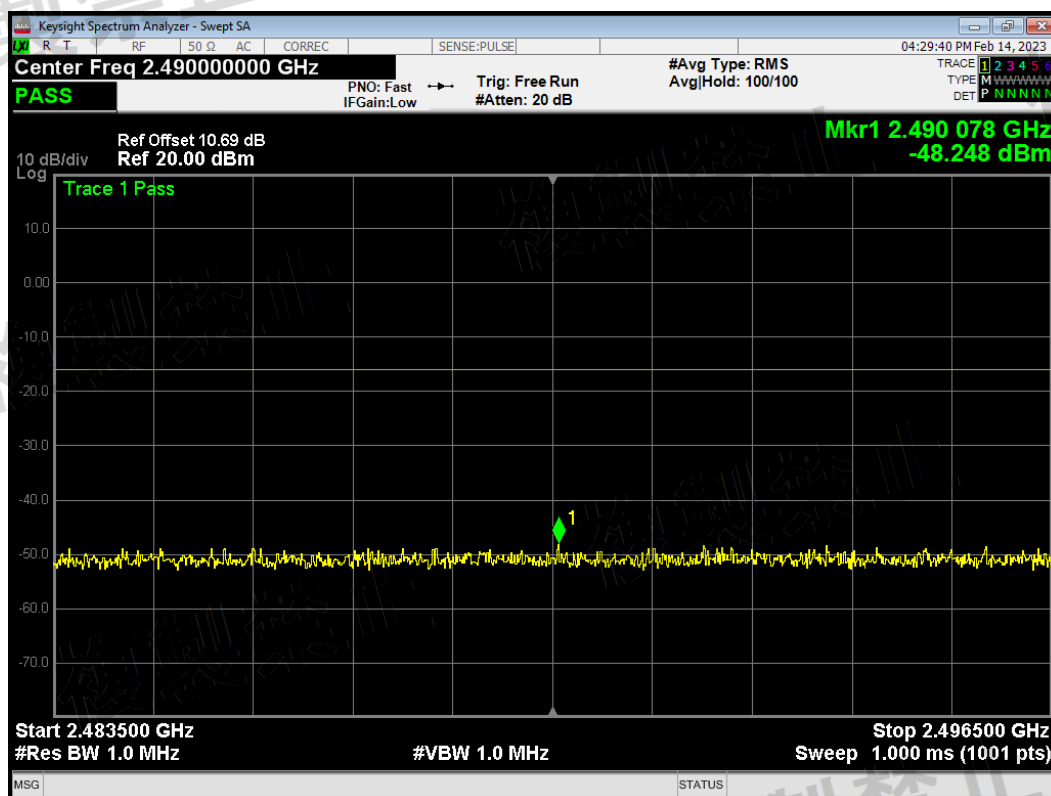
Tx. Spurious BLE 2440MHz @ 1000MHz-2387MHz



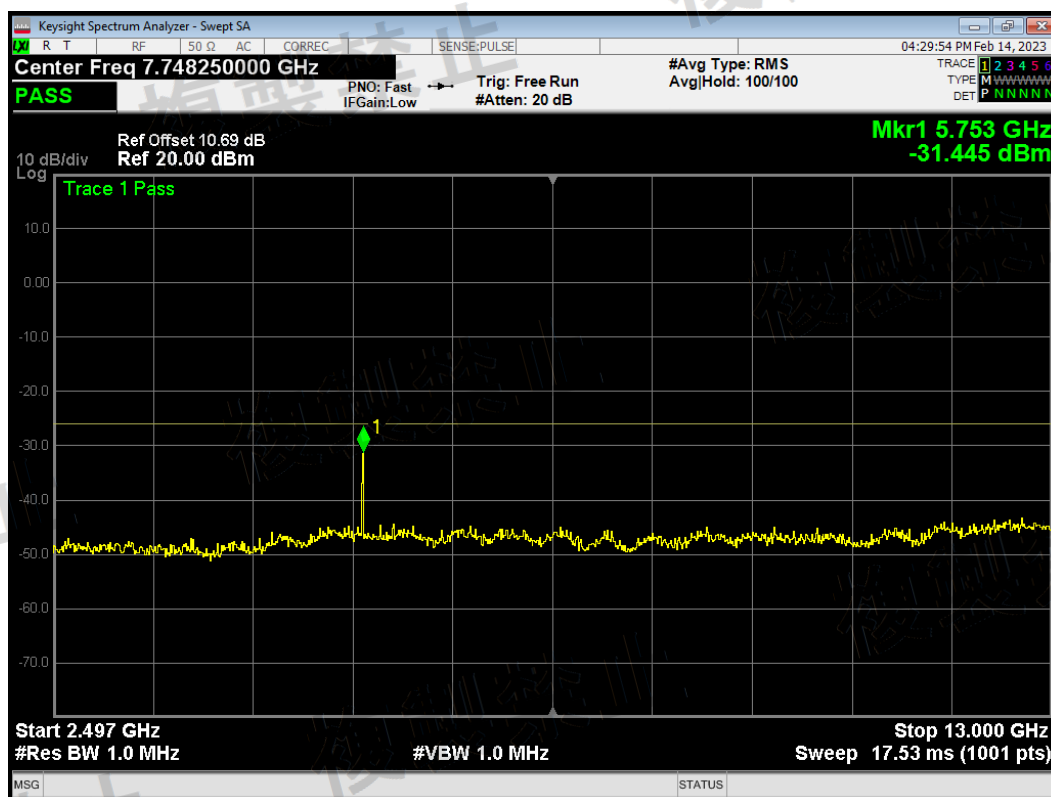
Tx. Spurious BLE 2440MHz @ 2387MHz-2400MHz



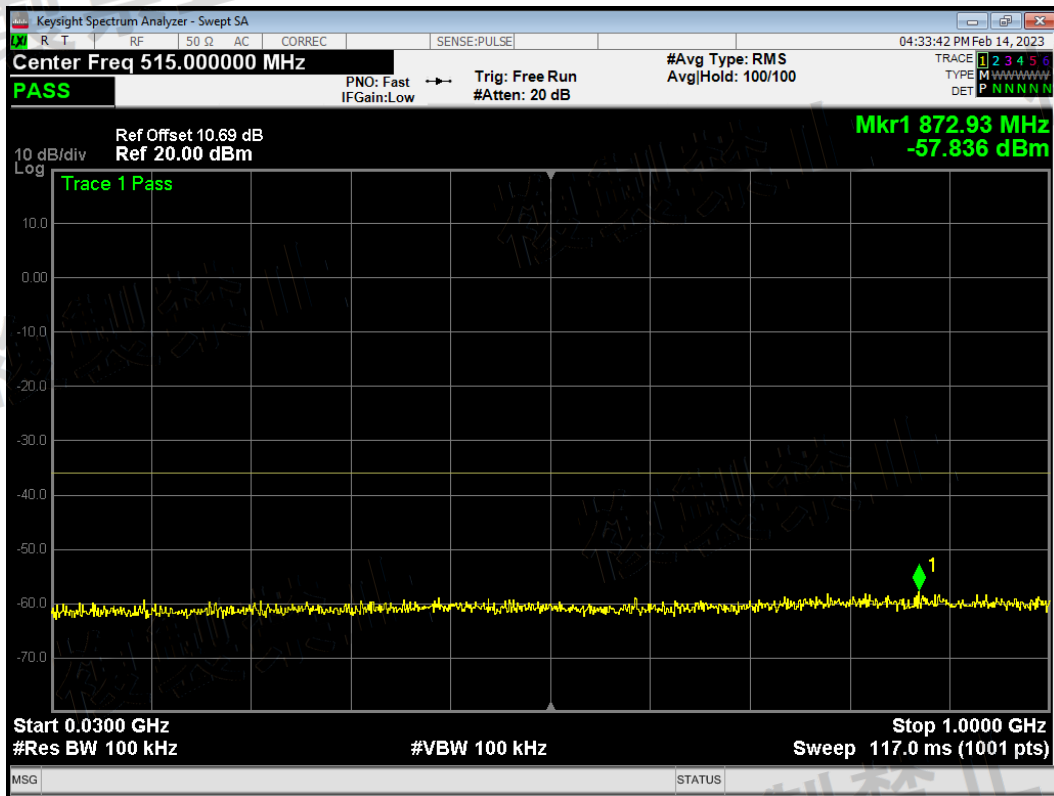
Tx. Spurious BLE 2440MHz @ 2483.5MHz-2496.5MHz



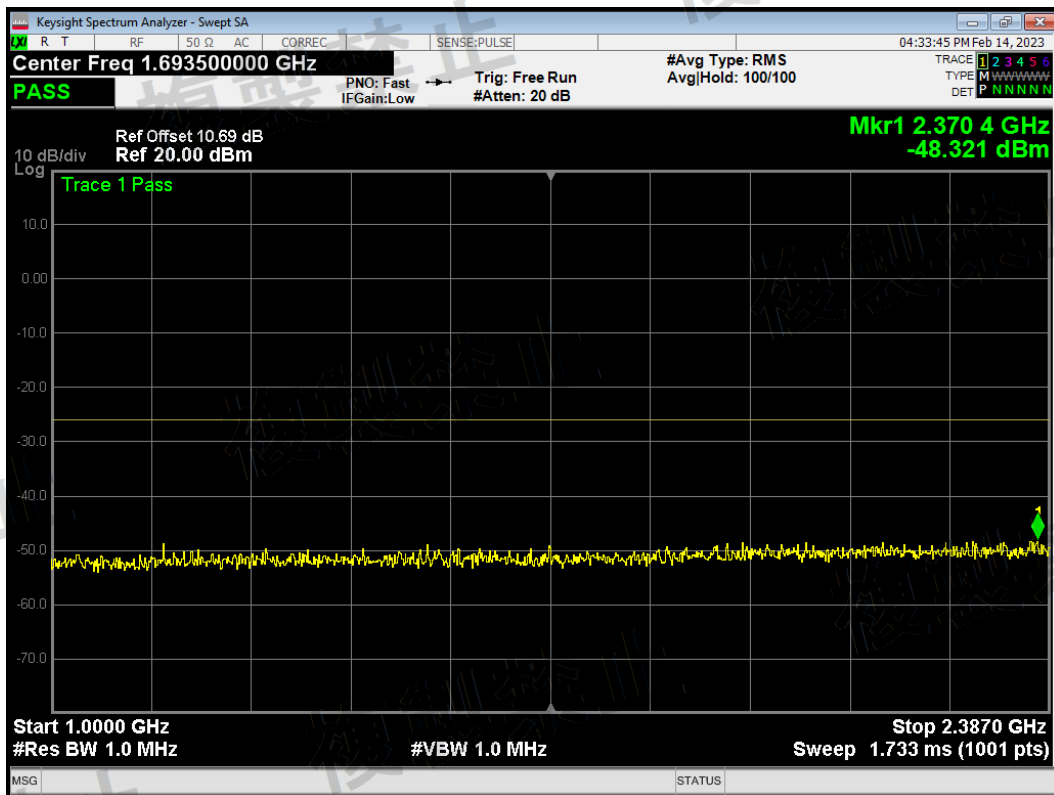
Tx. Spurious BLE 2440MHz @ 2496.5MHz-13000MHz



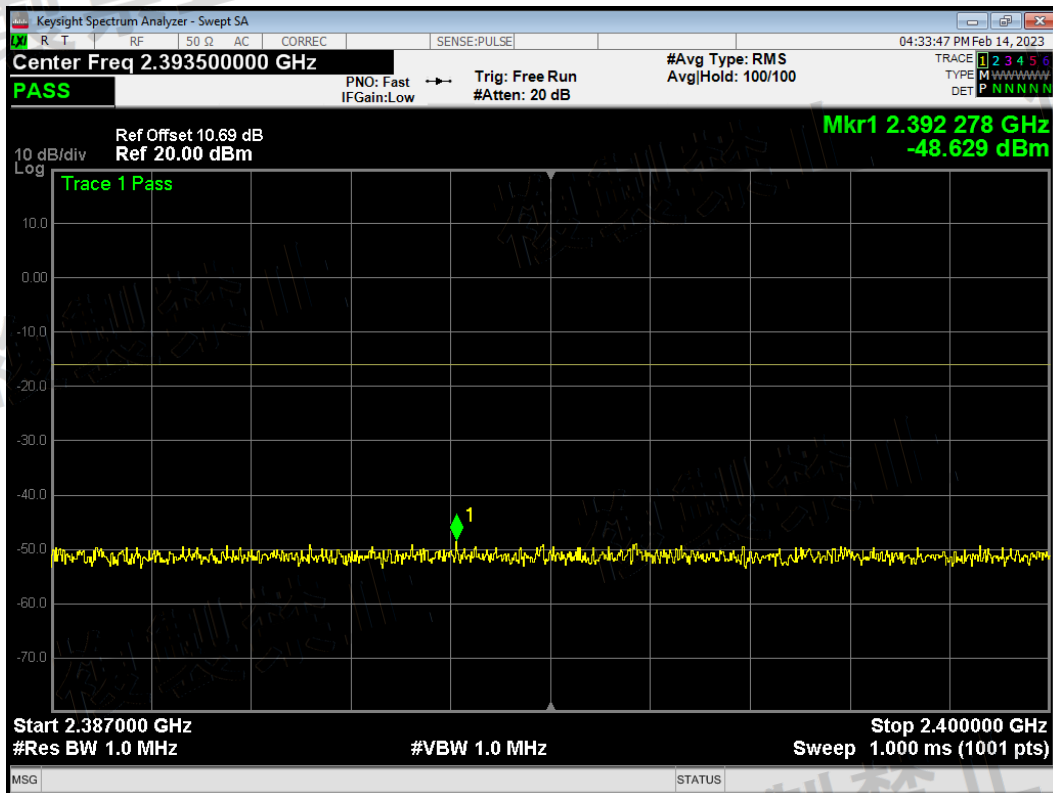
Tx. Spurious BLE 2480MHz @ 30MHz-1000MHz



