Radio Test Report

Silicon Laboratories Finland Oy

Main Model: SiW917Y1GA
Series Model: SiW917Y1GN

In accordance with ARIB STD-T66 (2.4 GHz Bluetooth Low Energy)

TUV SUD

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Document 75960833-07 Issue 03

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NAME	**JOB TITLE**	**RESPONSIBLE FOR**	**ISSUE DATE**
Matthew Russell	Chief Engineer, RF	Authorised Signatory	08 May 2026

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD document control rules.

EXECUTIVE SUMMARY
A sample of this product was tested and found to be compliant with ARIB STD-T66: 3.8 (2024-03) for the tests detailed in section 1.3.

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Annex A A.1

Annex B B.1

1 Report Summary

1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

Issue	Description of Change	Date of Issue
1	First Issue	05-Sept-2024
2	Correct 5.31 to 5.48 mW/MHz across the report	06-Sept-2024
3	Change ARIB STD-T66 3.7 to ARIB STD-T66 3.8 Corrections to Brief Summary of Results table specifications mW added to Antenna Power Section	08-May-2026

Table 1

1.2 Introduction

Applicant	Silicon Laboratories Finland Oy
Manufacturer	Silicon Laboratories Finland Oy
Model Number(s)	Main Model SiW917Y1GA Series Model: SiW917Y1GN
Serial Number(s)	BLE MAC address: D4:48:67:DD:D7:30
Hardware Version(s)	1.0
Software Version(s)	Stack's "Connectivity Firmware" version 2.12.1.0.0.1
Number of Samples Tested	1
Test Specification/Issue/Date	ARIB STD-T66 3.8 (2024-03)
Order Number	PTP ~ 6000530772
Date	08-March-2024
Date of Receipt of EUT	20-May-2024
Start of Test	22-May-2024
Finish of Test	04-June-2024
Name of Engineer(s)	Thomas Biddlecombe
Related Document(s)	Radio Equipment Regulations, Article 24 Radio Equipment Regulations, Article 14 Article 2 Paragraph 1 Item (19) Article 2 Paragraph 1 Item (19)-2 MIC Notice No.88 Appendix No.43 & No.44 RCR STD-33 Radio Equipment Regulations, Article 5 Table 1 Radio Equipment Regulations, Article 7, Table 3 Radio Equipment Regulations, Article 6, Table 2 Radio Equipment Regulations, Article 49-20 Radio Equipment Regulations, Article 9-4

1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with ARIB STD-T66 is shown below.

Section	Specification Clause	Test Description	Result	Comments/Base Standard
Configuration and Mode: 2.4 GHz Bluetooth Low Energy - Conducted Tests				
2.1	3.2 (2)	Antenna Power	Pass	Radio Equipment Regulations, Article 14 Article 2 Paragraph 1 Item (19) MIC Notice No.88 Appendix No.43
2.2	3.2 (4)	Frequency Deviation	Pass	Radio Equipment Regulations, Article 5 Table 1
2.3	3.2 (6)	Permissible Value of Spurious or Unnecessary Radiation Intensity	Pass	Radio Equipment Regulations, Article 7, Table 3
2.4	3.2 (7)	Allowable Value for Occupied Bandwidth	Pass	Radio Equipment Regulations, Article 6, Table 2
2.5	3.3 (1)	Limit on Secondary Radiation	Pass	Radio Equipment Regulations, Article 24
2.6	3.4 (1)	Interference Protection Function	Pass	Radio Equipment Regulations, Article 9-4
2.7	3.6 (2)	Antenna Gain	Pass	Radio Equipment Regulations, Article 49-20
Configuration and Mode: 2.4 GHz Bluetooth Low Energy - Extreme Voltages				
-	3.2 (2)	Antenna Power at Extreme Voltages	Pass	Refer to Annex A

Table 2

1.4 Application Form

Equipment Description

Technical Description: *(Please provide a brief description of the intended use of the equipment)*	Bluetooth Low Energy (LE), and Wi-Fi 802.11b/g/n/ax wireless radio module
Manufacturer:	Silicon Laboratories Finland Oy
Model:	Main Model: SiW917Y1GA (with integral antenna) Series Model: SiW917Y1GN (with no integral antenna but RF pin)
Part Number:	
Hardware Version:	1.0
Software Version:	Stack's "Connectivity Firmware" version 2.12.1.0.0.1

Table 3

The type of Wideband Data Transmission Equipment

FHSS ☒	non-FHSS ☐

Table 4

The different transmit operating modes *(tick all that apply)*

Operating mode 1: Single Antenna Equipment	☒
Equipment with only one antenna	☒
Equipment with two diversity antennas but only one antenna active at any moment in time	☐
Smart Antenna Systems with two or more antennas but operating in a (legacy) mode where only one antenna is used. (e.g. IEEE 802.11™ [i.3] legacy mode in smart antenna systems)	☐
Operating mode 2: Smart Antenna Systems - Multiple Antennas without beam forming	☐
Single spatial stream / Standard throughput / (e.g. IEEE 802.11™ [i.3] legacy mode)	☐
High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 1	☐
High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 2	☐
Operating mode 3: Smart Antenna Systems - Multiple Antennas with beam forming	☐
Single spatial stream / Standard throughput / (e.g. IEEE 802.11™ [i.3] legacy mode)	☐
High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 1	☐
High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 2	☐
NOTE: Add more lines if more channel bandwidths are supported.	

Table 5

In case of Smart Antenna Systems

The number of Receive chains:		
The number of Transmit chains:		
symmetrical power distribution	☐	
asymmetrical power distribution	☐	
In case of beam forming, the maximum (additional) beam forming gain:		dB
NOTE: The additional beam forming gain does not include the basic gain of a single antenna.		

Table 6

Operating Frequency Range(s) of the Equipment

Operating Frequency Range 1: (Data mode, 37 channels)	2404	MHz to	2478	MHz
Operating Frequency Range 2: (Legacy Advertisement mode, 3 channels)	2402	MHz to	2480	MHz
Operating Frequency Range 3: (Extended Advertisement mode, 40 channels)	2402	MHz to	2480	MHz
NOTE: Add more lines if more Frequency Ranges are supported.				

Table 7

Nominal Channel Bandwidth

Nominal Channel Bandwidth 1: (1MBaud-based bitrates: 1Mbps, and coded 125Kbps + 500Kbps)	1	MHz
Nominal Channel Bandwidth 2: (2MBaud-based bitrate: 2Mbps)	2	MHz
NOTE: Add more lines if more channel bandwidths are supported.		

Table 8

Type of Equipment (stand-alone, combined, plug-in radio device, etc.)

Stand-alone:			☐
Combined Equipment:			☐
Plug-in radio device:			☐
Other:	☒	Please specify:	Radio module meant for integration in host systems

Table 9

The normal and extreme operating conditions that apply to the equipment

Normal operating conditions (if applicable):					
Operating temperature:				25	°C
Other (please specify if applicable):					°C
Extreme operating conditions:					
Operating temperature:	Minimum	-40	°C to Maximum	+85	°C
Other (please specify if applicable):	Minimum		°C to Maximum		°C
Details provided are for the:					
Stand-alone equipment / Equipment under test (radio module)					☒

Combined equipment	☐
Test Jig / Host (PCB carrying the radio module)	☒

Table 10

The intended combination(s) of the radio equipment power settings and one or more antenna assemblies and their corresponding e.i.r.p levels

Antenna Type:			
Integral Antenna (information to be provided in case of conducted measurements)			☒
Antenna Gain:		2.26	dBi
If applicable, additional beamforming gain (excluding basic antenna gain):			dB
Temporary RF connector provided			☐
No temporary RF connector provided			☐
Dedicated Antennas (equipment with antenna connector or radio module with RF pin)			☒
Single power level with corresponding antenna(s)			☒
Multiple power settings and corresponding antenna(s)			☐
Number of different Power Levels:			
Power Level 1			dBm
Power Level 2			dBm
NOTES: - Add more lines in case the equipment has more power levels. - These power levels are conducted power levels (at antenna connector). - For each of the power levels, provide the intended antenna assemblies, their corresponding gains (G) and the resulting e.i.r.p. levels, also taking into account the beamforming gain (Y) if applicable.			
Power Level 1 (or single power level) of Dedicated Antennas			dBm
Number of antenna assemblies provided for this power level:			1
Assembly #	Gain (dBi)	e.i.r.p (dBm)	Part number or model number
1	4.75	Max: 11.89	
2			
3			
NOTE: Add more rows in case more antenna assemblies are supported for this power level.			
Power Level 2 of Dedicated Antennas			dBm
Number of antenna assemblies provided for this power level:			
Assembly #	Gain (dBi)	e.i.r.p (dBm)	Part number or model number
1			
2			
3			
NOTE: Add more rows in case more antenna assemblies are supported for this power level.			

Table 11

The nominal voltages of the stand-alone radio equipment or the nominal voltages of the combined equipment or test jig in case of plug-in devices

Details provided are for the:				
Stand-alone equipment / Equipment under test (radio module)				☒
Combined equipment				☐
Test Jig / Host (PCB carrying the radio module)				☐
Supply Voltage				
AC mains	☐	AC voltage:		V
DC	☒	DC voltage:	Nominal: 3.3 Min: 3.0 Max: 3.63	V
In case of DC, indicate the type of power source				
Internal Power Supply				☐
External Power Supply or AC/DC adapter				☐
Battery				☐
Other:	☒	Please specify:	Module under scope is partially internally regulated. Regulated DC supply is provided to the module by the host board (3.3V), or by an external power source during compliance testing in the lab when applicable	

Table 12

Describe the test modes available which can facilitate testing

Table 13

The equipment type (e.g. Bluetooth®, IEEE 802.11™ [i.3] IEEE 802.15.4™, proprietary, etc.)

Bluetooth Low Energy

Table 14

Modulation

ITU Class(es) of emission:	1M00G1D / 2M00G1D			
Can the transmitter operate unmodulated?	Yes	☒	No	☐
Notes:	Module can transmit an unmodulated Carrier Wave (CW, Constant Tone Signal) only in Test Mode, for compliance testing in the lab			

Table 15

Duty Cycle

The transmitter is intended for:	
Continuous duty	☒
Intermittent duty	☐
Continuous operation possible for testing purposes	☒

Table 16

About the UUT

The equipment submitted are representative production models	☐
If not, the equipment submitted are pre-production models?	☒
If pre-production equipment are submitted, the final production equipment will be identical in all respects with the equipment tested	☒
If not, supply full details:	

Table 17

Additional items and/or supporting equipment provided

Spare batteries (e.g. for portable equipment)	☐
Battery charging device	☐
External Power Supply or AC/DC adapter	☐
Test Jig / Host (PCB carrying the radio module)	☒
RF test fixture (for equipment with integrated antennas)	☐
Combined equipment	☐
Manufacturer:	☐
Model:	☐
Model Name:	☐
User Manual	☒
Technical documentation (Handbook and circuit diagrams)	☒

Table 18

Data in the tables above is provided by the Manufacturer.

1.5 Product Information

1.5.1 Technical Description

Bluetooth Low Energy (LE), and Wi-Fi 802.11b/g/n/ax wireless radio module.

1.6 Deviations from the Standard

No deviations from the applicable test standard were made during testing.

1.7 EUT Modification Record

The table below details modifications made to the EUT during the test programme.

The modifications incorporated during each test are recorded on the appropriate test pages.

Modification State	Description of Modification still fitted to EUT	Modification Fitted By	Date Modification Fitted
Model: SiW917Y1GN, Serial Number: BLE MAC address: D4:48:67:DD:D7:30			
0	As supplied by the customer	Not Applicable	Not Applicable

Table 19

Note: The serial numbers used throughout this report are the MAC addresses of the equipment under test.

1.8 Test Location

TÜV SÜD conducted the following tests at our Octagon House Test Laboratory.

Test Name	Name of Engineer(s)	Accreditation
Configuration and Mode: 2.4 GHz Bluetooth Low Energy - Conducted Tests		
Antenna Power	Thomas Biddlecombe	UKAS
Frequency Deviation	Thomas Biddlecombe	UKAS
Permissible Value of Spurious or Unnecessary Radiation Intensity	Thomas Biddlecombe	UKAS
Allowable Value for Occupied Bandwidth	Thomas Biddlecombe	UKAS
Limit on Secondary Radiation	Thomas Biddlecombe	UKAS
Interference Protection Function	Thomas Biddlecombe	UKAS
Antenna Gain	Thomas Biddlecombe	UKAS

Table 20

Office Address:

TÜV SÜD
Octagon House
Concorde Way
Fareham
Hampshire
PO15 5RL
United Kingdom

2 Test Details

2.1 Antenna Power

2.1.1 Specification Reference

ARIB STD-T66, Clause 3.2 (2)

2.1.2 Equipment Under Test and Modification State

SiW917Y1GN, S/N: BLE MAC address: D4:48:67:DD:D7:30 - Modification State 0

2.1.3 Date of Test

22-May-2024

2.1.4 Test Method

This test has been performed using Power meter and spectrum analyser. A spectrum analyser was tuned to the test frequency with the relevant RBW to match the EIRP limit. The max hold function on the analyser was used to obtain EIRP output power. A percentage deviation from the measured power to the declared power was calculated and assessed against the tolerance limits.

A power meter was used to obtain the conducted output power that was compared against the customers declared power.

The EUT was supplied with 3.3 VDC directly with a DC PSU.

2.1.5 Environmental Conditions

Ambient Temperature	22.7 °C
Relative Humidity	52.5 %

2.1.6 Test Results

2.4 GHz Bluetooth Low Energy - Conducted Tests

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	3.2 (2) 3.2 (3)	Test Method(s):	Refer to Test Method
Additional Reference(s):	-		
Note(s):	3.6		

DUT Configuration			
Mode:	ARIB BLE GFSK (LE 1M)	Duty Cycle (%):	84.5 (Data) 33.9 (Adv)
Antenna Configuration:	SISO	DCCF (dB):	0.73 (Data) 4.70 (Adv)
Active Port(s):	-	Antenna Gain (dBi):	4.75#
Supply Voltage:	3.30V	TX Mode:	Continuous Modulated Packet Bursts

Test Frequency (MHz)	Power Index	Conducted Output Power (mW/MHz)					Declared Output Power (mW/MHz)	Tolerance (%)	Limit (mW/MHz)	Limit (%)*
		A	B	C	D	Σ				
2402	7	4.59					6.1	-24.72	10.00	-80 ≤ n ≤ +20
2404	7	4.67					6.1	-23.50	10.00	-80 ≤ n ≤ +20
2440	7	4.40					6.1	-27.94	10.00	-80 ≤ n ≤ +20
2478	7	4.32					6.1	-29.26	10.00	-80 ≤ n ≤ +20
2480	7	4.34					6.1	-28.93	10.00	-80 ≤ n ≤ +20

Table 21 - PSD Results

Test Frequency (MHz)	Power Index	Conducted Output Power	
		dBm	mW
2402	7.00	6.79	4.77
2404	7.00	6.86	4.85
2440	7.00	6.60	4.57
2478	7.00	6.52	4.49
2480	7.00	6.53	4.50

Table 22 - Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	3.2 (2) 3.2 (3)	Test Method(s):	Refer to Test Method
Additional Reference(s):	-		
Note(s):	3.6		

DUT Configuration			
Mode:	ARIB BLE GFSK (LE 2M)	Duty Cycle (%):	42.5
Antenna Configuration:	SISO	DCCF (dB):	3.72
Active Port(s):	-	Antenna Gain (dBi):	4.75#
Supply Voltage:	3.30V	TX Mode:	Continuous Modulated Packet Bursts

Test Frequency (MHz)	Power Index	Conducted Output Power (mW/MHz)					Declared Output Power (mW/MHz)	Tolerance (%)	Limit (mW/MHz)	Limit (%)*
		A	B	C	D	Σ				
2404	7	3.19					4.3	-25.78	10.00	-80 ≤ n ≤ +20
2440	7	3.24					4.3	-24.75	10.00	-80 ≤ n ≤ +20
2478	7	3.23					4.3	-24.92	10.00	-80 ≤ n ≤ +20

Table 23 - Output Power Results

Test Frequency (MHz)	Power Index	Conducted Output Power	
		dBm	mW
2404	7.00	6.70	4.68
2440	7.00	6.76	4.74
2478	7.00	6.75	4.73

Table 24 - Output Power Tolerance Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	3.2 (2) 3.2 (3)	Test Method(s):	Refer to Test Method
Additional Reference(s):	-		
Note(s):	3.6		

DUT Configuration			
Mode:	ARIB BLE GFSK (LE 125k)	Duty Cycle (%):	96.7 (Data) 34.1 (Adv)
Antenna Configuration:	SISO	DCCF (dB):	0.14 (Data) 4.68 (Adv)
Active Port(s):	-	Antenna Gain (dBi):	4.75#
Supply Voltage:	3.30V	TX Mode:	Continuous Modulated Packet Bursts

Test Frequency (MHz)	Power Index	Conducted Output Power (mW/MHz)					Declared Output Power (mW/MHz)	Tolerance (%)	Limit (mW/MHz)	Limit (%)*
		A	B	C	D	Σ				
2402	7	4.73					6.1	-22.43	10.00	-80 ≤ n ≤ +20
2404	7	4.74					6.1	-22.26	10.00	-80 ≤ n ≤ +20
2440	7	4.41					6.1	-27.78	10.00	-80 ≤ n ≤ +20
2478	7	5.48					6.1	-10.12	10.00	-80 ≤ n ≤ +20
2480	7	4.35					6.1	-28.77	10.00	-80 ≤ n ≤ +20

Table 25 - Output Power Results

Test Frequency (MHz)	Power Index	Conducted Output Power	
		dBm	mW
2402	7.00	6.93	4.93
2404	7.00	6.91	4.91
2440	7.00	6.58	4.55
2478	7.00	7.53	5.66
2480	7.00	6.46	4.42

Table 26 - Output Power Tolerance Results

ARIB STD T-66, Limit Clause 3.2 (3)

PSD:
≤ 10 mW/1MHz

Total Power:
The upper and lower allowable deviations in antenna power are 20% and 80%, respectively. However, these limits are for maximum rate antenna power. If the antenna power is reduced for communication reasons, there are no regulated upper or lower allowable deviations.

* Only the upper antenna tolerance of +20% applies to the Radio Equipment Regulations Article 14(8)(3) for radio stations of low-power data communications systems using radio waves with frequencies exceeding 2400 MHz and up to 2483.5 MHz.

The maximum antenna gain for this unit to pass the requirements has been found to be 4.75 dBi for antennas with a maximum half power beamwidth of 360 degrees. This is due to the max measurement of 5.48 mW/MHz. Higher gain antennas may be used so long as the half power beamwidth passes the requirements in ARIB STD-T66 3.6(2).

2.1.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
True RMS Multimeter	Fluke	79 Series III	411	12	12-Jan-2025
Hygrometer	Rotronic	I-1000	3220	12	28-Nov-2024
GPSDR Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	14-Sep-2024
MXA Signal Analyser	Keysight Technologies	N9020B	5528	24	18-Sep-2025
USB Power Sensor	Boonton	RTP5008	5833	12	12-Jul-2024
Modular Power System Mainframe	Keysight Technologies	N6701C	5835	-	TU
DC Power Module 60V 20A 300W	Keysight Technologies	N6754A	5836	-	O/P Mon
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6350	-	26-Jul-2024
SCU Cable Assembly SCU	TUV SUD	SPECTRUM_SCU_CA	6638	12	26-Jul-2024

Table 27

TU - Traceability Unscheduled
O/P Mon – Output Monitored using calibrated equipment

2.2 Frequency Deviation

2.2.1 Specification Reference

ARIB STD-T66, Clause 3.2 (4)

2.2.2 Equipment Under Test and Modification State

SiW917Y1GN, S/N: BLE MAC address: D4:48:67:DD:D7:30 - Modification State 0

2.2.3 Date of Test

22-May-2024

2.2.4 Test Method

The frequency of the spectrum was measured using a spectrum analyser by finding the center point of the 10 dB bandwidth. The deviation of the measured value from the assigned frequency was calculated in ppm.

The EUT was supplied with 3.3 VDC directly with a DC PSU.

2.2.5 Environmental Conditions

Ambient Temperature	22.7 °C
Relative Humidity	52.5 %

2.2.6 Test Results

2.4 GHz Bluetooth Low Energy - Conducted Tests

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	3.2 (4)	Test Method(s):	Refer to test method
Additional Reference(s):	-		

DUT Configuration			
Mode:	ARIB BLE GFSK (LE 1M)	Duty Cycle (%):	-
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	-	Peak Antenna Gain (dBi):	-
Supply Voltage:	3.30V	TX Mode:	Continuous Modulated Packet Bursts

Test Frequency (MHz)	Power Index	Frequency Error (ppm)	Limit (ppm)
2402	7.00	-8.289	±50.0
2404	7.00	-8.374	±50.0
2440	7.00	-7.754	±50.0
2478	7.00	-7.591	±50.0
2480	7.00	-7.984	±50.0