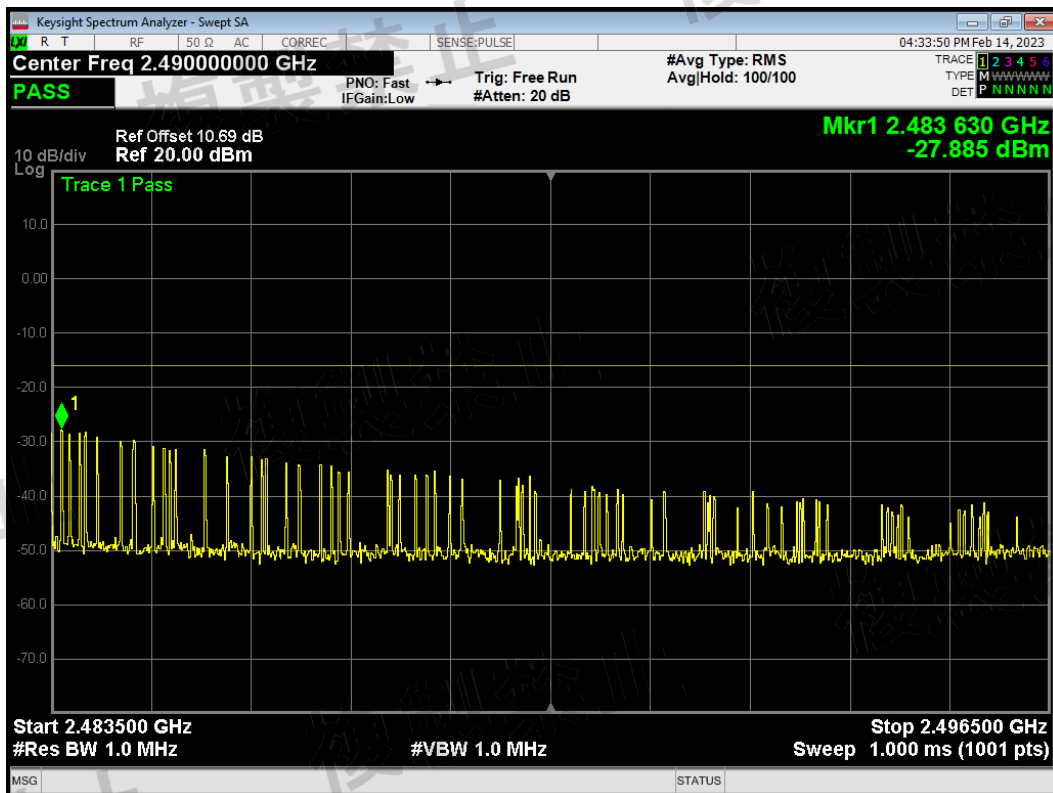
Tx. Spurious BLE 2480MHz @ 1000MHz-2387MHz



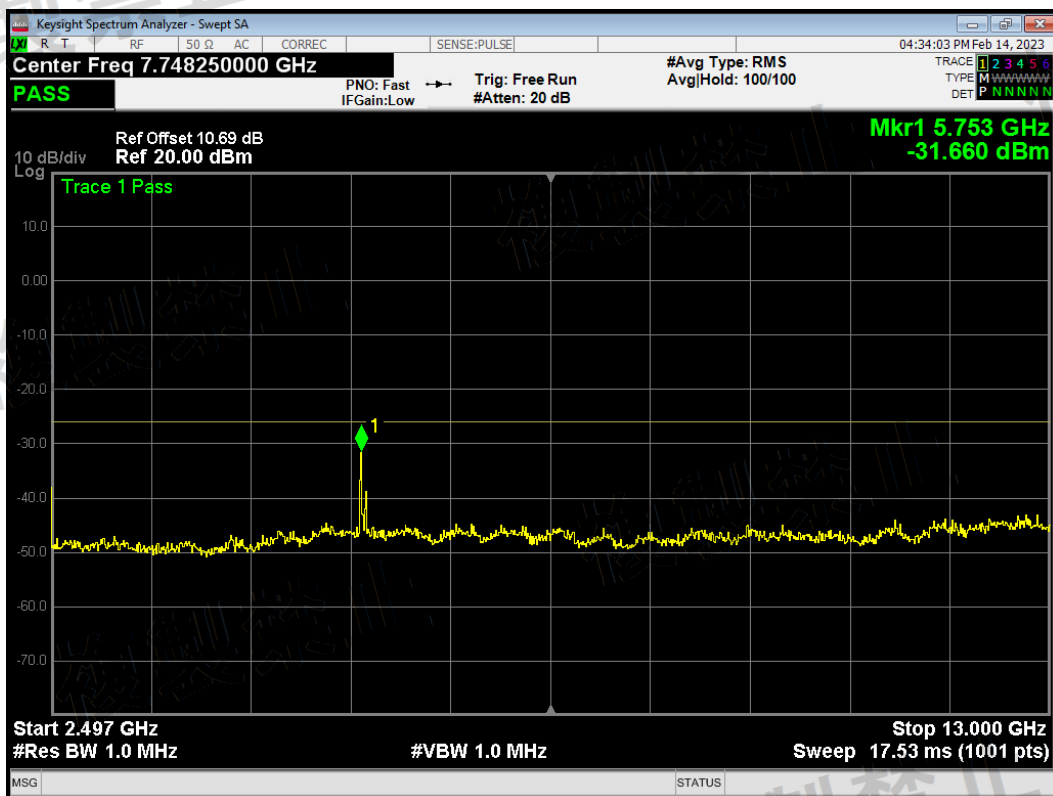
Tx. Spurious BLE 2480MHz @ 2387MHz-2400MHz



Tx. Spurious BLE 2480MHz @ 2483.5MHz-2496.5MHz

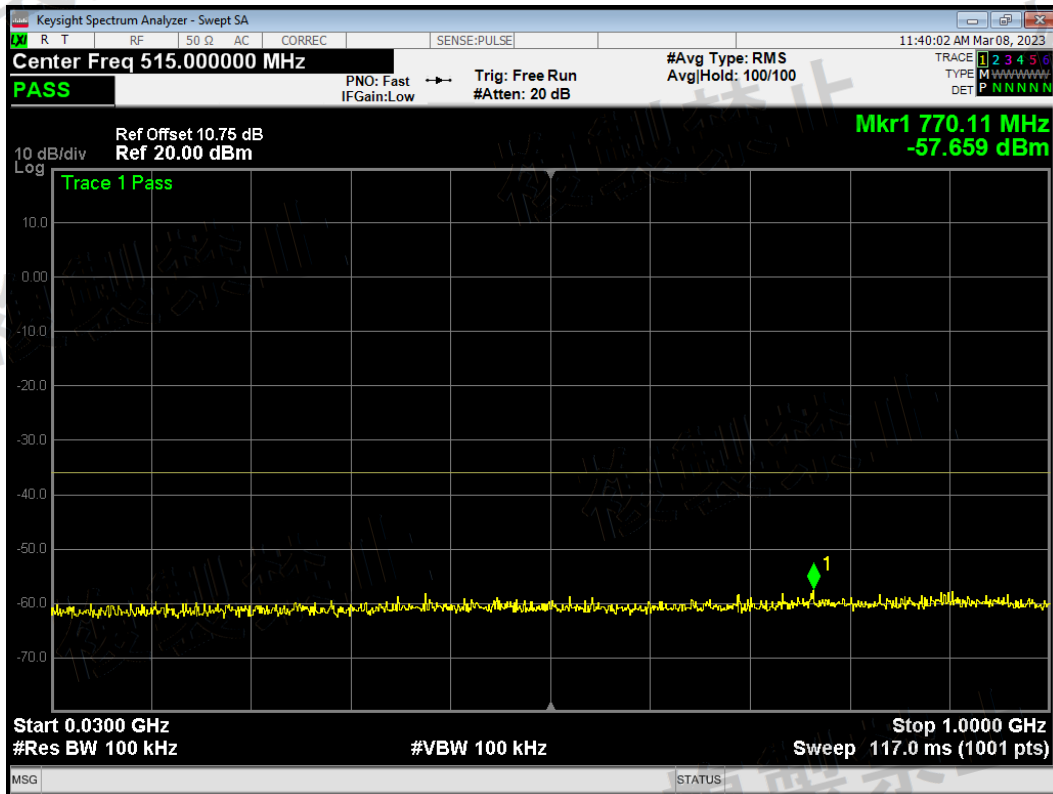


Tx. Spurious BLE 2480MHz @ 2496.5MHz-13000MHz

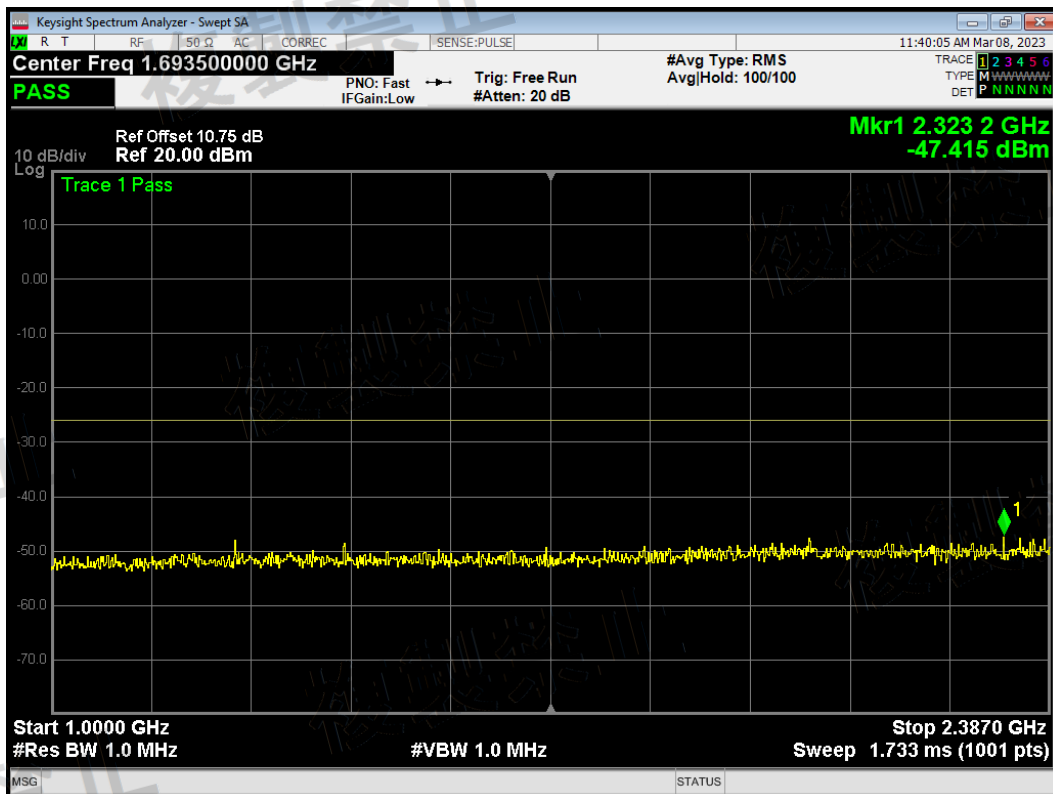


HV

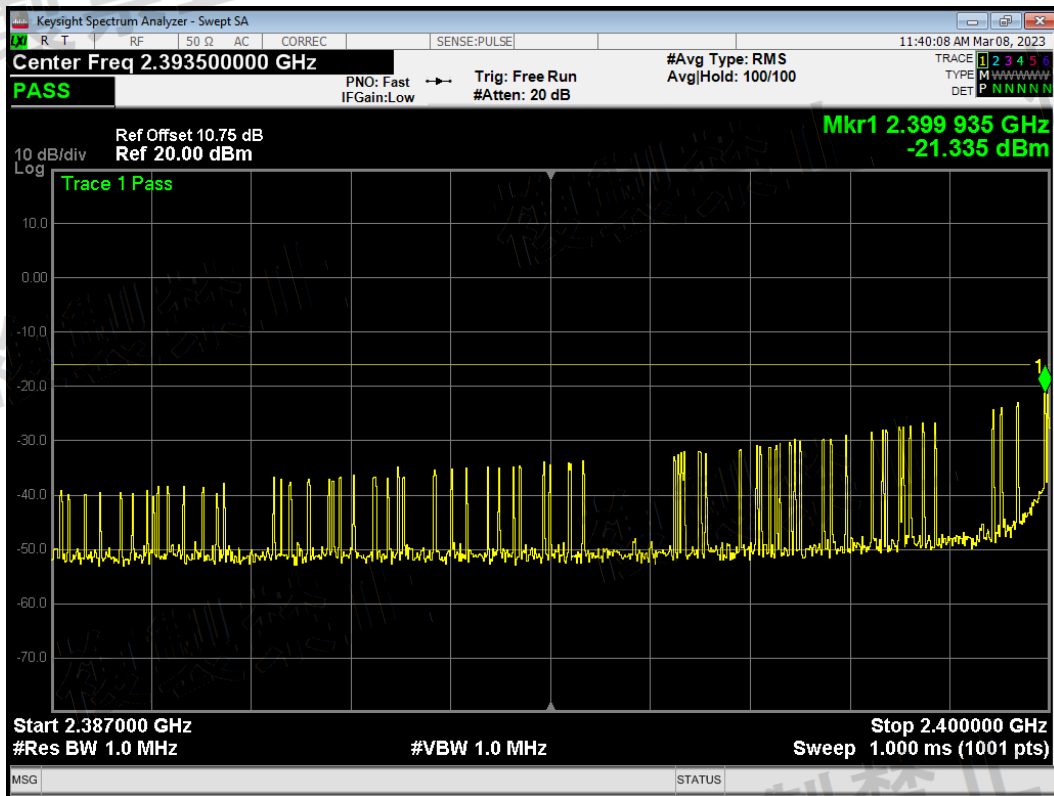
Tx. Spurious BLE 2402MHz @ 30MHz-1000MHz



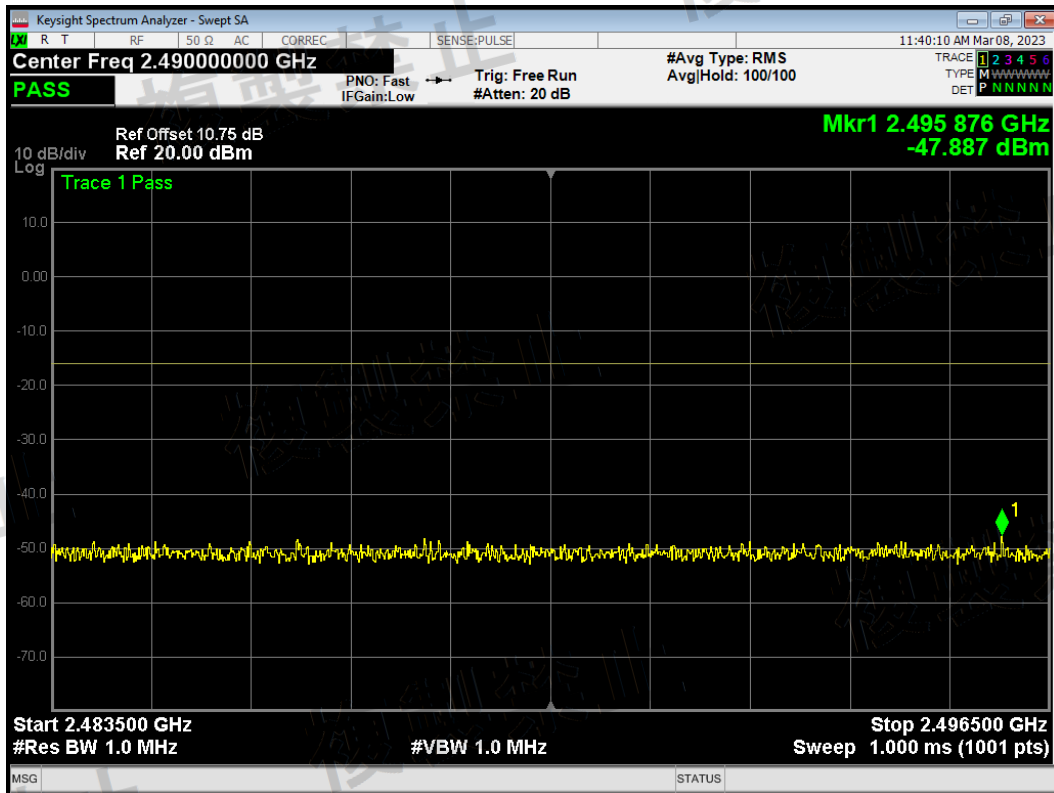
Tx. Spurious BLE 2402MHz @ 1000MHz-2387MHz