Table 28 - Frequency Tolerance Results

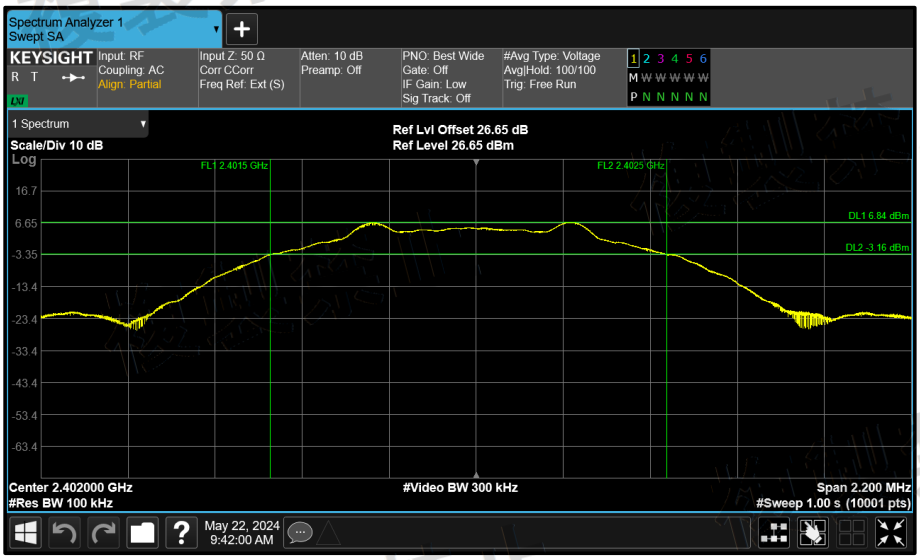


Figure 1 – 2402 MHz (Ch 0) Pre-scan

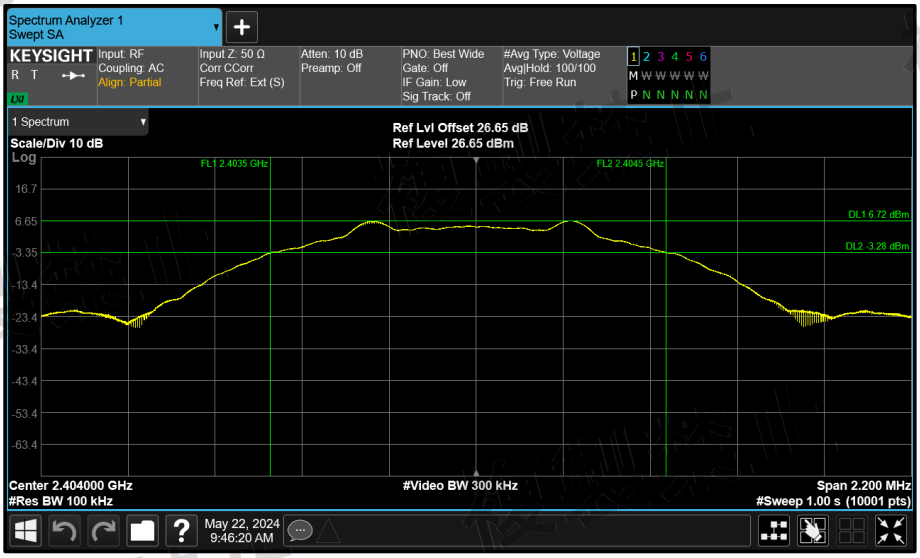


Figure 2 – 2404 MHz (Ch 1) Pre-scan

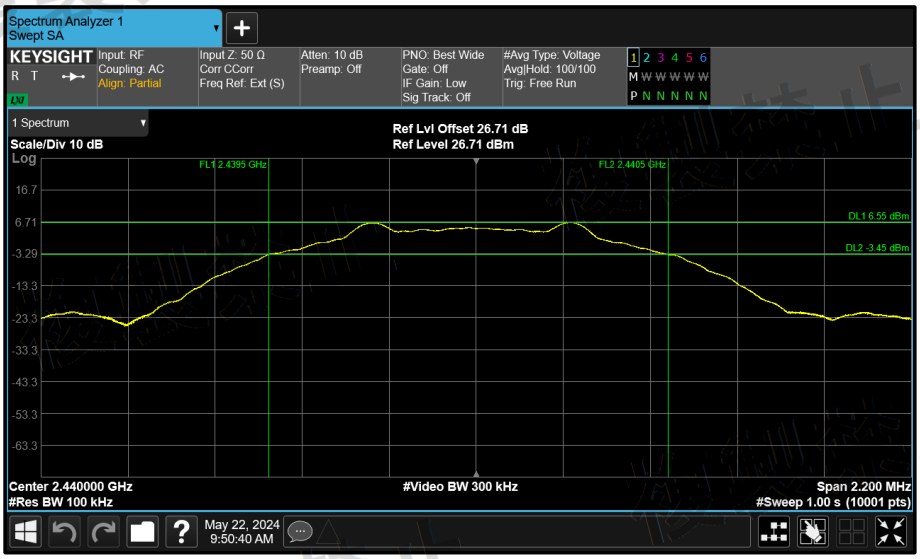


Figure 3 – 2440 MHz (Ch 19) Pre-scan

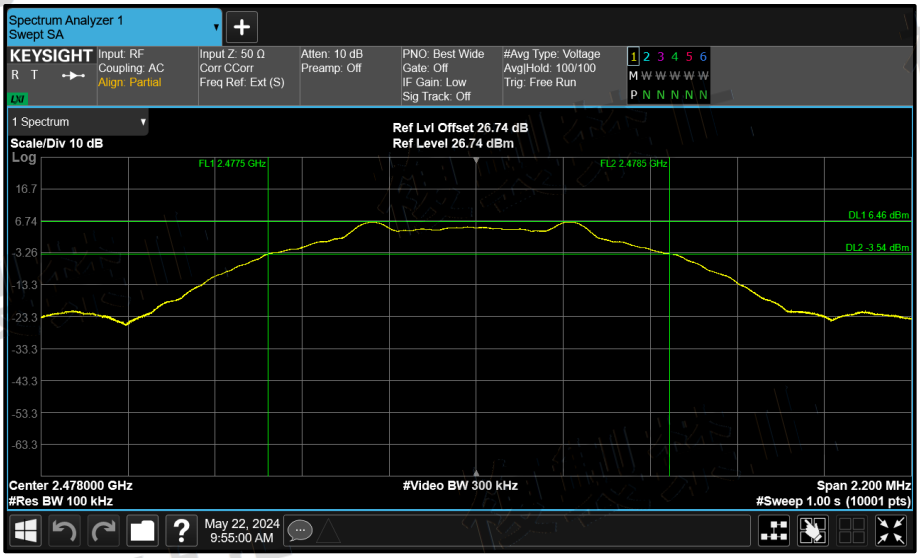


Figure 4 – 2478 MHz (Ch 38) Pre-scan

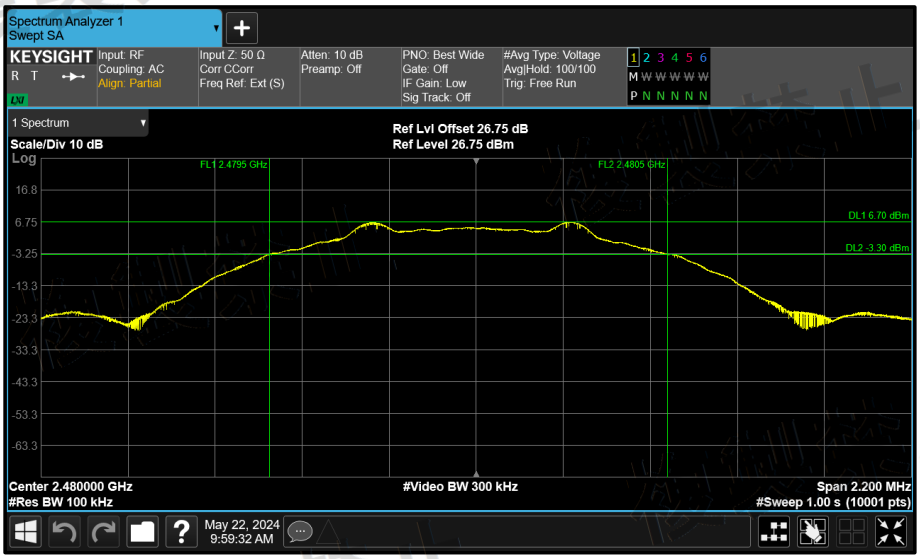


Figure 5 – 2480 MHz (Ch 39) Pre-scan

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	3.2 (4)	Test Method(s):	Refer to test method
Additional Reference(s):	-		

DUT Configuration			
Mode:	ARIB BLE GFSK (LE 2M)	Duty Cycle (%):	-
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	-	Peak Antenna Gain (dBi):	-
Supply Voltage:	3.30V	TX Mode:	Continuous Modulated Packet Bursts

Test Frequency (MHz)	Power Index	Frequency Error (ppm)	Limit (ppm)
2404	7.00	-2.970	±50.0
2440	7.00	-2.324	±50.0
2478	7.00	-2.542	±50.0

Table 29 - Frequency Tolerance Results

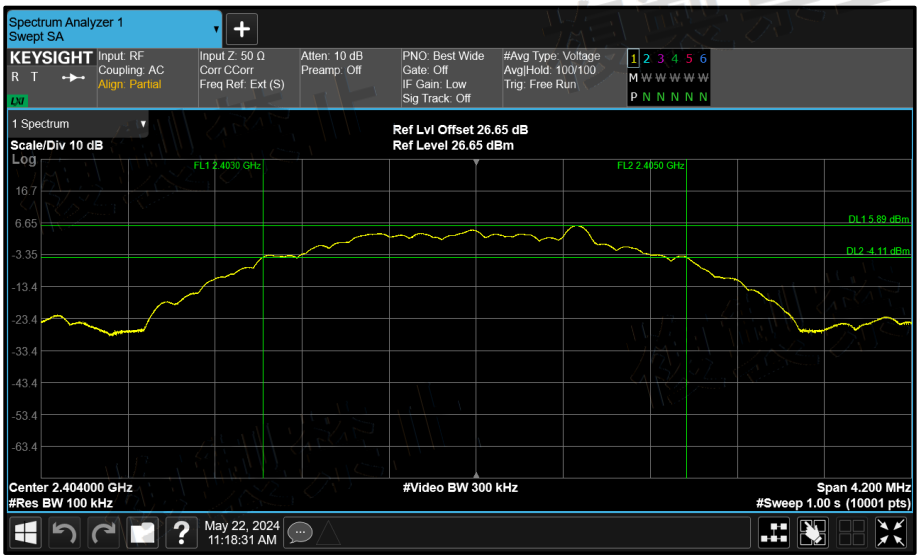


Figure 6 – 2404 MHz (Ch 1) Pre-scan

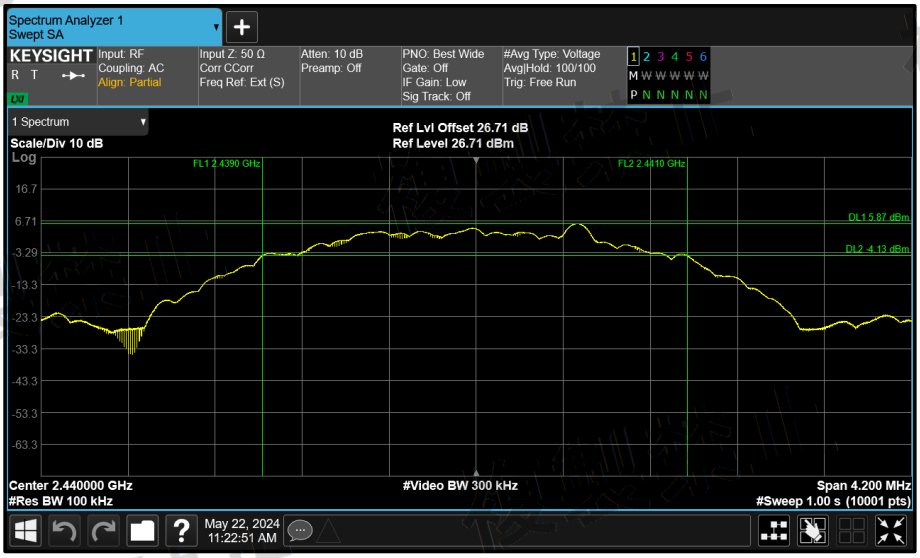


Figure 7 – 2440 MHz (Ch 19) Pre-scan

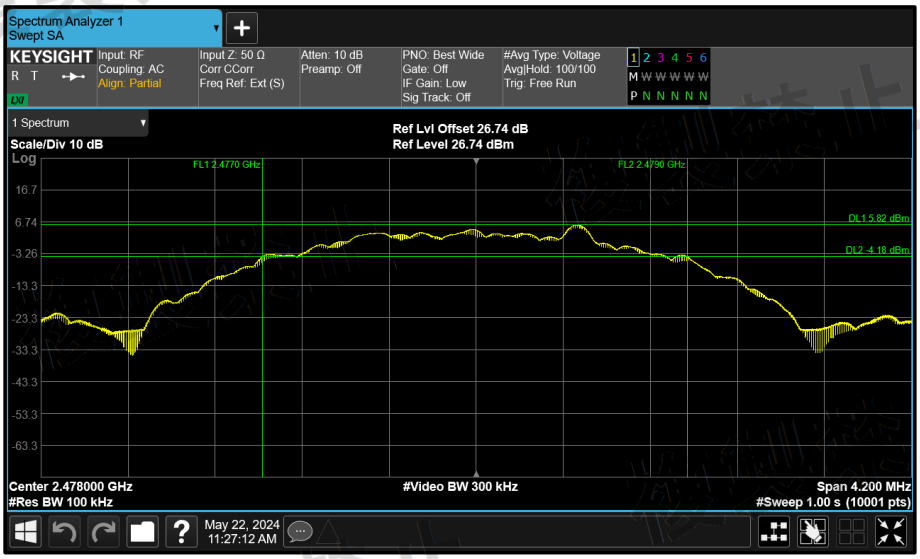


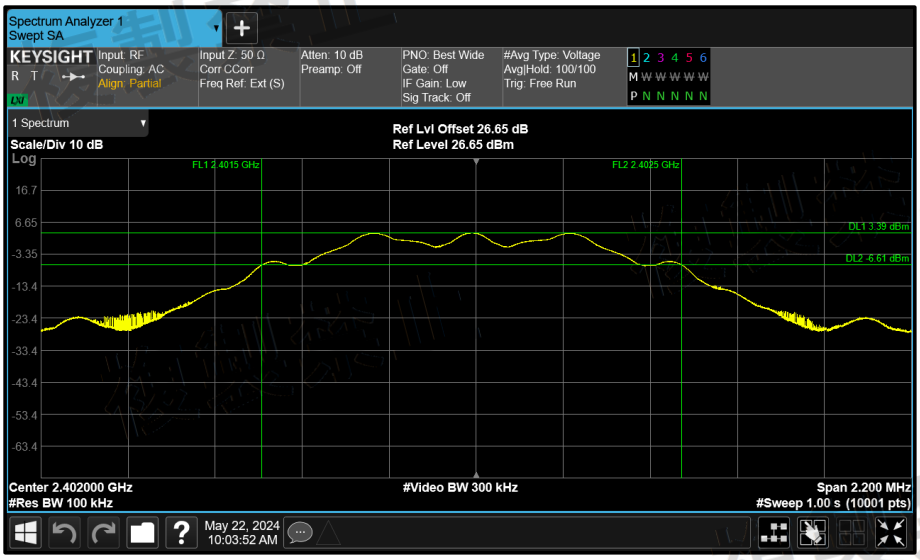
Figure 8 – 2478 MHz (Ch 38) Pre-scan

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	3.2 (4)	Test Method(s):	Refer to test method
Additional Reference(s):	-		

DUT Configuration			
Mode:	ARIB BLE GFSK (LE 125k)	Duty Cycle (%):	-
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	-	Peak Antenna Gain (dBi):	2.80
Supply Voltage:	3.30V	TX Mode:	Continuous Modulated Packet Bursts

Test Frequency (MHz)	Power Index	Frequency Error (ppm)	Limit (ppm)
2402	7.00	-4.808	±50.0
2404	7.00	-4.896	±50.0
2440	7.00	-5.906	±50.0
2478	7.00	-6.170	±50.0
2480	7.00	-5.589	±50.0

Table 30 - Frequency Tolerance Results



Figuref 9 – 2402 MHz (Ch 0) Pre-scan

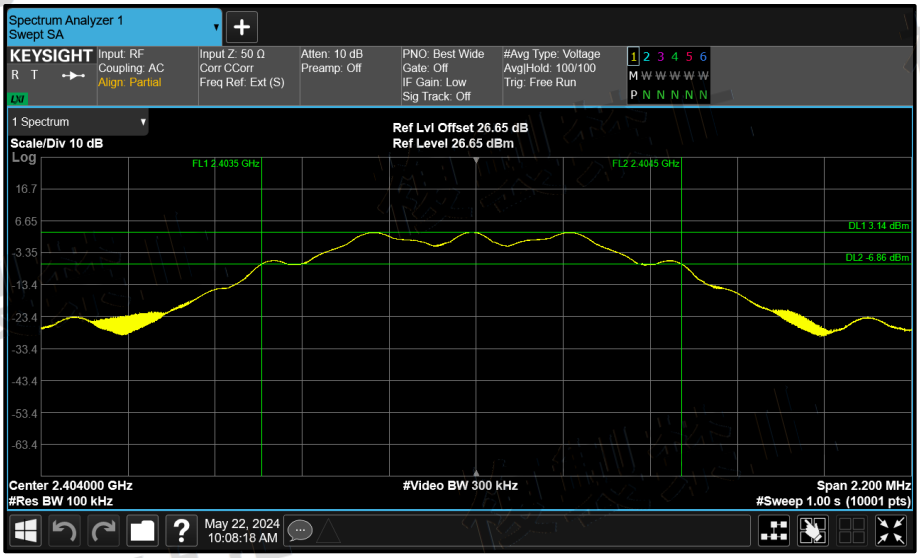


Figure 10 – 2404 MHz (Ch 1) Pre-scan

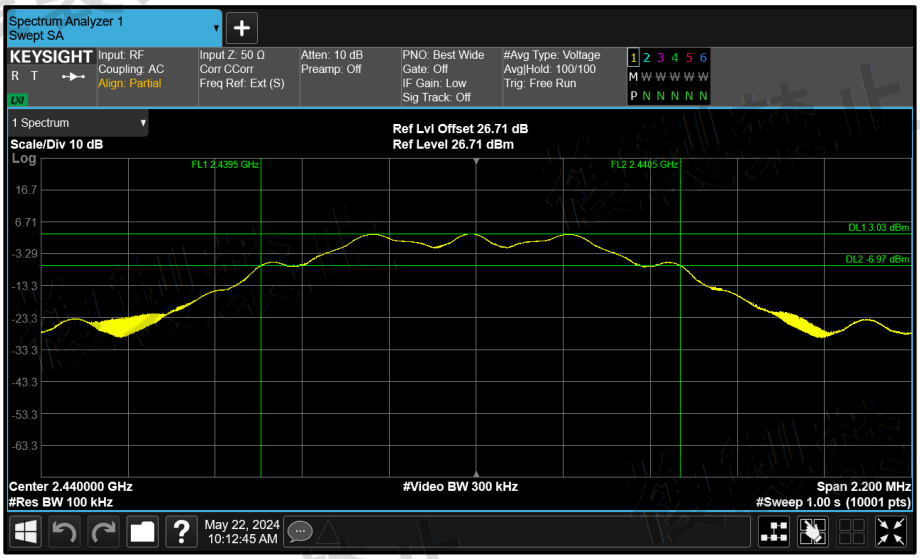


Figure 11 – 2440 MHz (Ch 19) Pre-scan

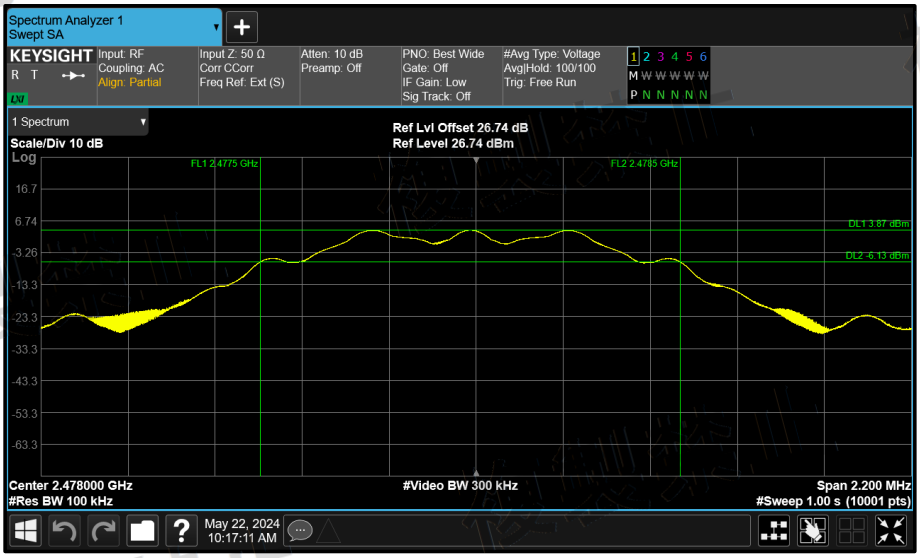


Figure 12 – 2478 MHz (Ch 38) Pre-scan

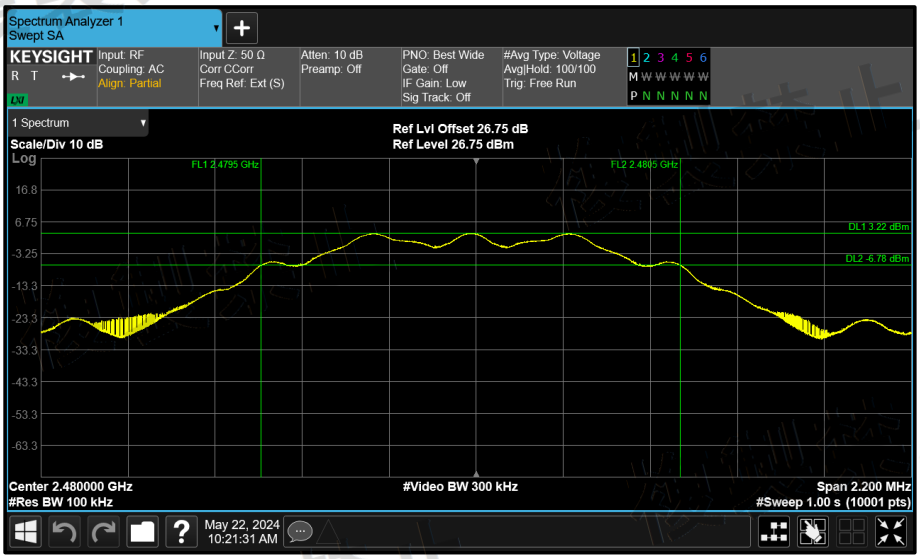


Figure 13 – 2480 MHz (Ch 39) Pre-scan

ARIB STD T-66, Limit Clause 3.2 (4)

± 50 x 10^{-6}.

2.2.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
True RMS Multimeter	Fluke	79 Series III	411	12	12-Jan-2025
Hygrometer	Rotronic	I-1000	3220	12	28-Nov-2024
GPSDR Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	14-Sep-2024
MXA Signal Analyser	Keysight Technologies	N9020B	5528	24	18-Sep-2025
Modular Power System Mainframe	Keysight Technologies	N6701C	5835	-	TU
DC Power Module 60V 20A 300W	Keysight Technologies	N6754A	5836	-	O/P Mon
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6350	-	26-Jul-2024
SCU Cable Assembly SCU	TUV SUD	SPECTRUM_SCU_CA	6638	12	26-Jul-2024

Table 31

TU - Traceability Unscheduled
O/P Mon – Output Monitored using calibrated equipment

2.3 Permissible Value of Spurious or Unnecessary Radiation Intensity

2.3.1 Specification Reference

ARIB STD-T66, Clause 3.2 (6)

2.3.2 Equipment Under Test and Modification State

SiW917Y1GN, S/N: BLE MAC address: D4:48:67:DD:D7:30 - Modification State 0

2.3.3 Date of Test

29-May-2024 to 04-June-2024

2.3.4 Test Method

This test has been performed in accordance with ARIB STD-T66 v3.7 standard, clause 3.2 6 using the test method described in ANSI C63.26 clause 5.7.3 d) for measurement of average power of a narrow-band signal using a spectrum analyser.

The EUT was supplied with 3.3 VDC directly with a DC PSU.

All test modes (BLE 1M, 2M and 125k) were performed with a Power Index of 7.