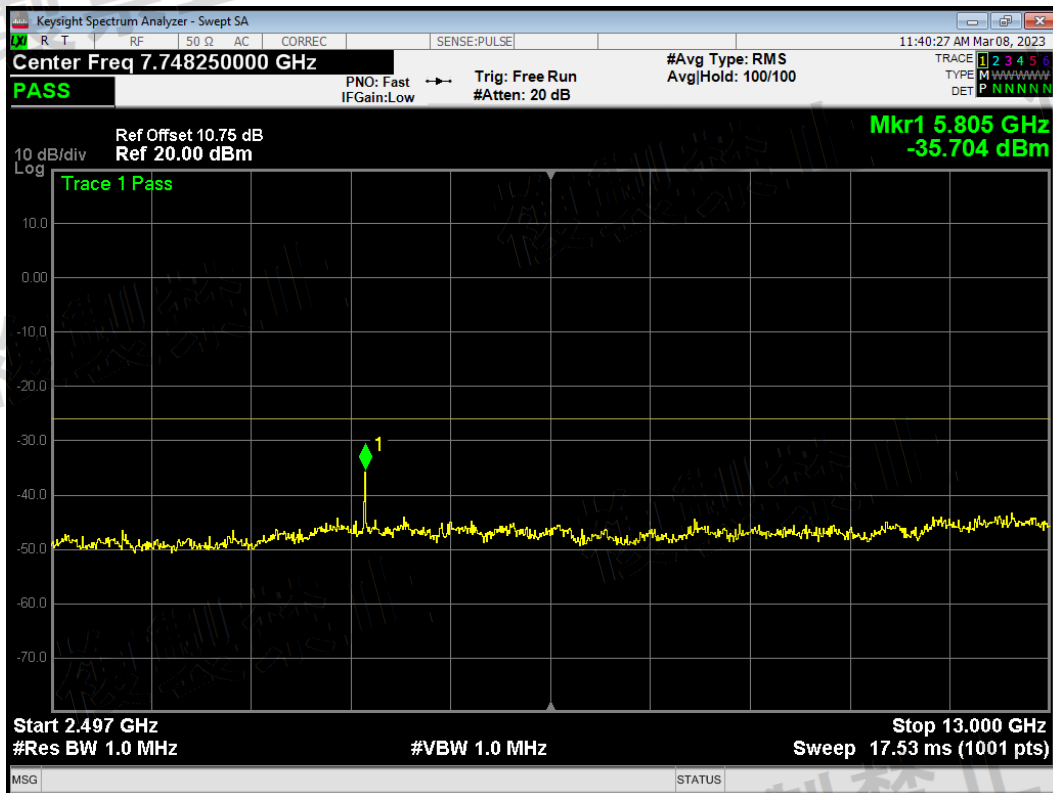
Tx. Spurious BLE 2402MHz @ 2387MHz-2400MHz



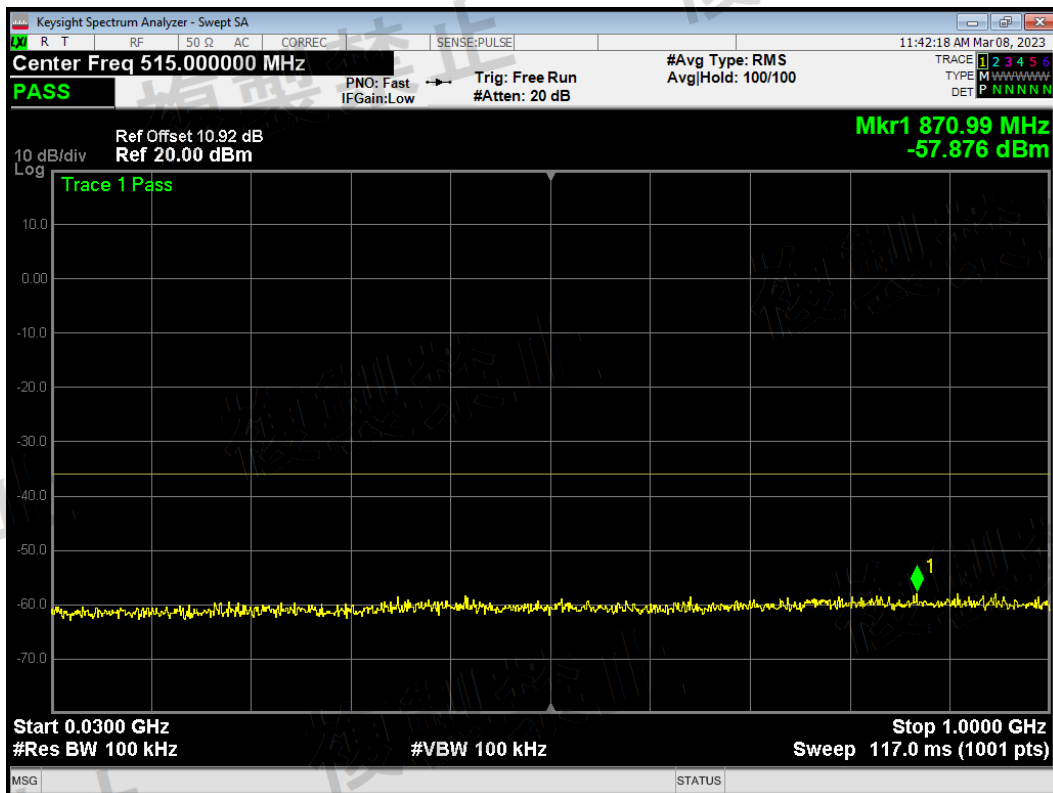
Tx. Spurious BLE 2402MHz @ 2483.5MHz-2496.5MHz



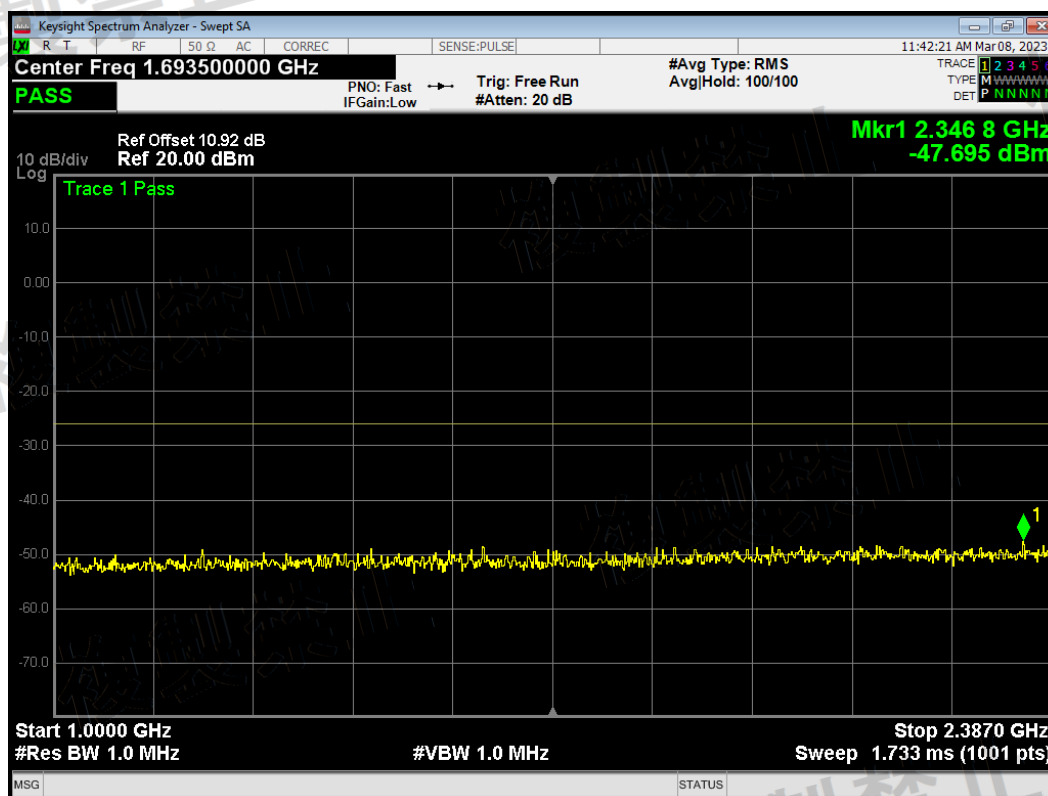
Tx. Spurious BLE 2402MHz @ 2496.5MHz-13000MHz



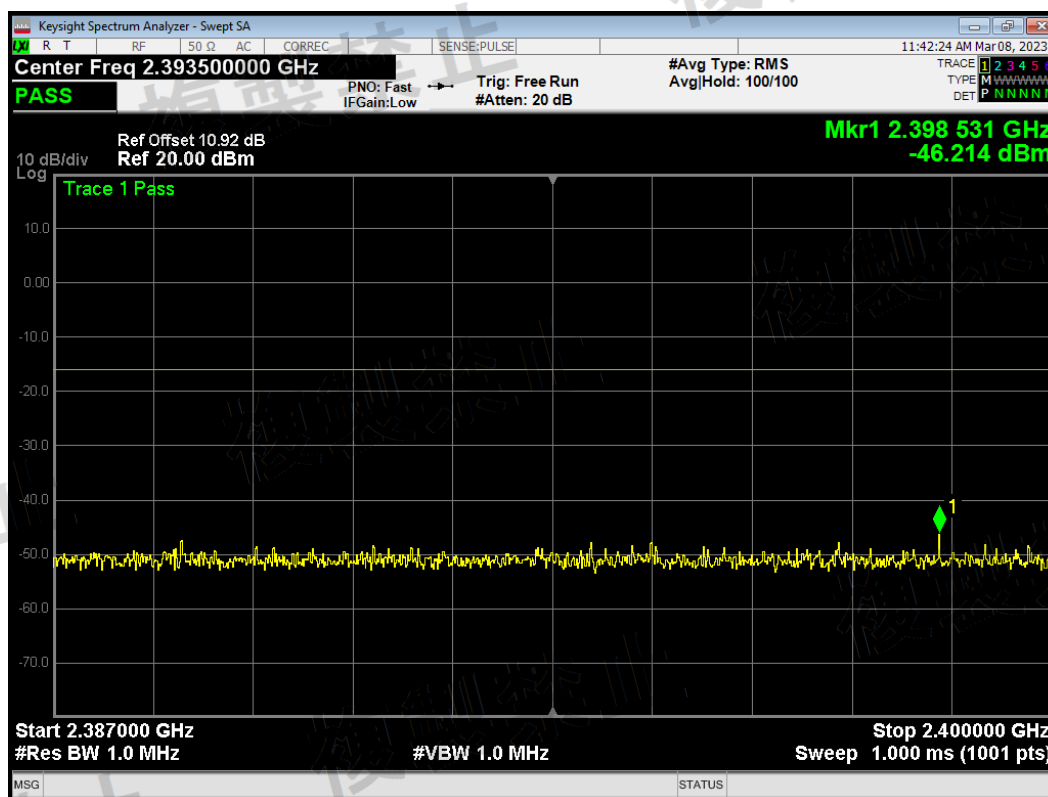
Tx. Spurious BLE 2440MHz @ 30MHz-1000MHz



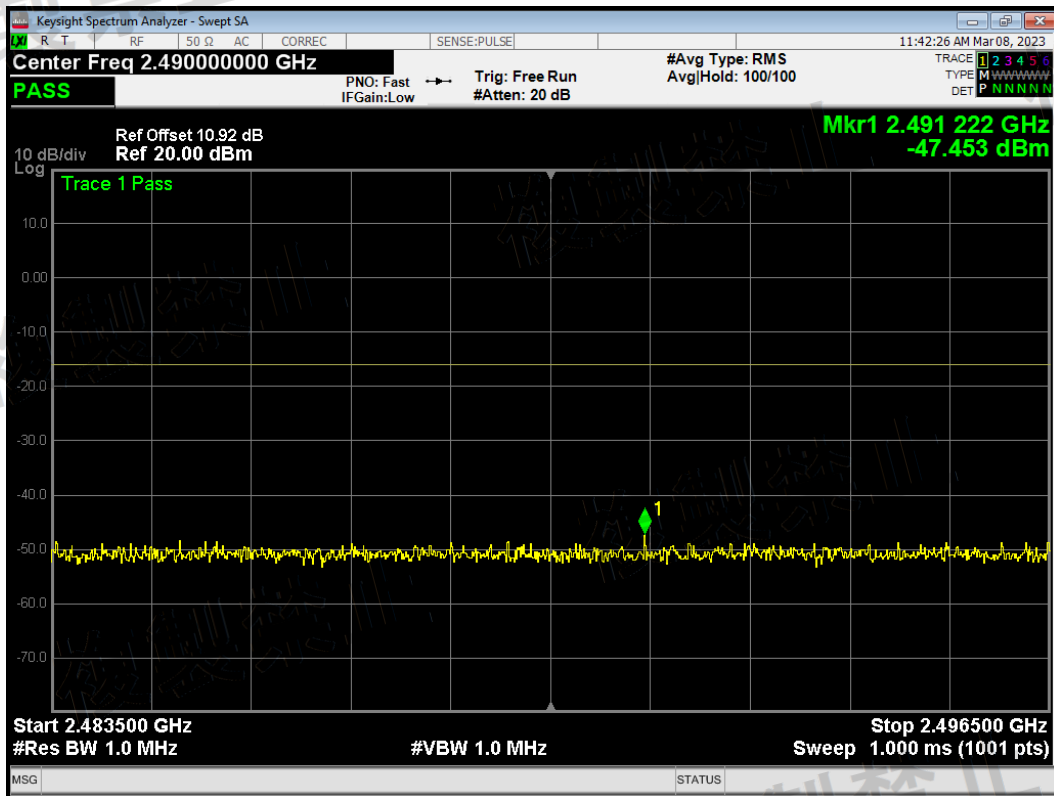
Tx. Spurious BLE 2440MHz @ 1000MHz-2387MHz