2.3.5 Environmental Conditions

Ambient Temperature	21.4 – 21.9 °C
Relative Humidity	55.5 – 58.0 %

2.3.6 Test Results

2.4 GHz BLE 1M

3.3 V DC Supply

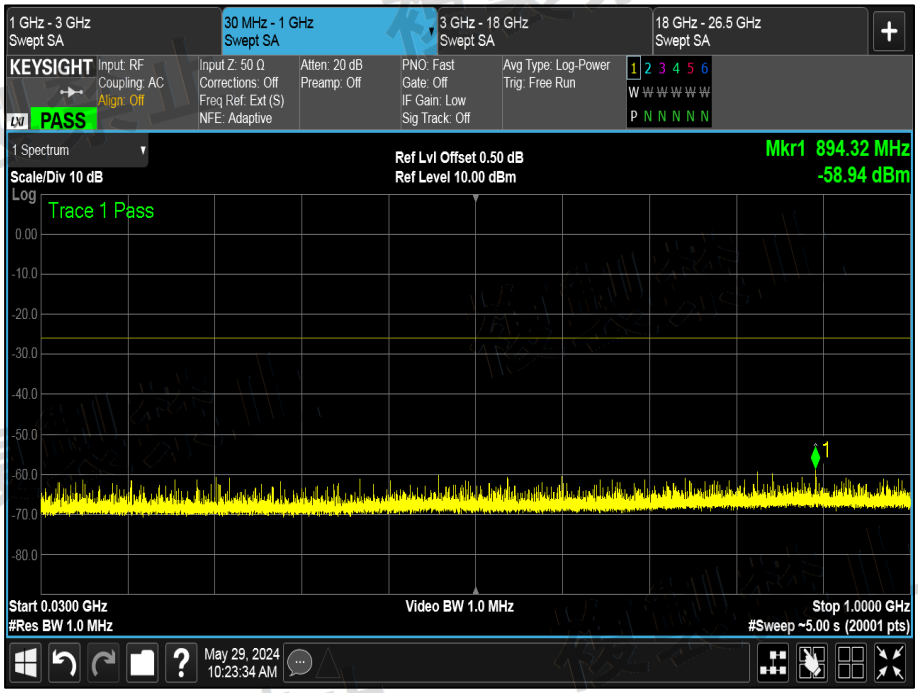


Figure 14 - 2402 MHz - 30 MHz to 1000 MHz

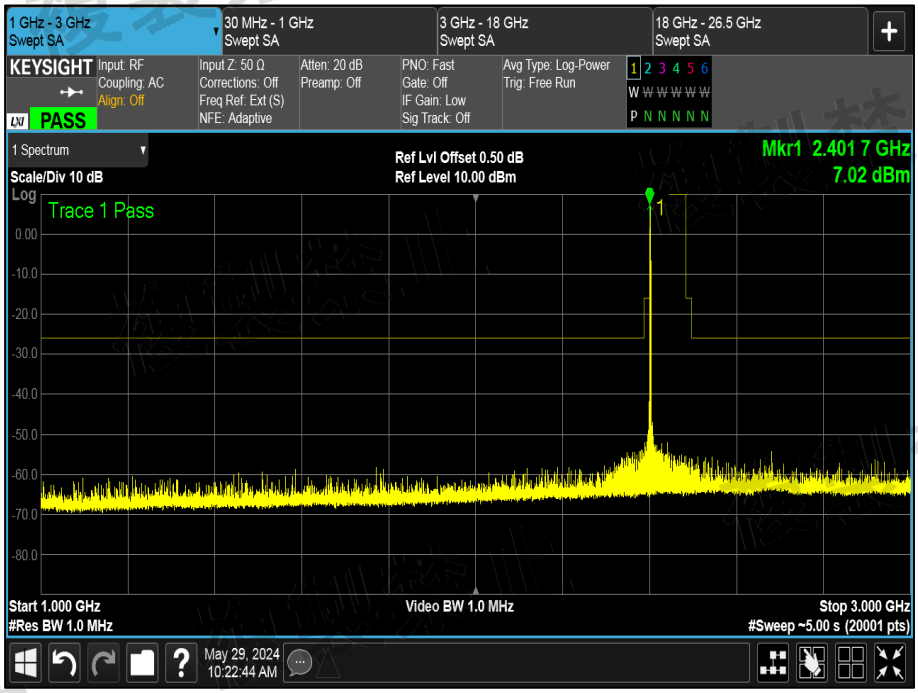


Figure 15 - 2402 MHz - 1000 MHz to 3000 MHz

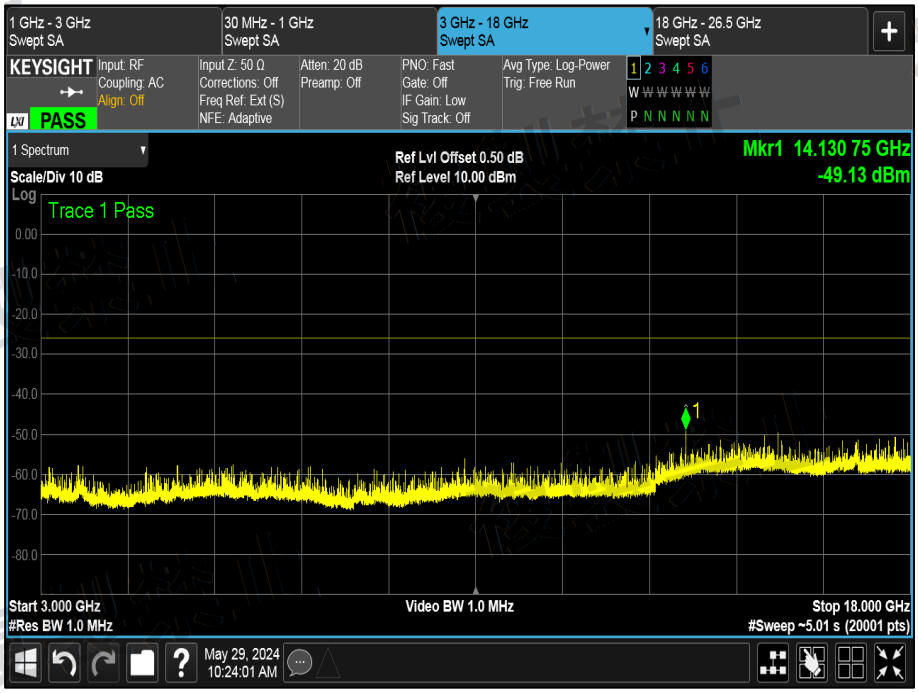


Figure 16 - 2402 MHz - 3000 MHz to 18000 MHz

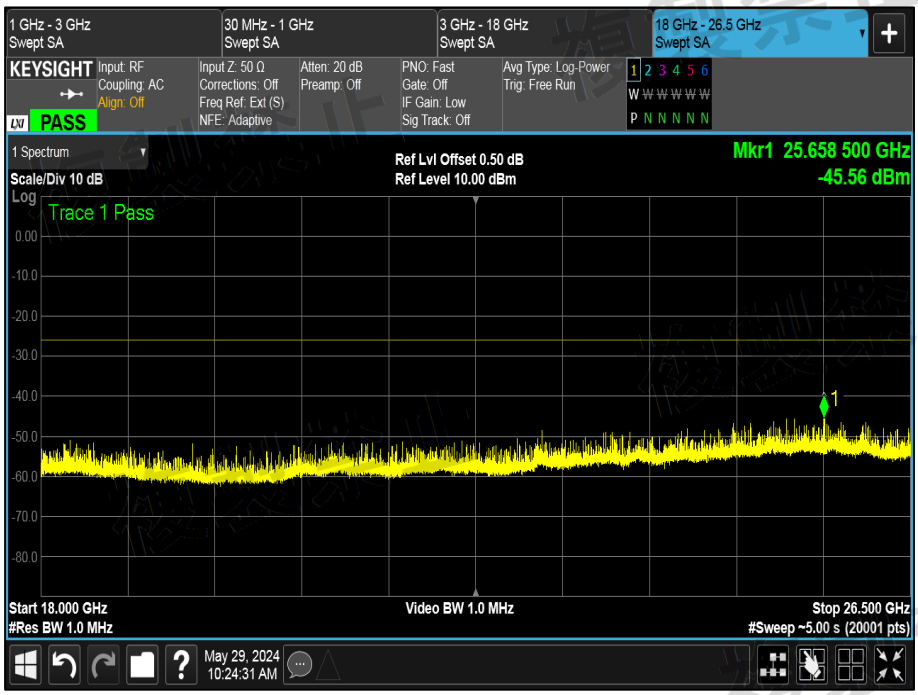


Figure 17 - 2402 MHz - 18000 MHz to 26500 MHz

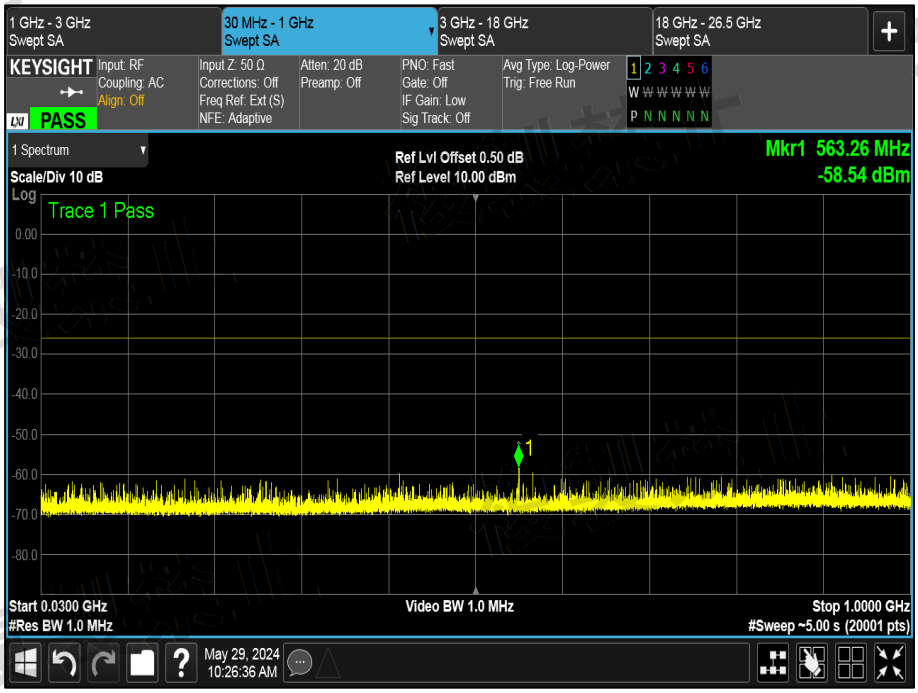


Figure 18 - 2440 MHz - 30 MHz to 1000 MHz

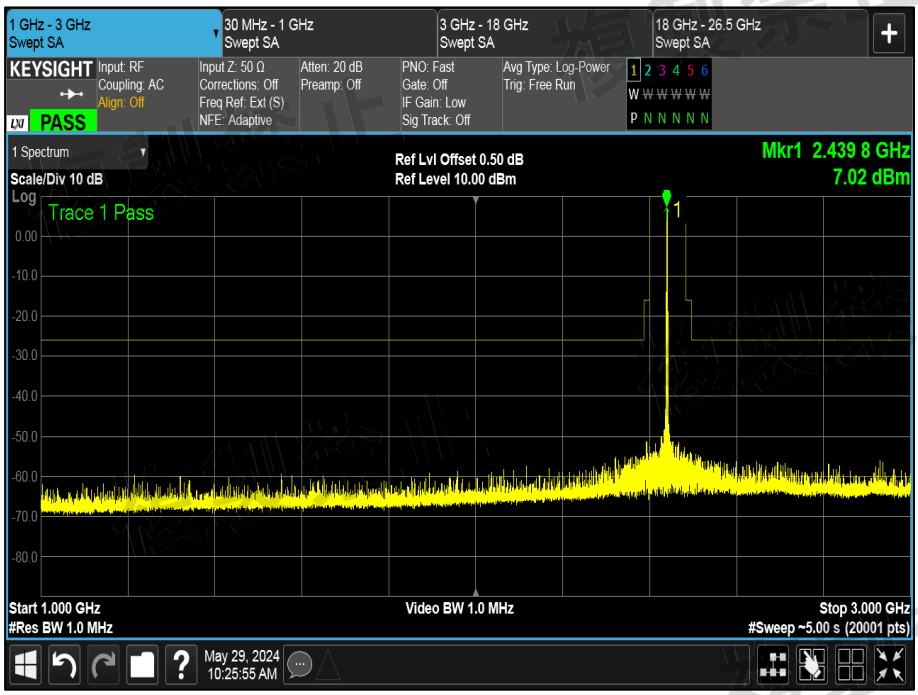


Figure 19 - 2440 MHz - 1000 MHz to 3000 MHz

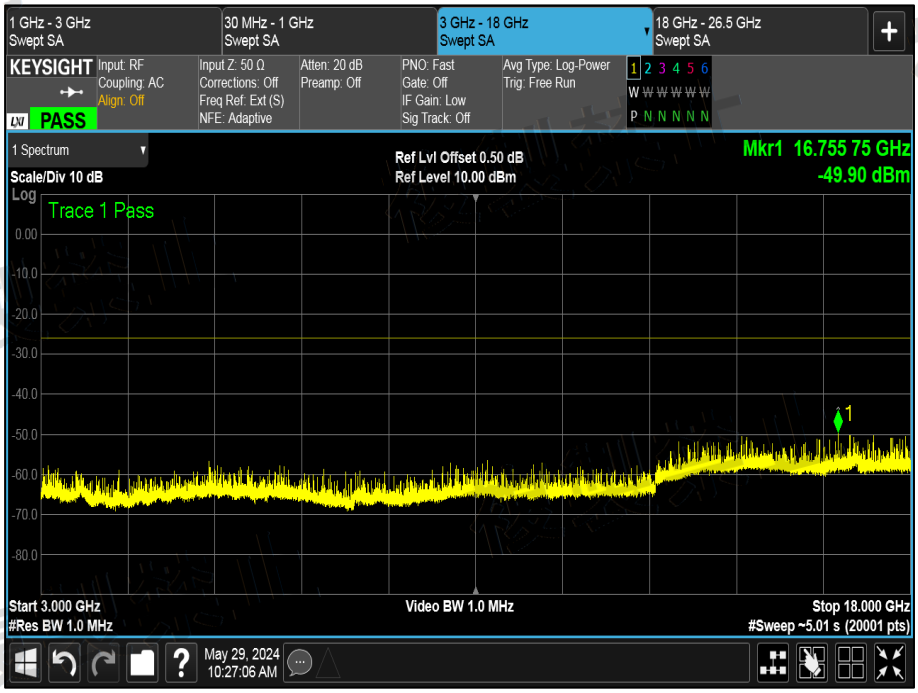


Figure 20 - 2440 MHz - 3000 MHz to 18000 MHz

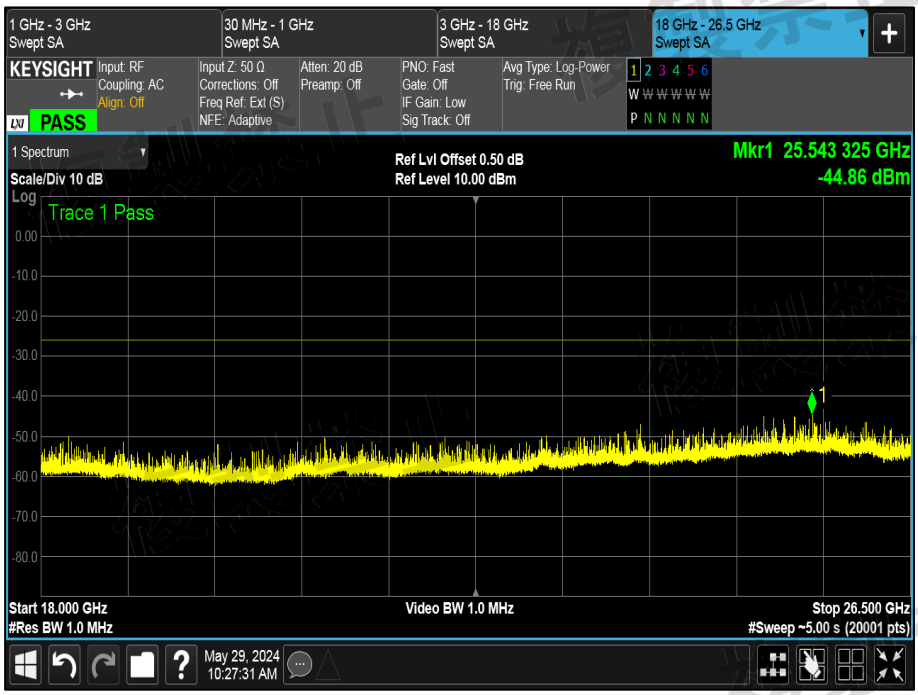


Figure 21 - 2440 MHz - 18000 MHz to 26500 MHz

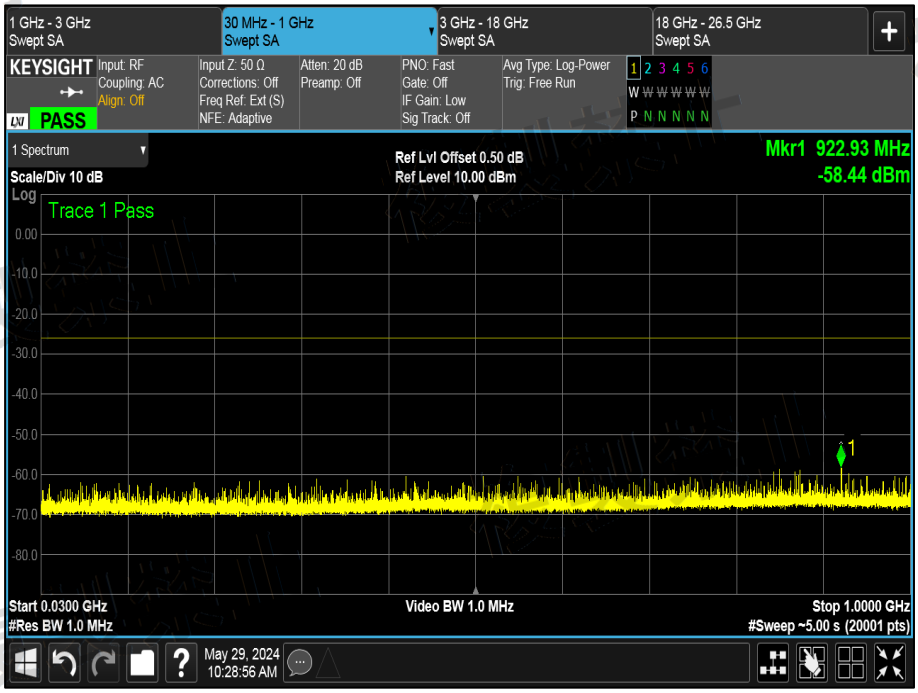


Figure 22 - 2480 MHz - 30 MHz to 1000 MHz

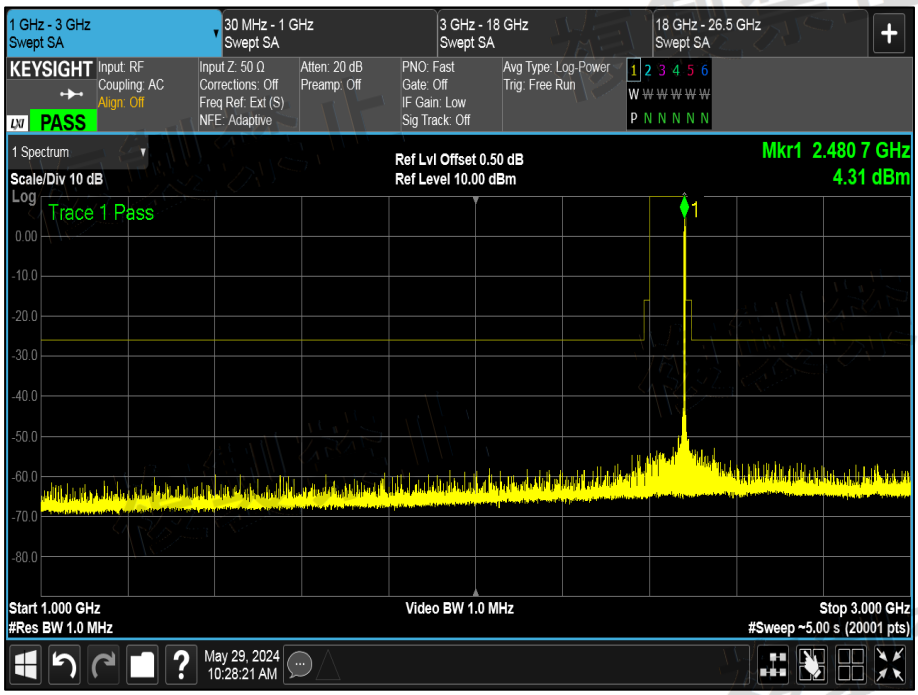


Figure 23 - 2480 MHz - 1000 MHz to 3000 MHz

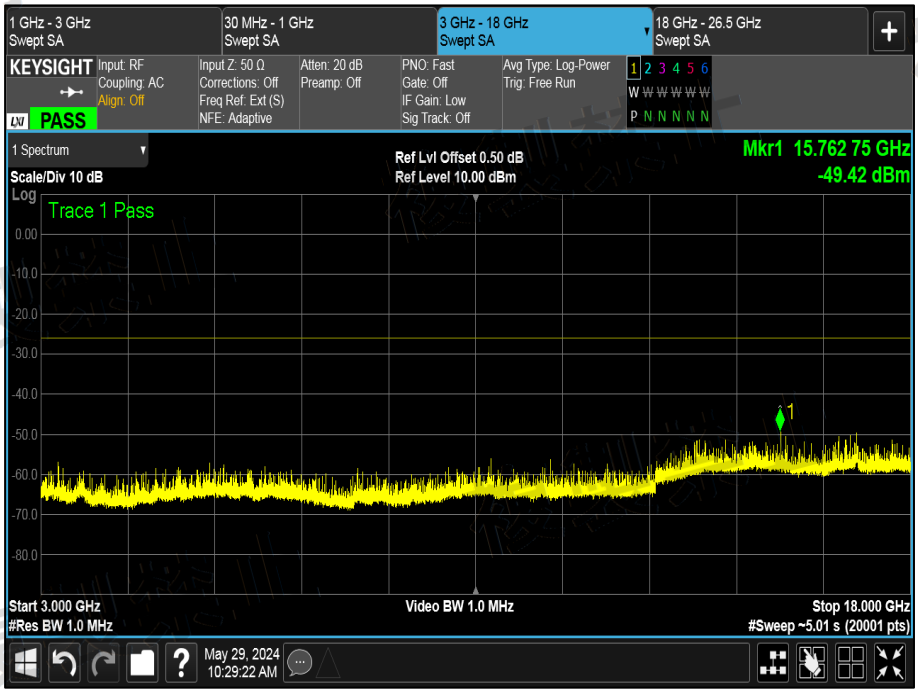


Figure 24 - 2480 MHz - 3000 MHz to 18000 MHz