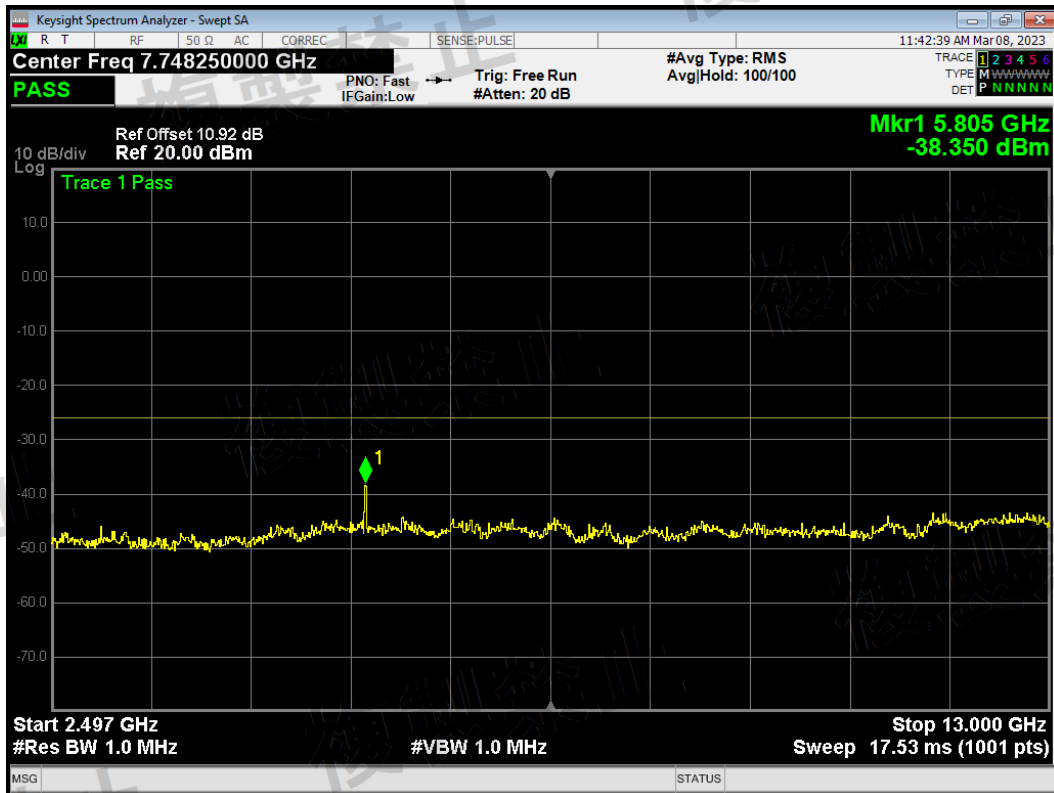
Tx. Spurious BLE 2440MHz @ 2387MHz-2400MHz



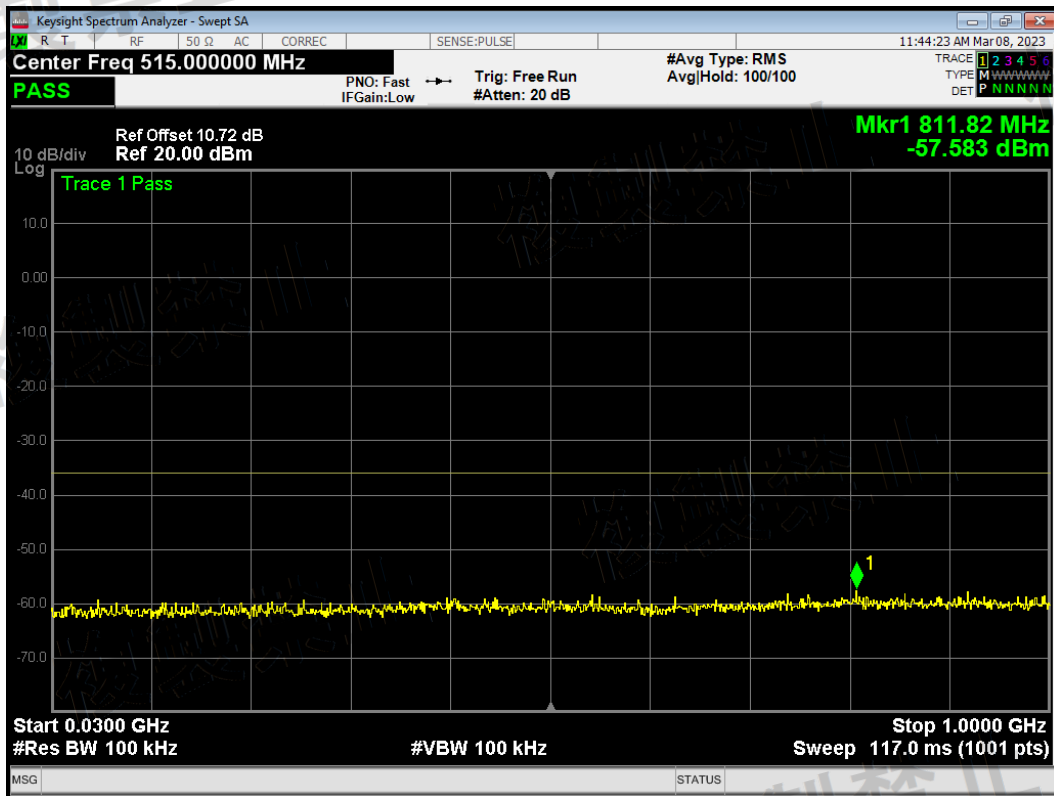
Tx. Spurious BLE 2440MHz @ 2483.5MHz-2496.5MHz



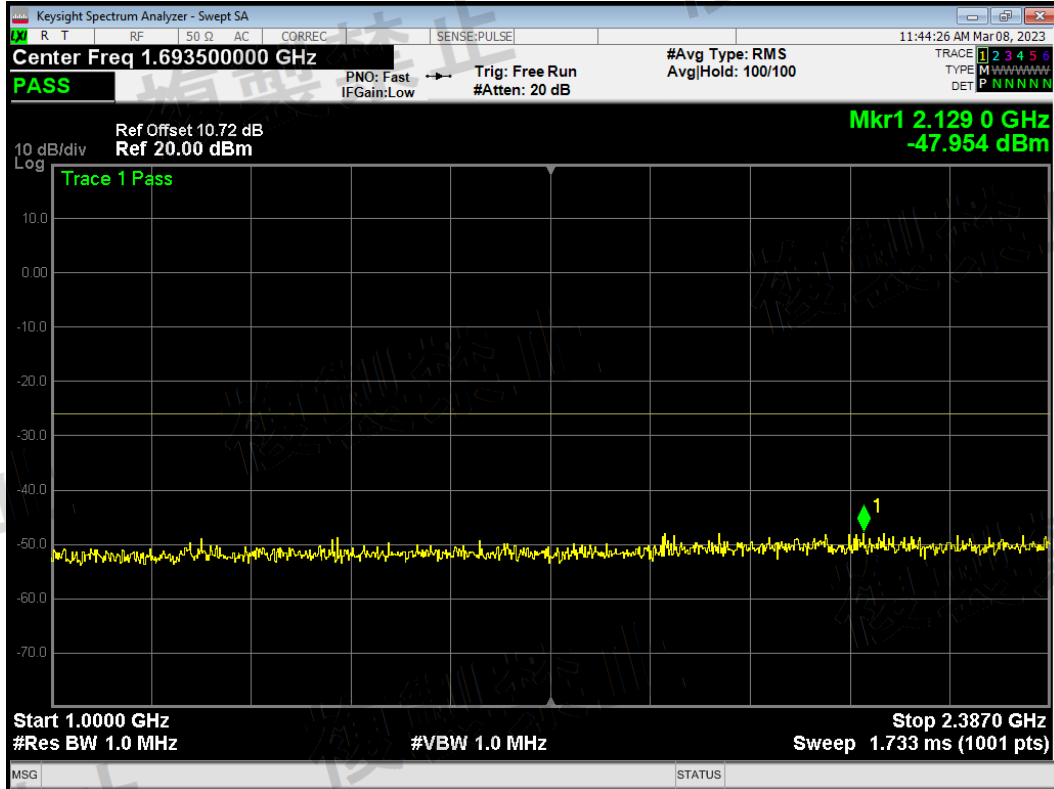
Tx. Spurious BLE 2440MHz @ 2496.5MHz-13000MHz



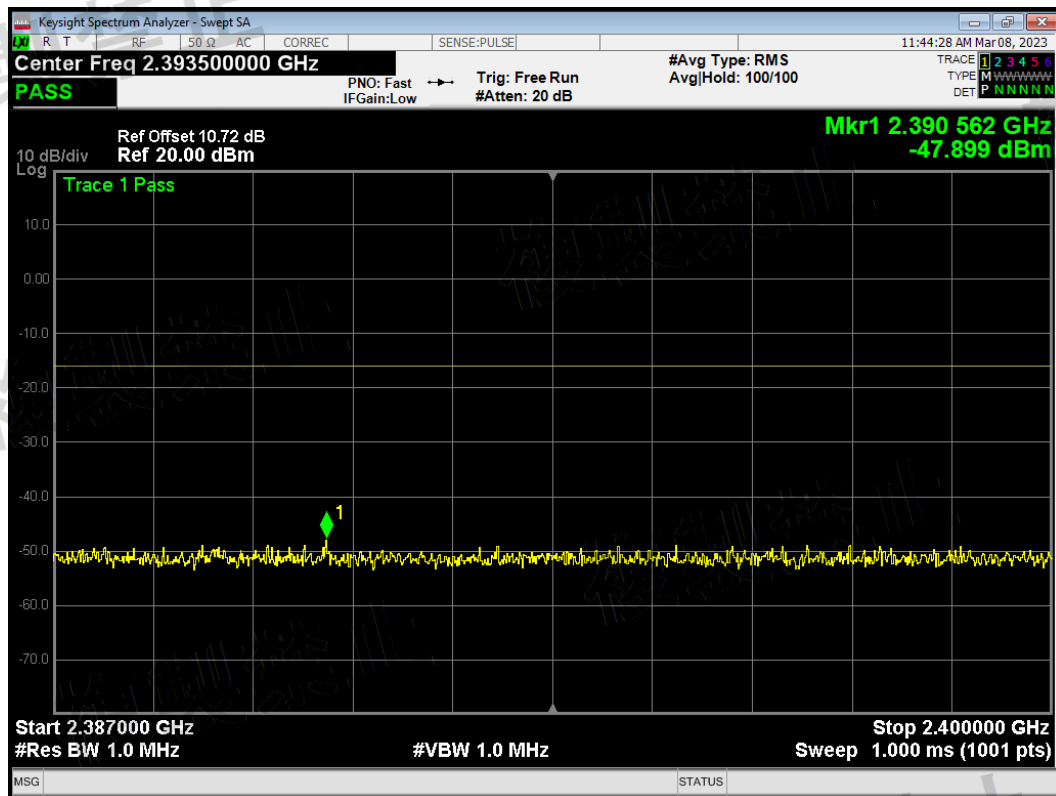
Tx. Spurious BLE 2480MHz @ 30MHz-1000MHz



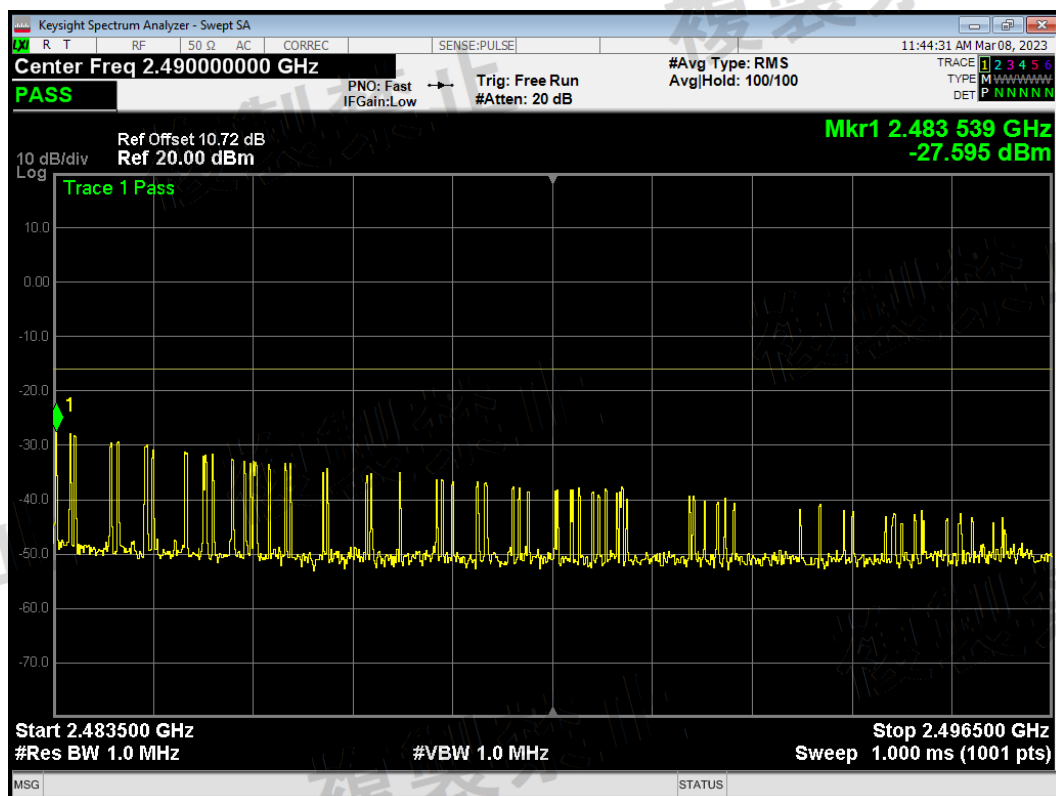
Tx. Spurious BLE 2480MHz @ 1000MHz-2387MHz



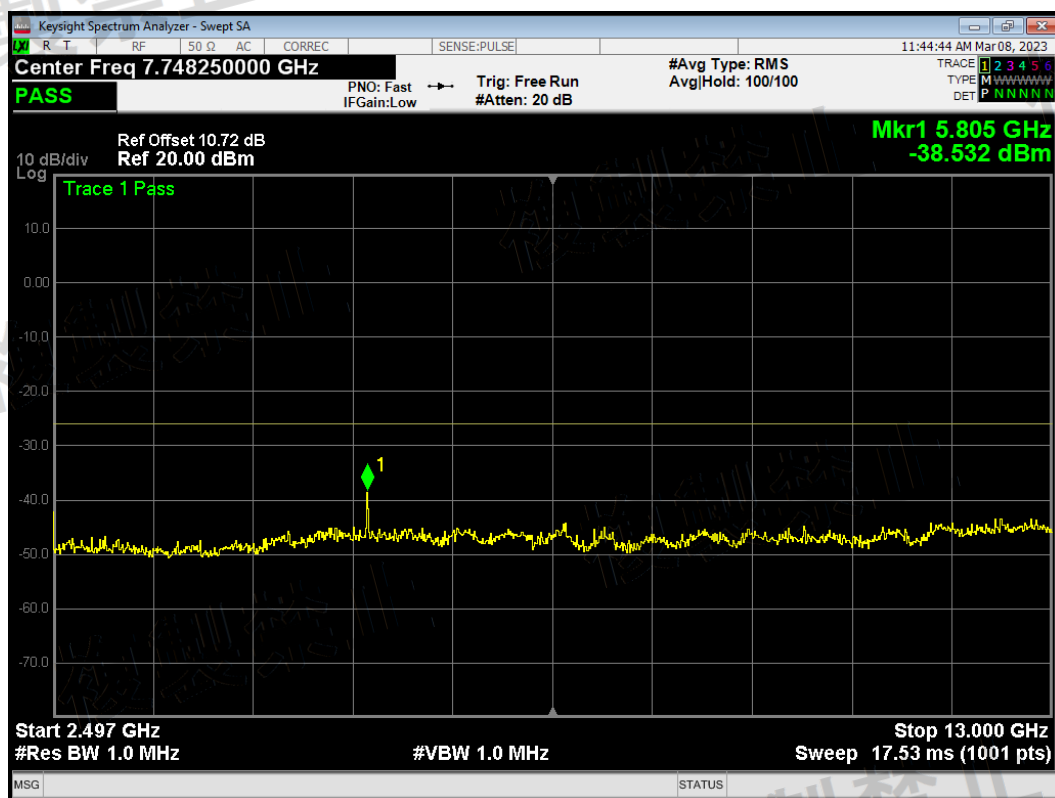
Tx. Spurious BLE 2480MHz @ 2387MHz-2400MHz



Tx. Spurious BLE 2480MHz @ 2483.5MHz-2496.5MHz



Tx. Spurious BLE 2480MHz @ 2496.5MHz-13000MHz



5.7. Secondarily Emitted Radio Wave Strength Measurement

Ambient Condition

Temperature	Relative humidity
20°C ~25°C	45%~50%

Method of Measurement

Step-1

Spectrum Analyzer Setting

RBW: 1 MHz (frequency range; 1 GHz over), 100 kHz (frequency range; 30 MHz to 1 GHz)

VBW: Same as RBW

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

Sweep Mode: Single Sweep

Detection Mode: Positive Peak

Step-2

Spectrum Analyzer Setting

Center Frequency: Searched Frequency

RBW: 1 MHz (frequency range; 1 GHz over), 100 kHz (frequency range; 30 MHz to 1 GHz)

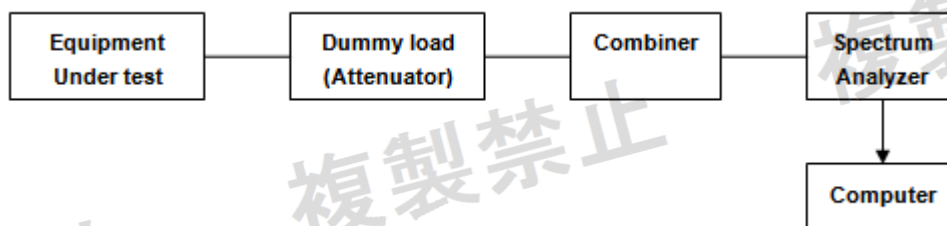
VBW: Same as RBW

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

Sweep Mode: Single Sweep

Detection Mode: Sample

Test Setup



Limit

Frequency Range	Limits(nW)
Under 1 GHz	≤ 4
1GHz-12.5GHz	≤ 20

Test Results

NV

Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm)	Limit (dBm)	Verdict
Bluetooth LE	2402	30-1000	39.7	-78.69	-54	Pass
		1000-13000	12316	-64.21	-47	Pass
	2440	30-1000	745.86	-79.19	-54	Pass
		1000-13000	12664	-61.78	-47	Pass
	2480	30-1000	804.06	-79.24	-54	Pass
		1000-13000	2404	-63.72	-47	Pass

LV

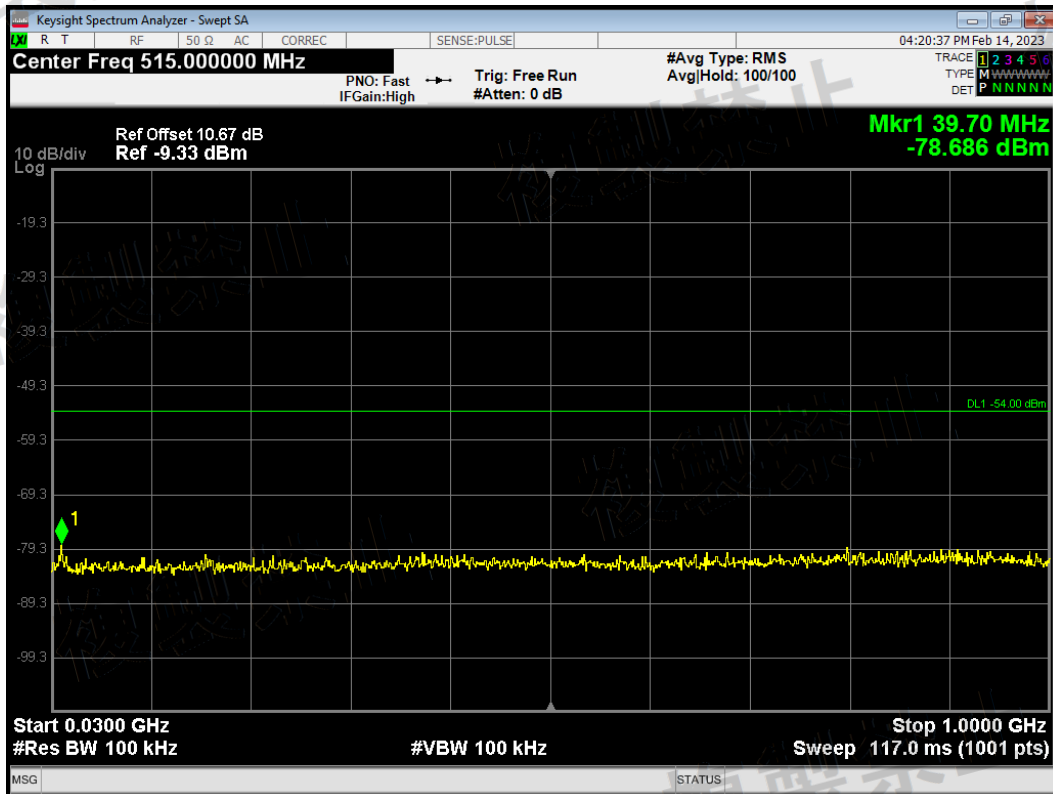
Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm)	Limit (dBm)	Verdict
Bluetooth LE	2402	30-1000	202.66	-79.01	-54	Pass
		1000-13000	5836	-68.41	-47	Pass
	2440	30-1000	184.23	-80.35	-54	Pass
		1000-13000	2704	-68.72	-47	Pass
	2480	30-1000	206.54	-79.48	-54	Pass
		1000-13000	6316	-67.78	-47	Pass

HV

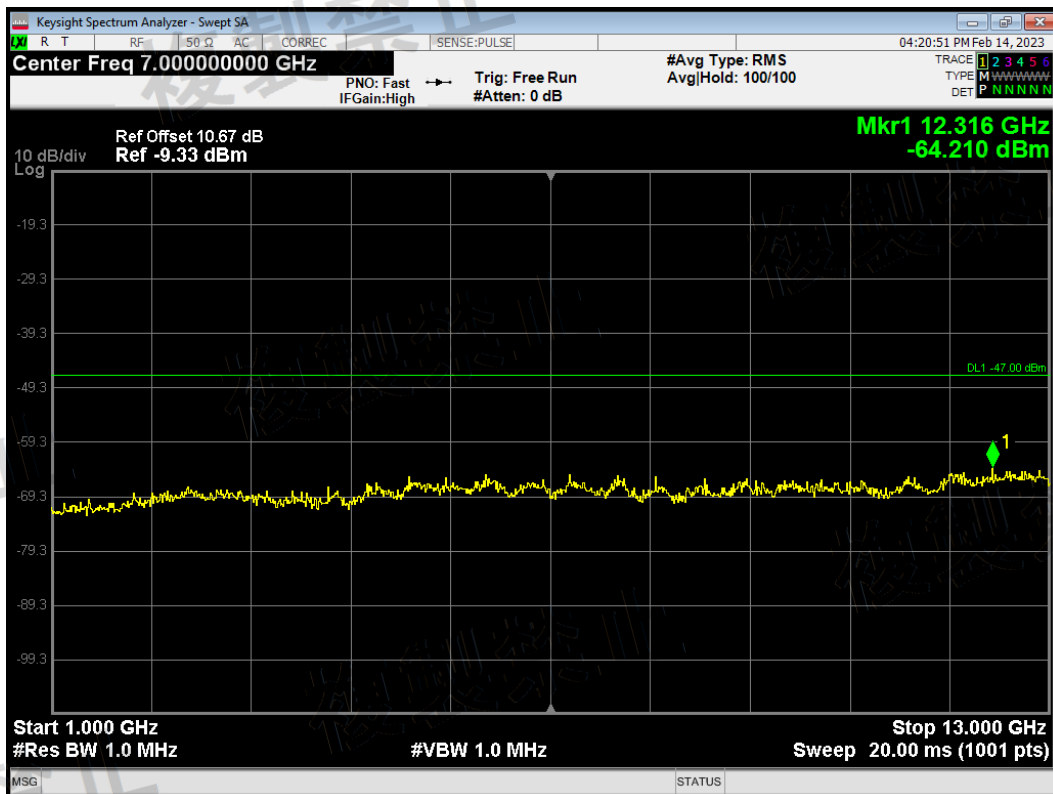
Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm)	Limit (dBm)	Verdict
Bluetooth LE	2402	30-1000	186.17	-79.76	-54	Pass
		1000-13000	4852	-68.52	-47	Pass
	2440	30-1000	201.69	-79.21	-54	Pass
		1000-13000	7276	-68.23	-47	Pass
	2480	30-1000	836.07	-80.12	-54	Pass
		1000-13000	3064	-68.56	-47	Pass

NV

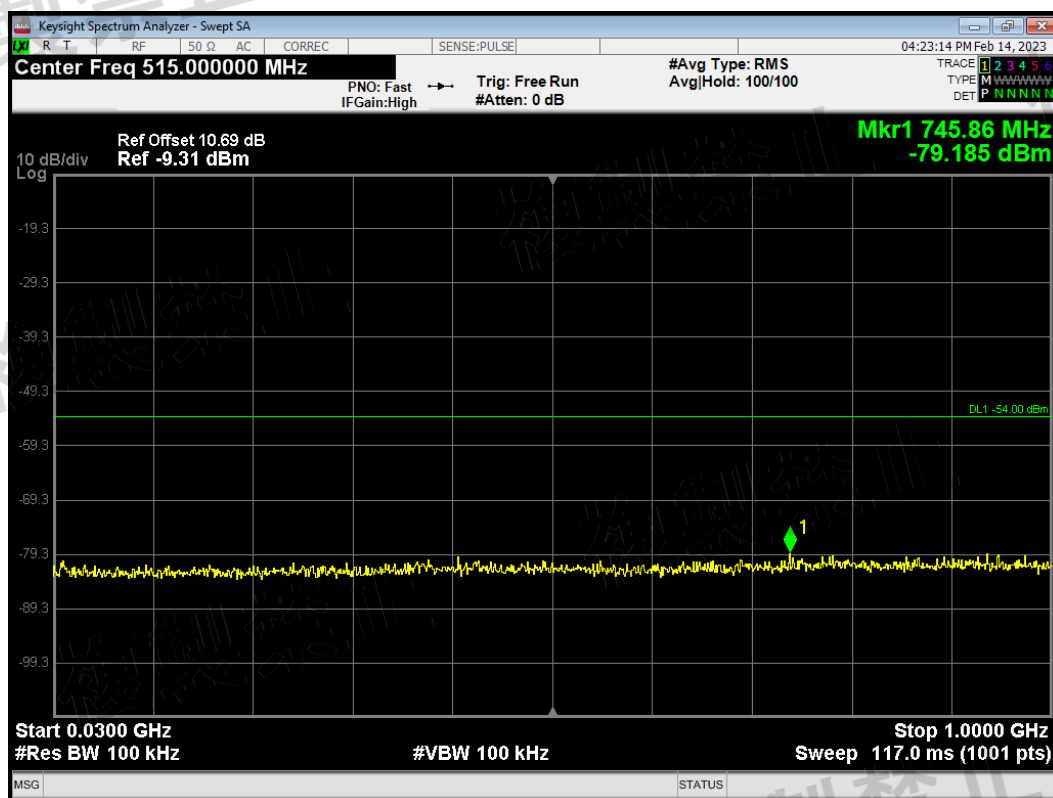
Rx. Spurious BLE 2402MHz @ 30MHz-1000MHz



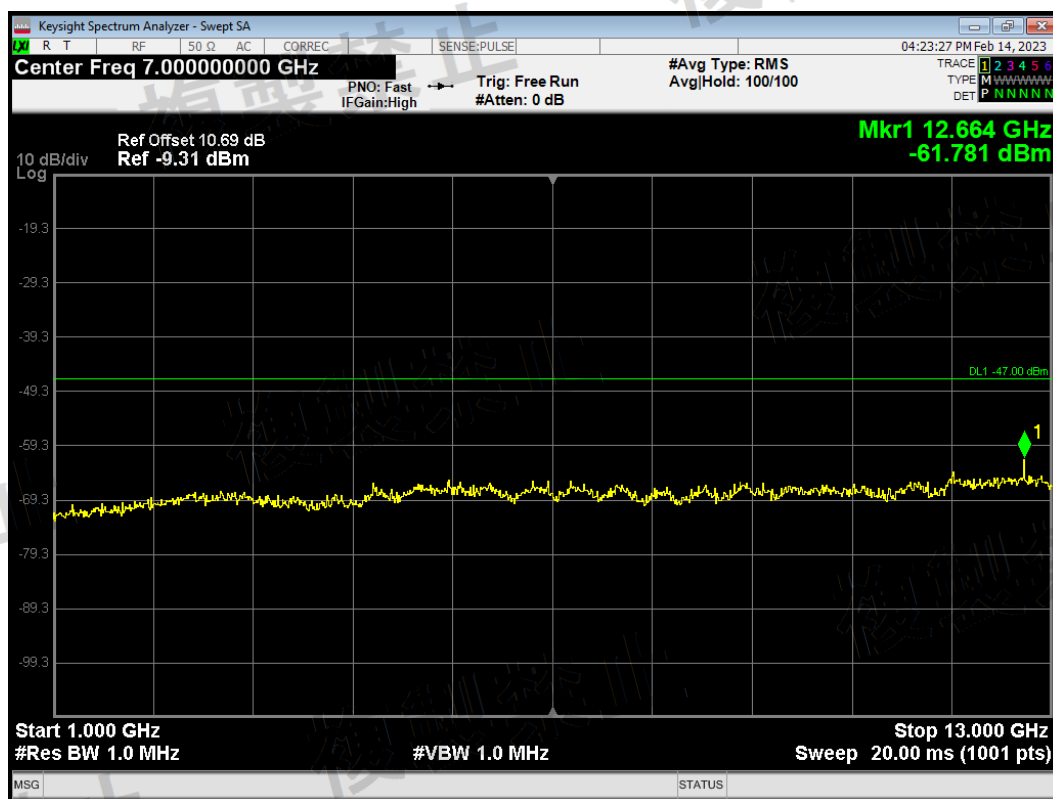
Rx. Spurious BLE 2402MHz @ 1000MHz-13000MHz