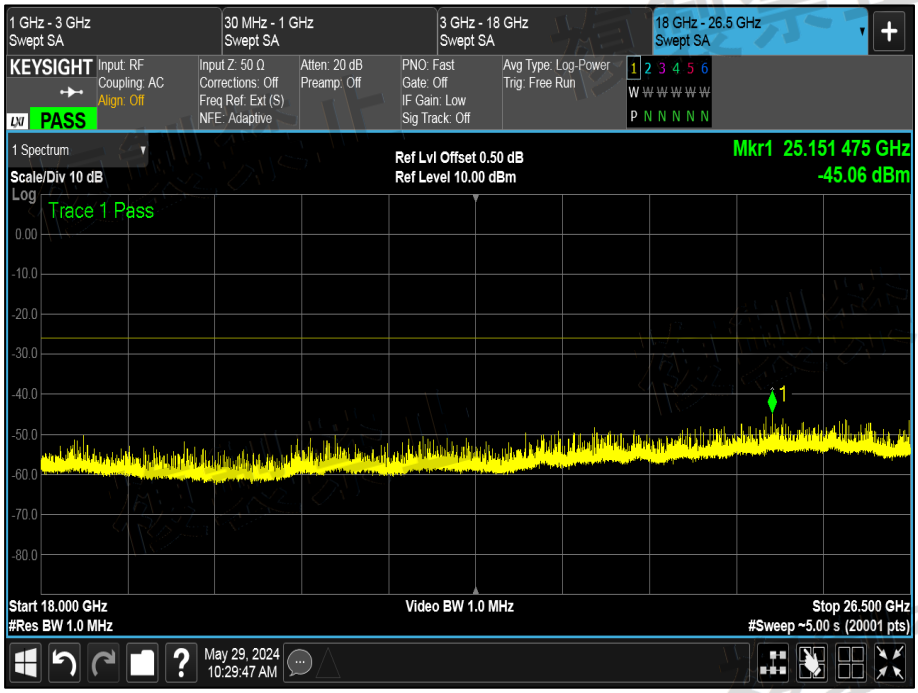


Figure 25 - 2480 MHz - 18000 MHz to 26500 MHz

2.4 GHz BLE 2M

3.3 V DC Supply

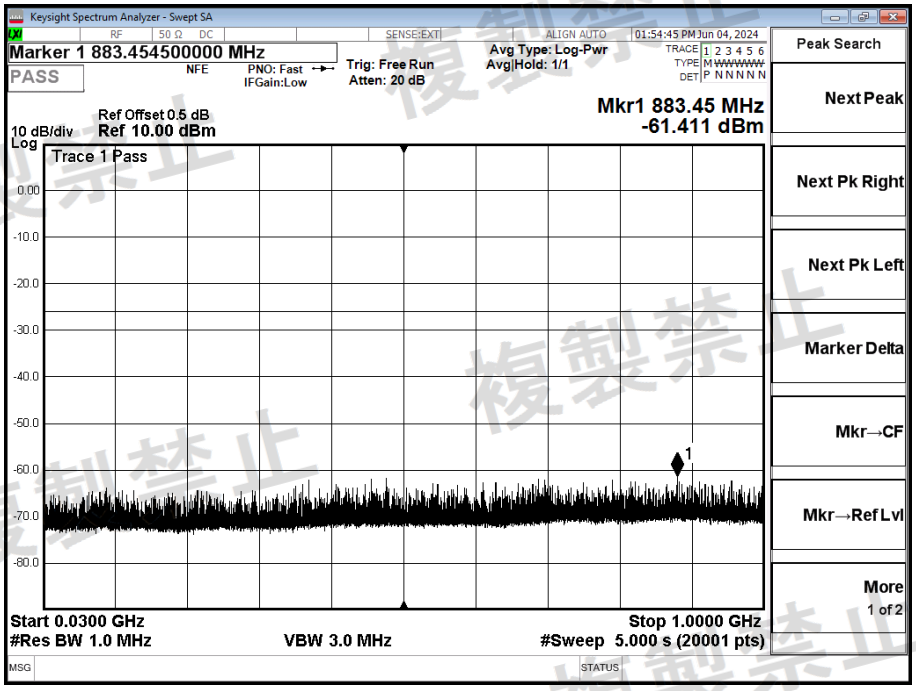


Figure 26 - 2404 MHz - 30 MHz to 1000 MHz

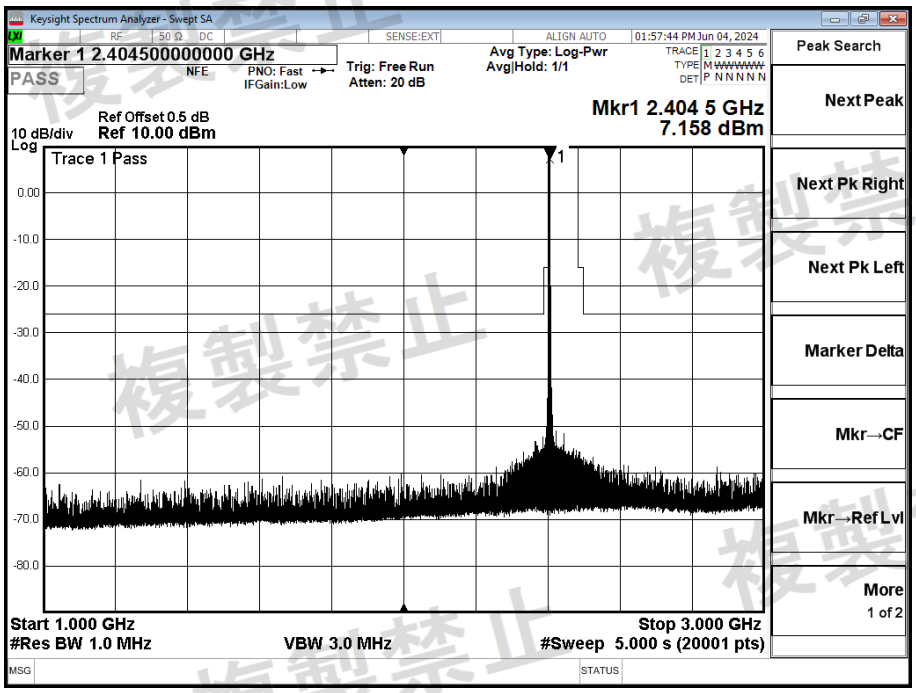


Figure 27 - 2404 MHz - 1000 MHz to 3000 MHz

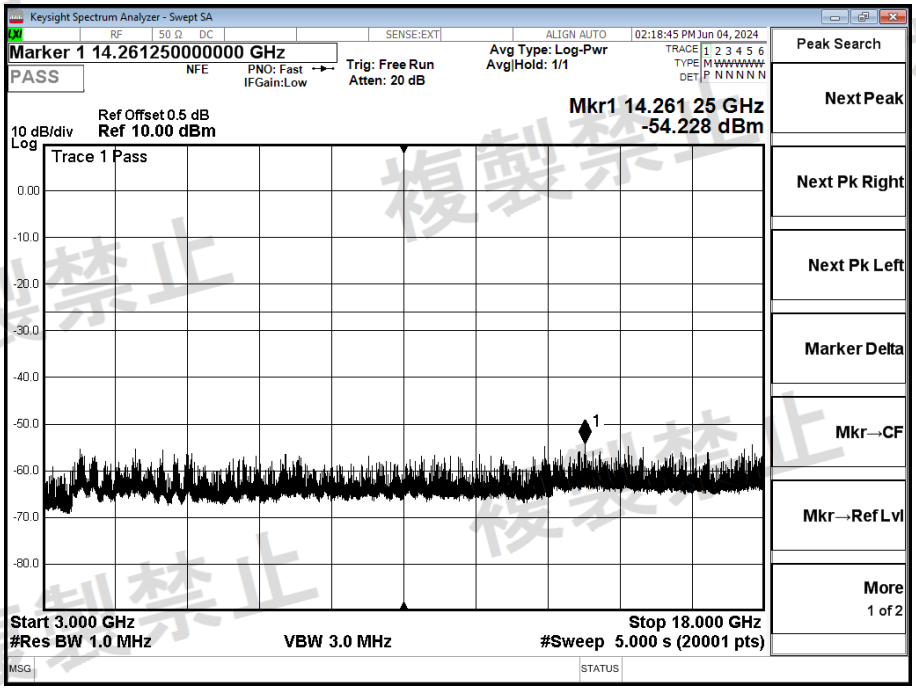


Figure 28 - 2404 MHz - 3000 MHz to 18000 MHz

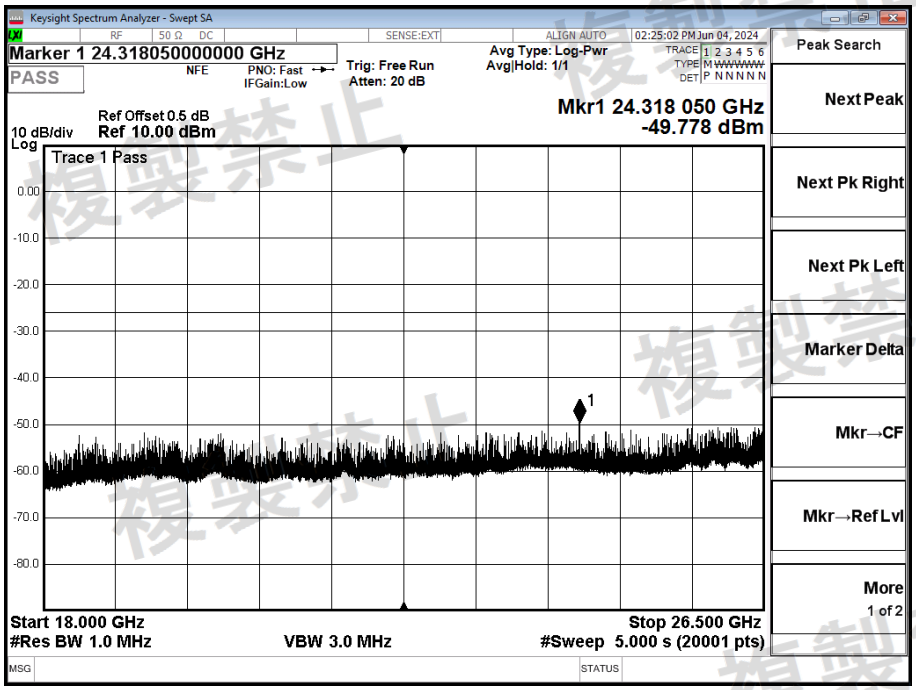


Figure 29 - 2404 MHz - 18000 MHz to 26500 MHz

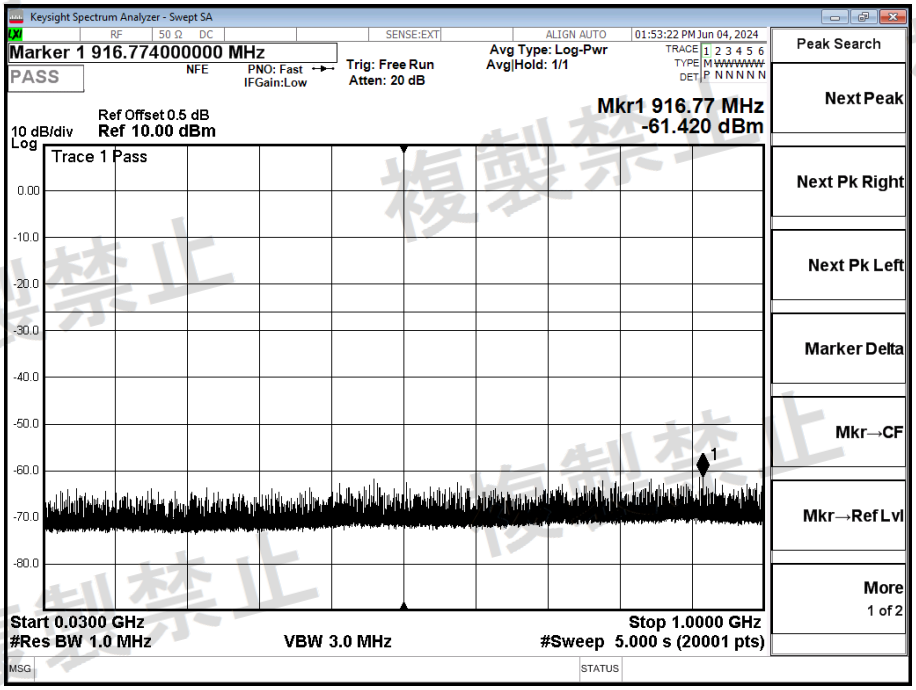