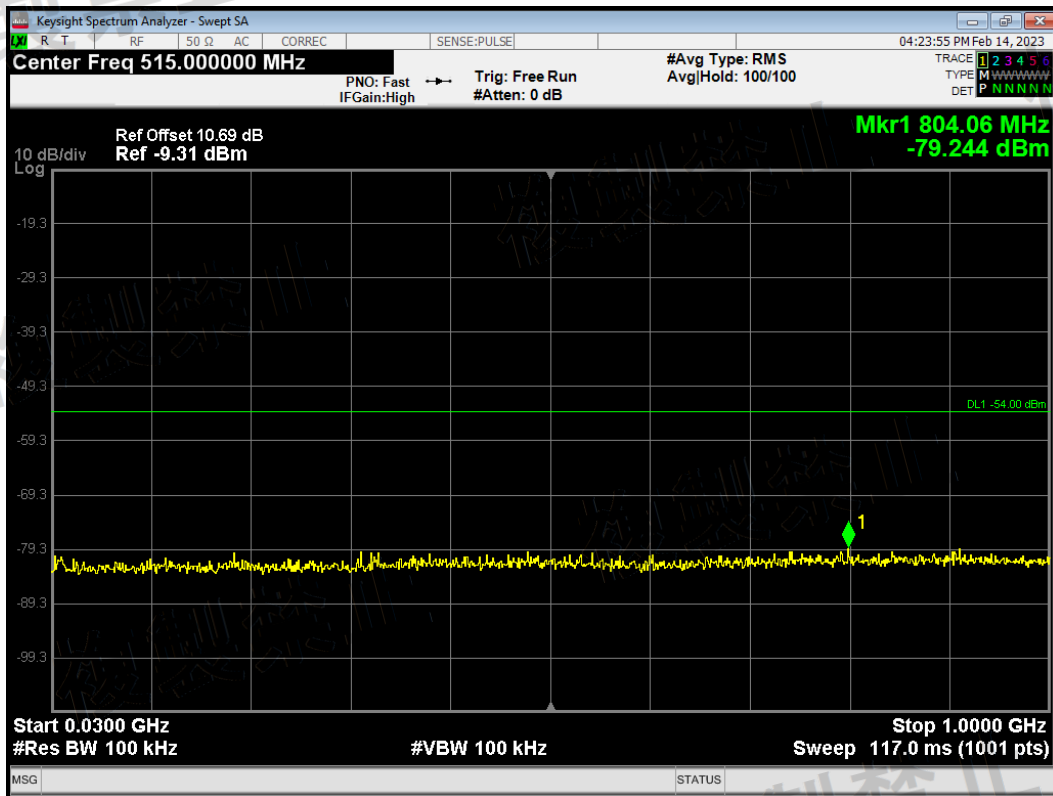
Rx. Spurious BLE 2440MHz @ 30MHz-1000MHz



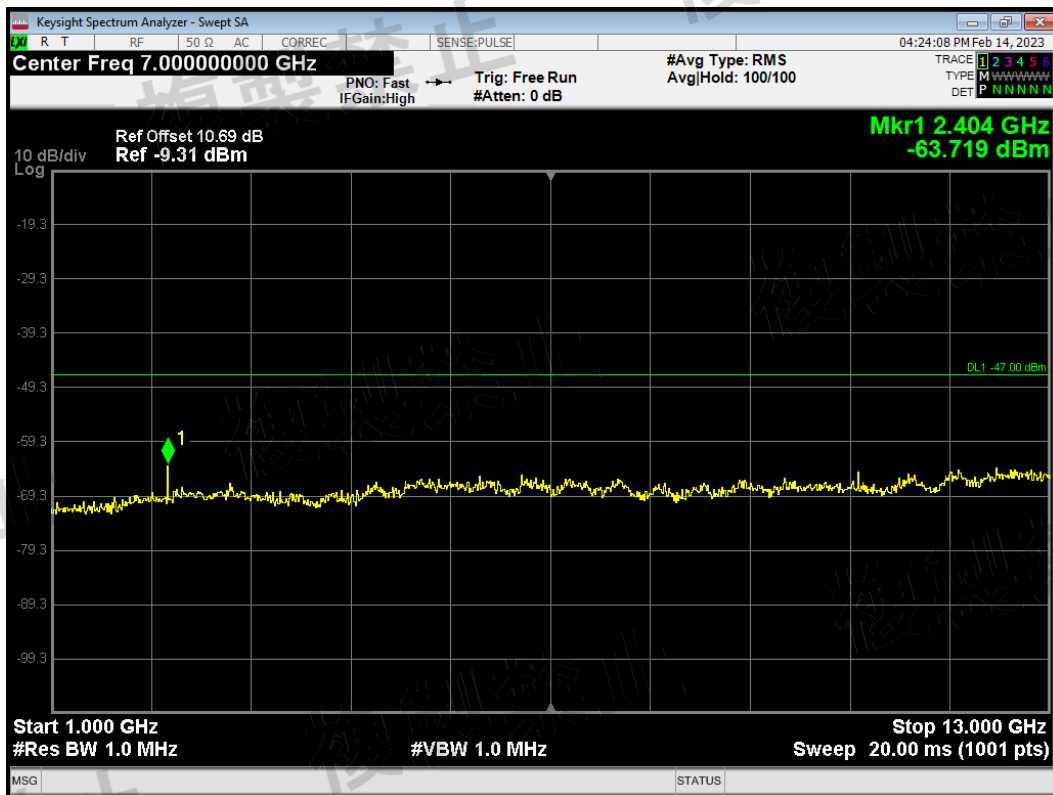
Rx. Spurious BLE 2440MHz @ 1000MHz-13000MHz



Rx. Spurious BLE 2480MHz @ 30MHz-1000MHz

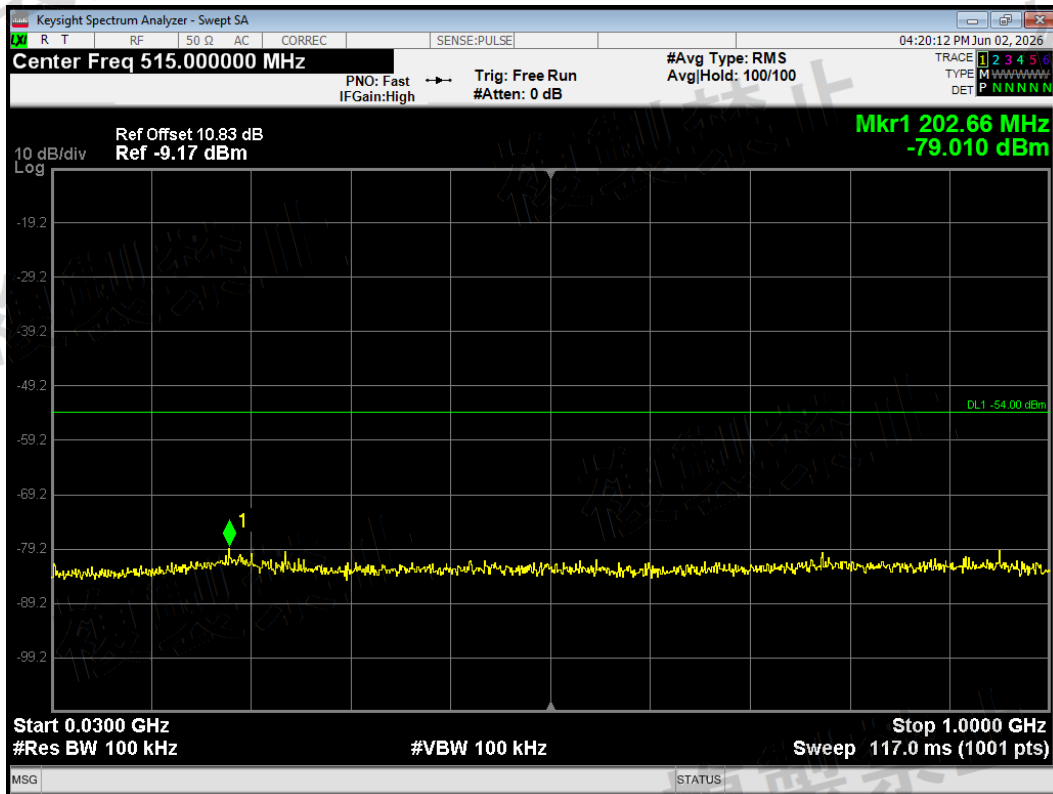


Rx. Spurious BLE 2480MHz @ 1000MHz-13000MHz

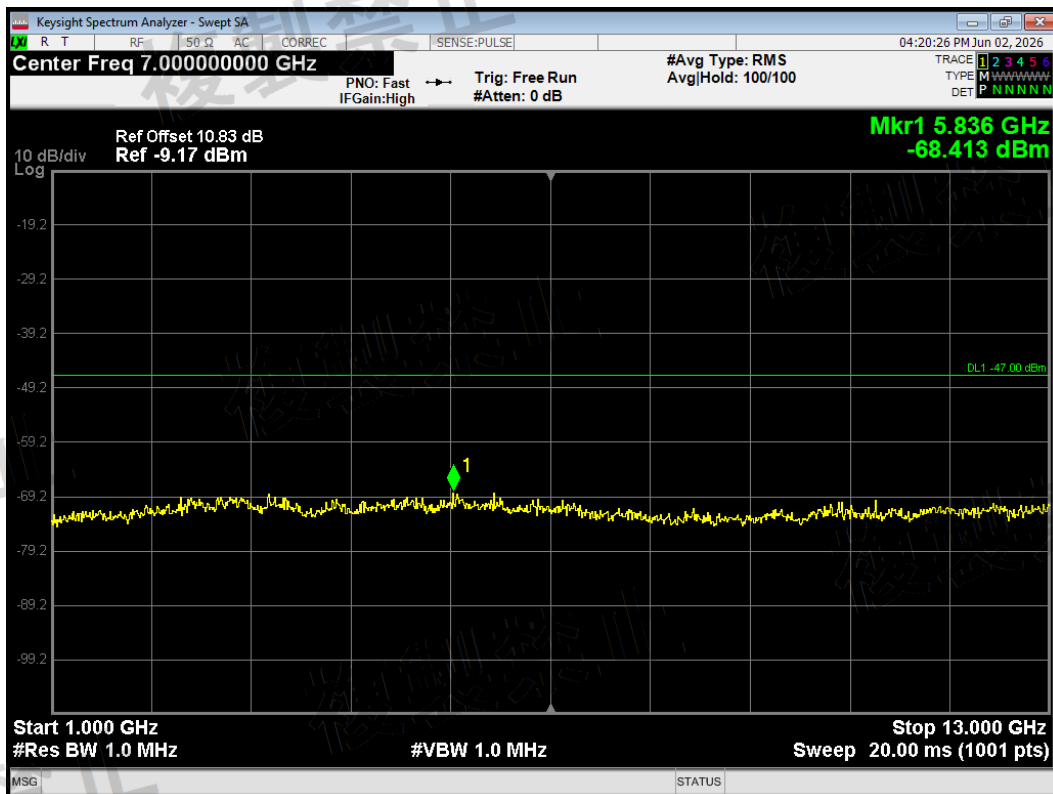


LV

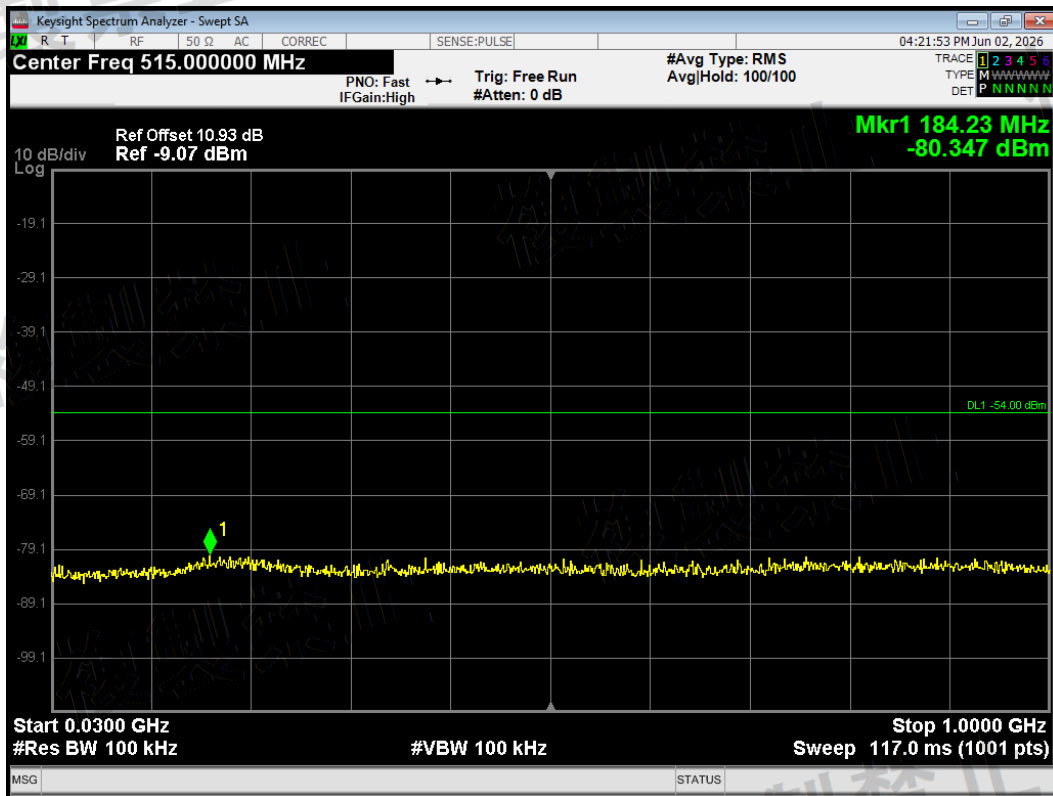
Rx. Spurious BLE 2402MHz @ 30MHz-1000MHz



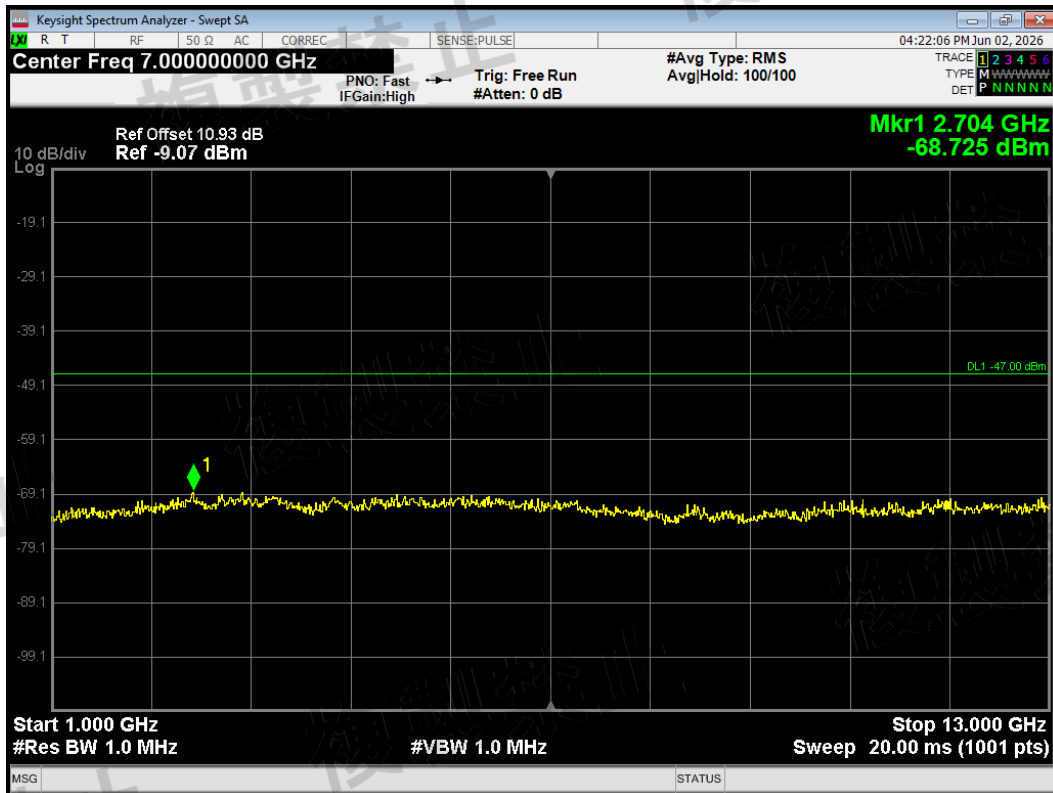
Rx. Spurious BLE 2402MHz @ 1000MHz-13000MHz



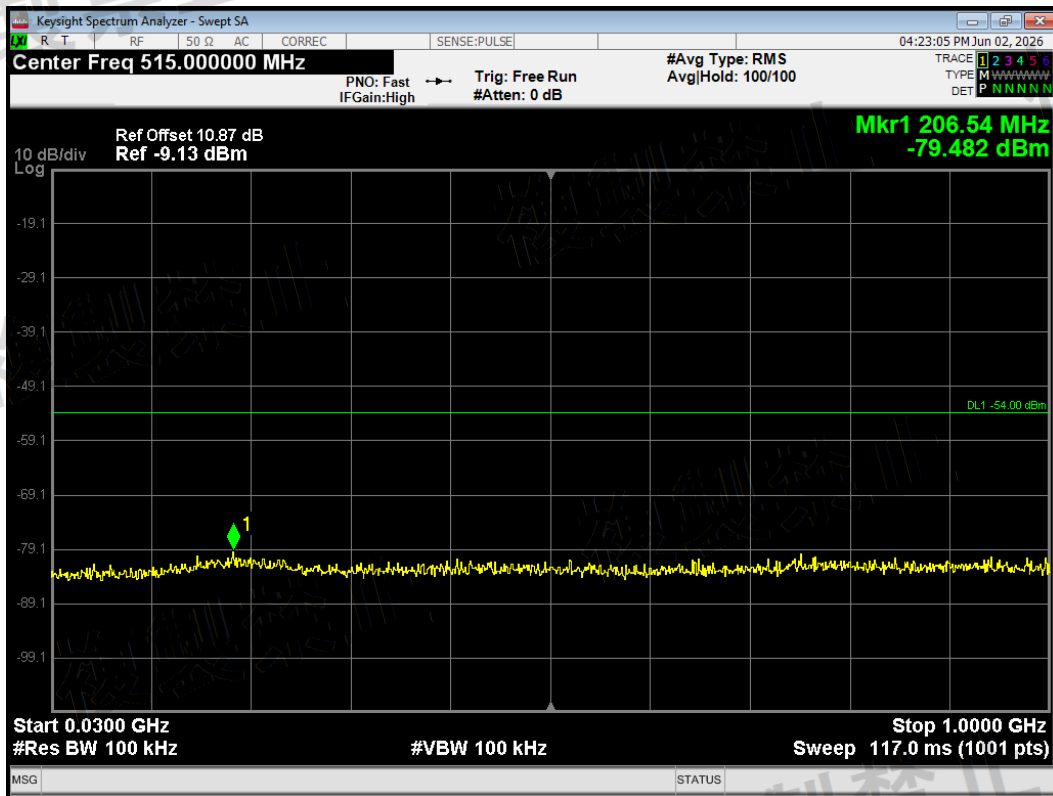
Rx. Spurious BLE 2440MHz @ 30MHz-1000MHz



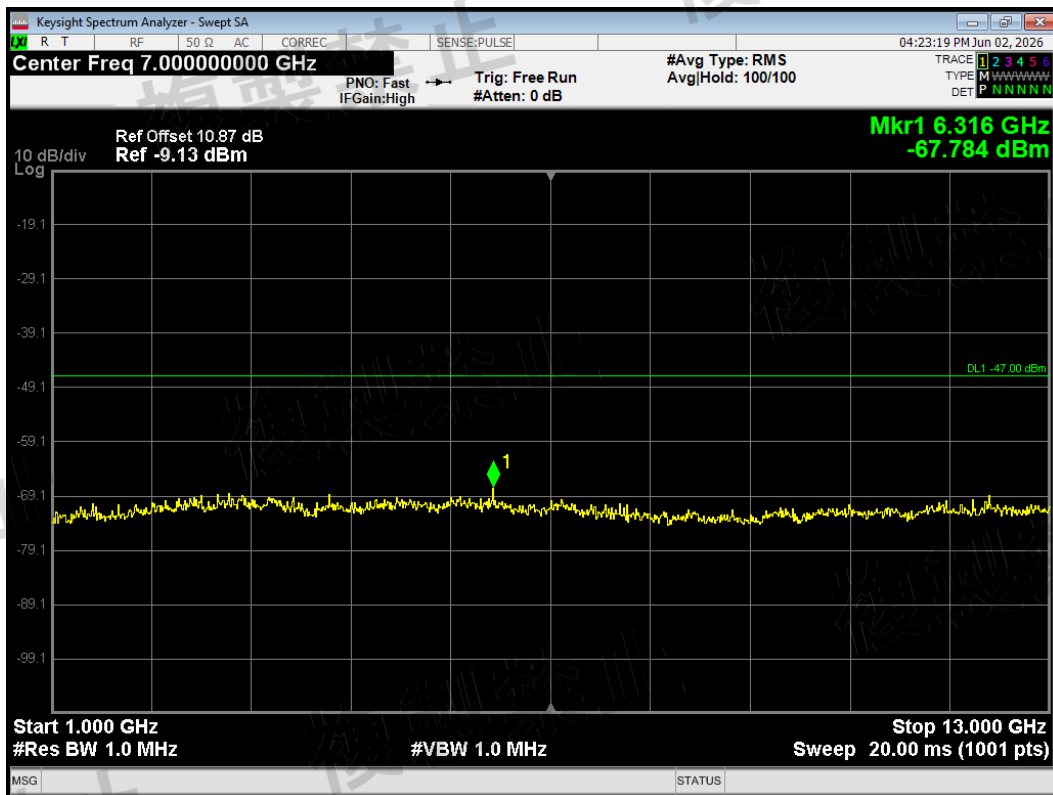
Rx. Spurious BLE 2440MHz @ 1000MHz-13000MHz



Rx. Spurious BLE 2480MHz @ 30MHz-1000MHz

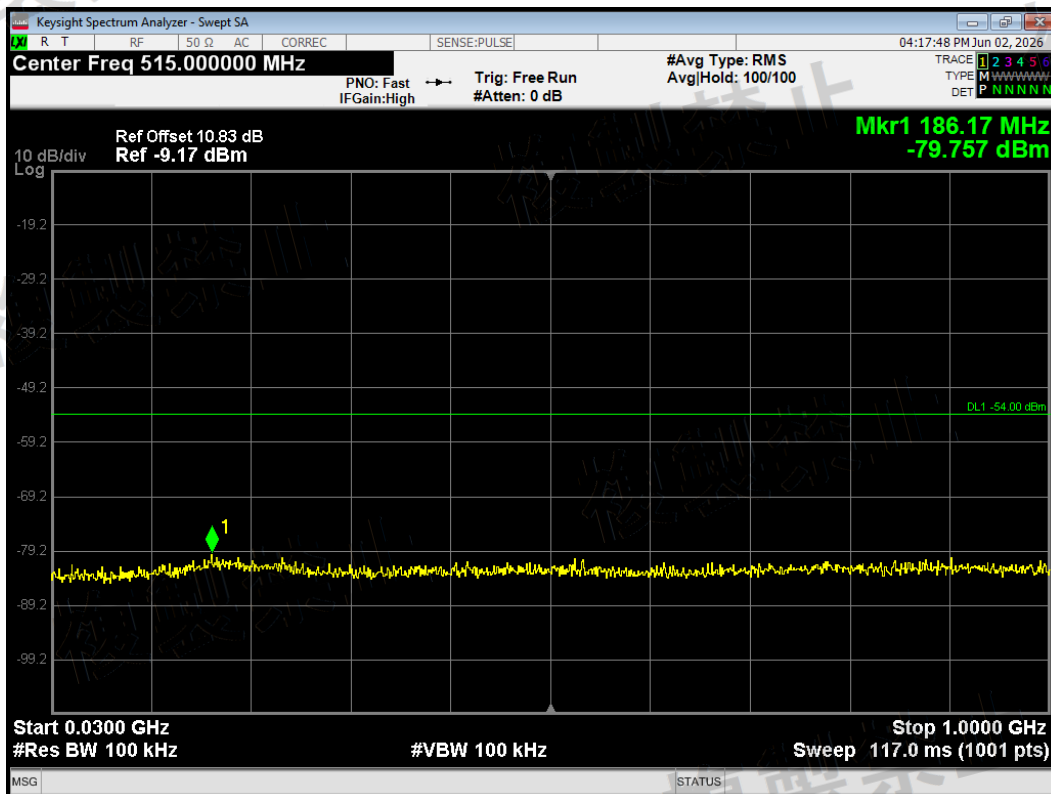


Rx. Spurious BLE 2480MHz @ 1000MHz-13000MHz

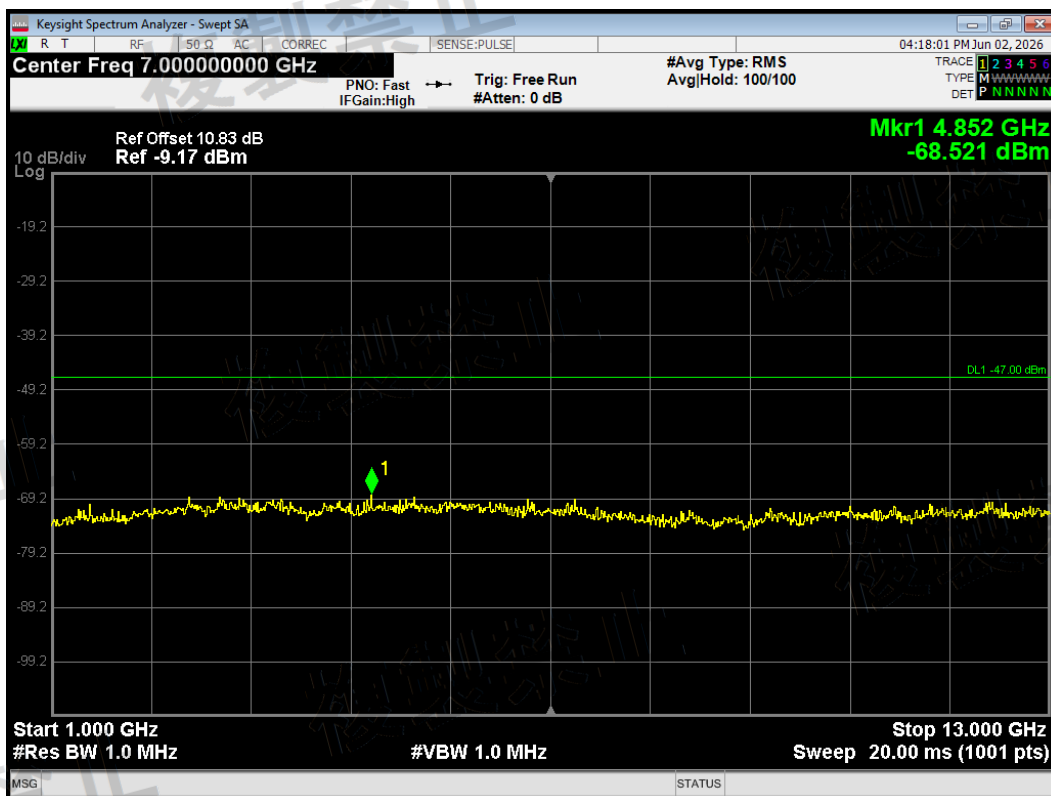


HV

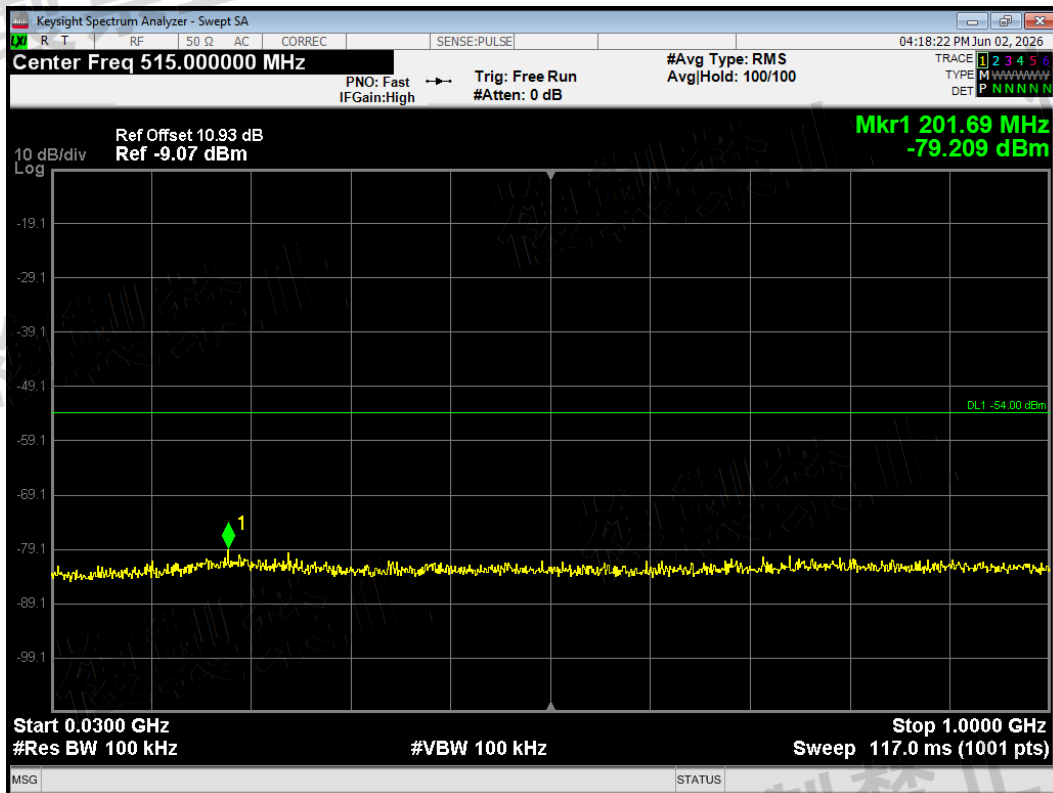
Rx. Spurious BLE 2402MHz @ 30MHz-1000MHz



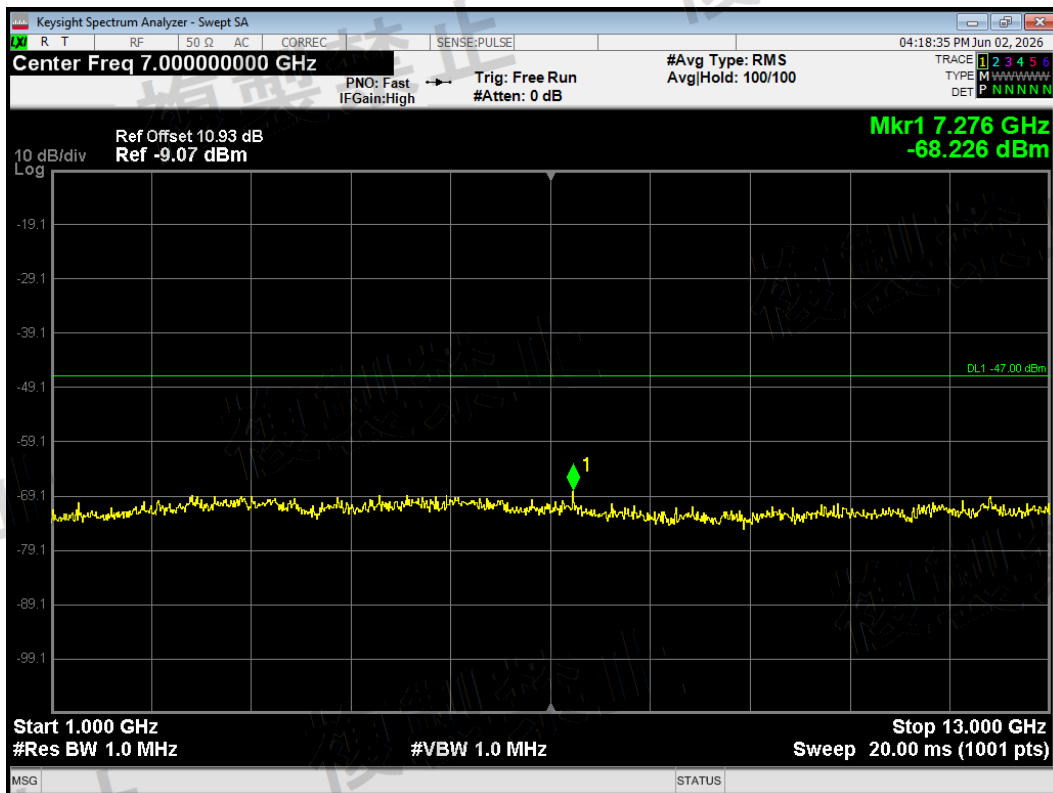
Rx. Spurious BLE 2402MHz @ 1000MHz-13000MHz



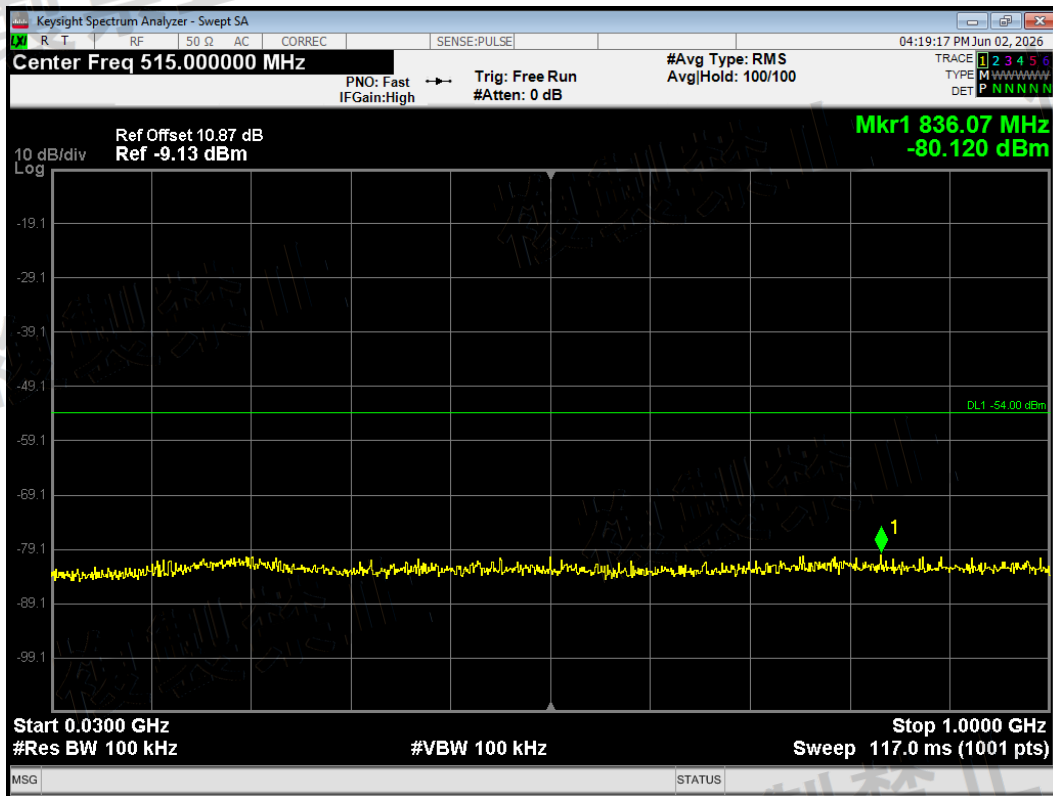
Rx. Spurious BLE 2440MHz @ 30MHz-1000MHz



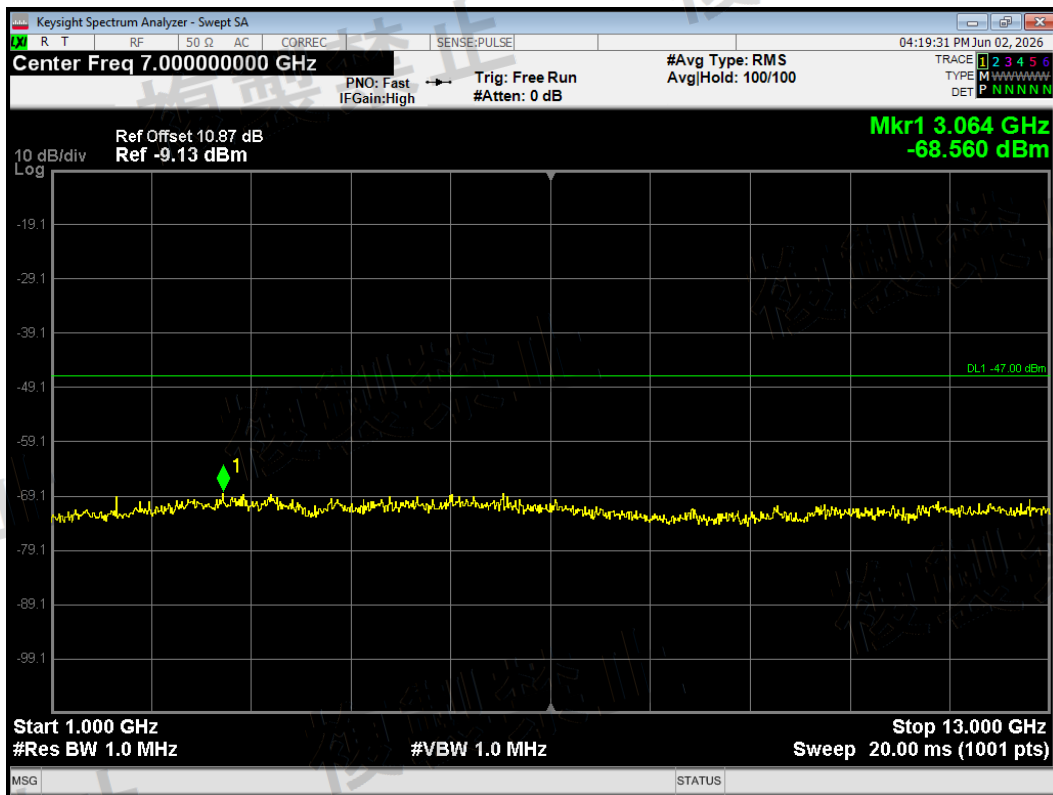
Rx. Spurious BLE 2440MHz @ 1000MHz-13000MHz



Rx. Spurious BLE 2480MHz @ 30MHz-1000MHz



Rx. Spurious BLE 2480MHz @ 1000MHz-13000MHz



5.8. Retention Time

Ambient Condition

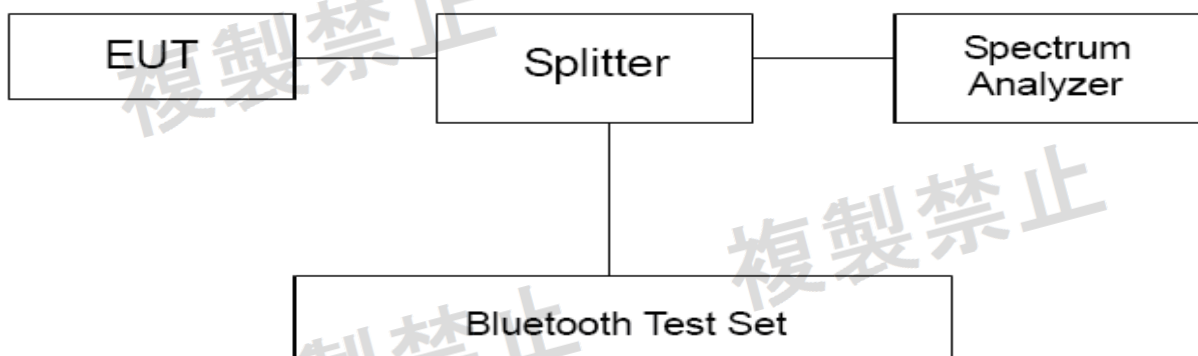
Temperature	Relative humidity
20°C ~25°C	45%~50%

Methods of Measurement

The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss. RBW is set to 1MHz and VBW is set to 1MHz on spectrum analyzer. The Retention time is calculated by:

Retention time=Scanning times * Pulse time length /1000

Test Setup



Limits

The total sum of the frequency retention time in any frequency within the time obtained by multiplying the diffusion rate by 0.4 second shall be 0.4 second or shorter.

Retention time	≤0.4s
----------------	-------

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$.

Requirements	Uncertainty					
Retention time	DH5	$U=0.70\text{ms}$	2DH5	$U=0.70\text{ms}$	3DH5	$U=0.70\text{ms}$

Test Results:

Only applicable for FHSS.

5.9. Radio Interference Prevention Capability Measurement

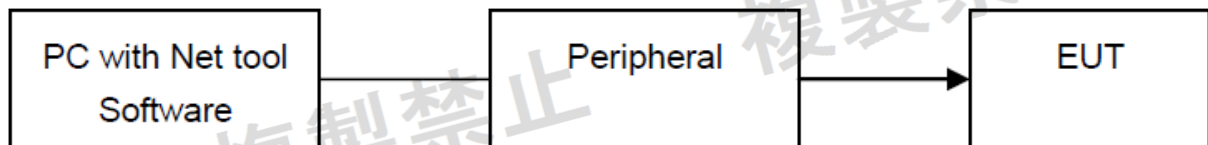
Ambient Condition

Temperature	Relative humidity
20°C ~25°C	45%~50%

Method of Measurement

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.

Test Setup



Limit

Identification code $\geq$ 48 bits

Test Results

Test Mode	Test Frequency (MHz)	Identification code	Result
Bluetooth (Low Energy)	2402	48	Pass
	2440	48	Pass
	2480	48	Pass

TS198 V3.2.5.240-[20230328_1] (VP7200, QA_TW Mode, ID72-000D)
PROD: VP7200 | MN: ID72-000D | IF: USBHID, 0ACD, 4700, IDG

开始

非接触卡

SD卡

温度传感器

LFS (Flash)

SDRAM

蓝牙

序列号

检查时间

液晶屏幕和触控面板

SAM卡

蓝牙设备名

RS232

USB UART

重新开始

MAC address

'蓝牙设备名' 测试合格

检查蓝牙设备名

TX: 7782
RX: 77 00 4944544543482D5650373230302D3237353933
ASCII Text: IDTECH-VP7200-27593
[2023-03-30 17:04:55.490] 60.8815ms elapsed
TX: 7783
RX: 77 00 0000000010 EF52862448EE 03
ASCII Text: R.\$H..
[2023-03-30 17:04:55.413] 262.8693ms elapsed
STEP <5. Get FriendlyName, 77-82, response == expected ? BT_FrdlyName2>: OK
[2023-03-30 17:04:55.506] 77.069ms elapsed
STEP <Get Public Random MAC Address>: OK
[2023-03-30 17:04:56.850] 1963.2369ms elapsed
TEST PASSED!

✓1. Get Serial Number, last 5 digits.
✓2. Make BLE Friendly Name, 'IDTECH-VP7200-'+sn2 = BT_FrdlyName1
✓4. Make TxData, BT_FrdlyName10 = BT_FrdlyName2
✓5. Get FriendlyName, 77-82, response == expected ? BT_FrdlyName2
✓Get Public Random MAC Address

5.10. Construction Protection Confirmation Method

Ambient Condition

Temperature	Relative humidity
20°C ~25°C	45%~50%

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.

Test Results:

Protected Method	RF chip is sealed
Description	RF and Modulation parts are mounted on PCB with surface mount technology, and there is no any adjustable parts on PCB or adjustable parts are not exposed.

Photo



6. Uncertainty Measurement

Parameter	Uncertainty
RF Output Power	$\pm 1.25\text{dB}$
Frequency Error Measurement	$\pm 2.5 \times 10^{-7}$
Occupied Bandwidth and Spread-spectrum Bandwidth / Factor	$\pm 4.54\%$
Unwanted Emission Strength Measurement	$\pm 1.23\text{dB}$
Secondarily Emitted Radio Wave Strength	$\pm 1.12\text{ dB}$
Carrier Sense	$\pm 1.55\text{ dB}$

7. Main Test Instruments

Date of Testing: (Original) February 14, 2023 ~ March 9, 2023

Name	Manufacturer	Type	Serial Number	Calibration Unit	Calibration Date	Valid Period	Calibration Method
Spectrum Analyzer	KEYSIGHT	N9020A	MY51330870	TIDEFORE	2022-05-14	2023-05-13	c
DC Power Supply	UNI-T	UTP1306S+	2205D0517232	CEPREI	2022-12-10	2023-12-09	c
Power Sensor	R&S	NRP18S	101954	TIDEFORE	2022-05-14	2023-05-13	c

Note: The auxiliary devices of attenuation and splitter have been integrated into the system, and the system calibration has been included

Calibration Method:

- a) Calibration conducted by the National Institute of Information and Communications Technology (NICT) (hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1)
- b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992)
- c) Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1)
- d) Calibration conducted by using measuring instruments and other equipment listed in the right column of Table No. 3 attached hereto, which shall have been given any of calibration, etc. listed above from a) to c)

Date of Testing: (Variant) June 2, 2026

Name	Type	Manufacturer	Serial Number	Calibration Unit	Date of Calibration	Expiry Date	Calibration Method
Spectrum Analyzer	KEYSIGHT	N9020A	MY51330870	CEPREI	2026-04-21	2027-04-21	c
DC Power Supply	UNI-T	UTP1306S+	2205D0517426	CTTL	2025-11-24	2026-11-23	c
Test software	MW	MTS8310	-	-	-	-	c

Note: The auxiliary devices of attenuation and splitter have been integrated into the system, and the system calibration has been included

Calibration Method:

- a) Calibration conducted by the National Institute of Information and Communications Technology (NICT) (hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1)
- b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992)
- c) Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1)
- d) Calibration conducted by using measuring instruments and other equipment listed in the right column of Table No. 3 attached hereto, which shall have been given any of calibration, etc. listed above from a) to c)

8. The EUT Appearance

Refer to *EUT Appearance*.

9. Test Setup Photos

Refer to *RF Test Setup*.

10. Product Change Description

Refer to Product Change Description.

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