Figure 30 - 2440 MHz - 30 MHz to 1000 MHz

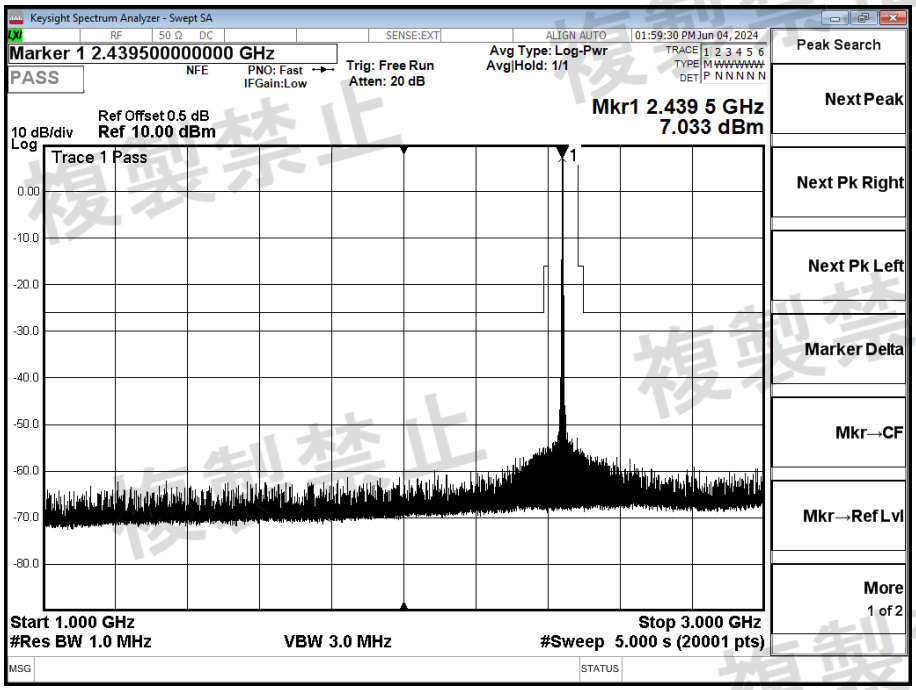


Figure 31 - 2440 MHz - 1000 MHz to 3000 MHz

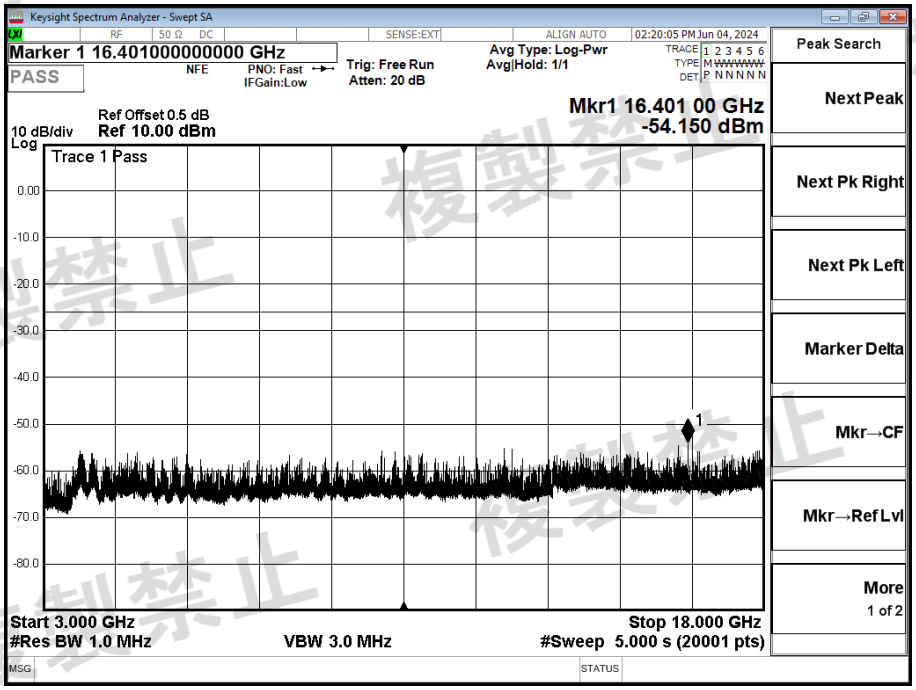


Figure 32 - 2440 MHz - 3000 MHz to 18000 MHz

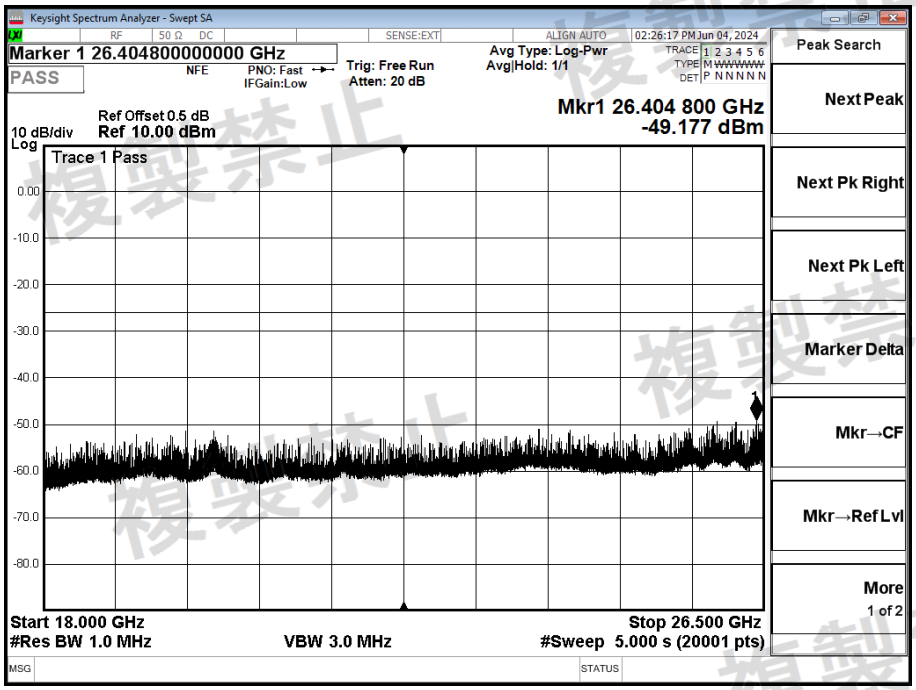


Figure 33 - 2440 MHz - 18000 MHz to 26500 MHz

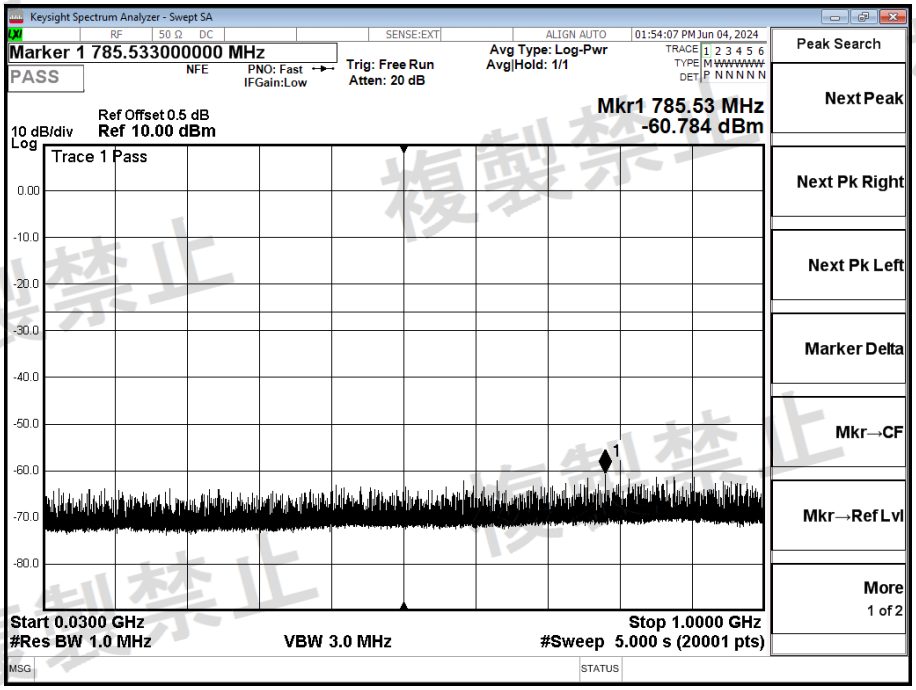


Figure 34 - 2478 MHz - 30 MHz to 1000 MHz

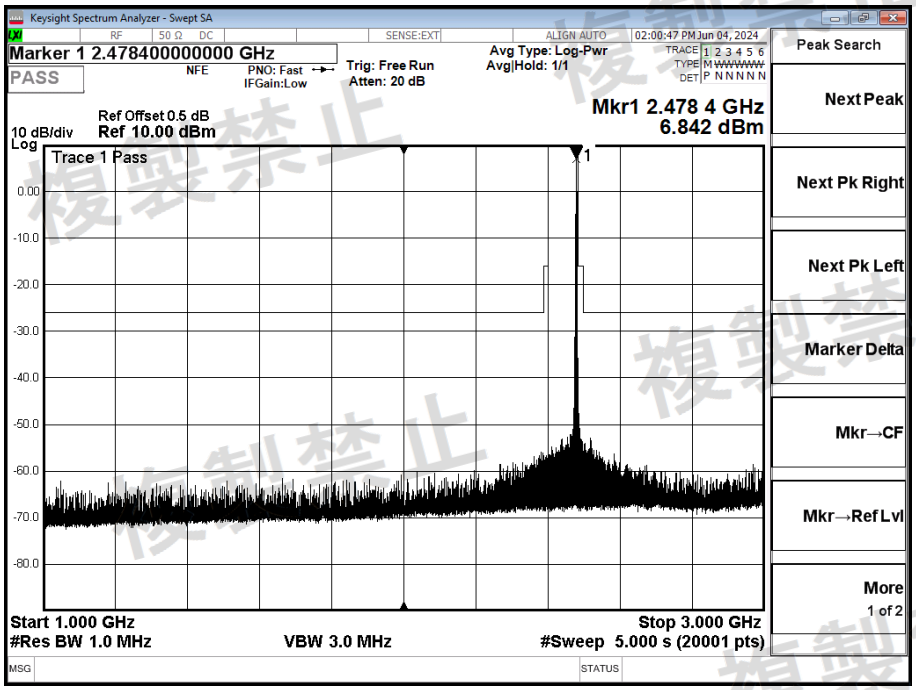


Figure 35 - 2478 MHz - 1000 MHz to 3000 MHz

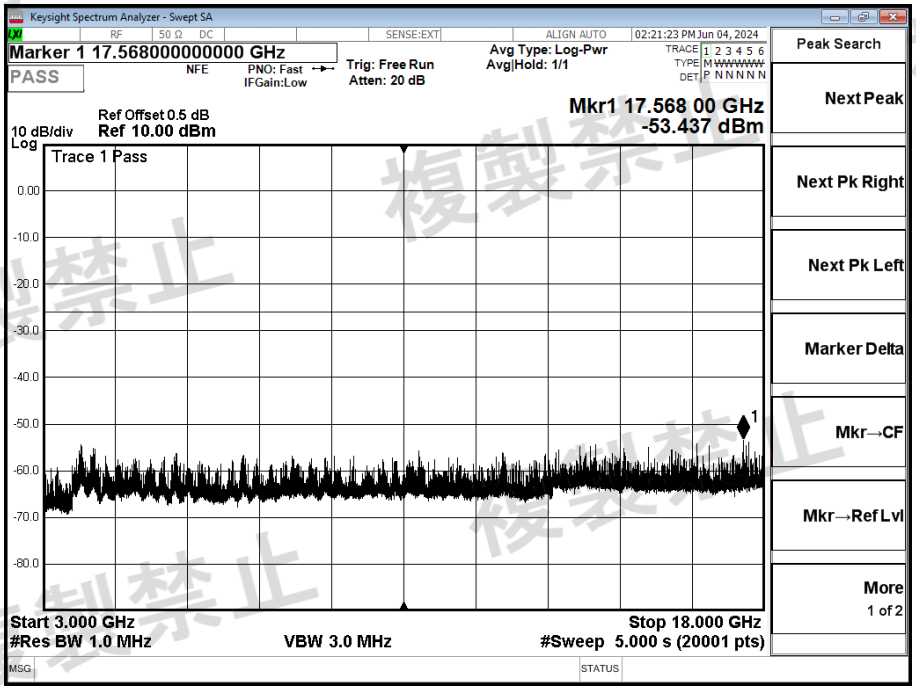


Figure 36 - 2478 MHz - 3000 MHz to 18000 MHz

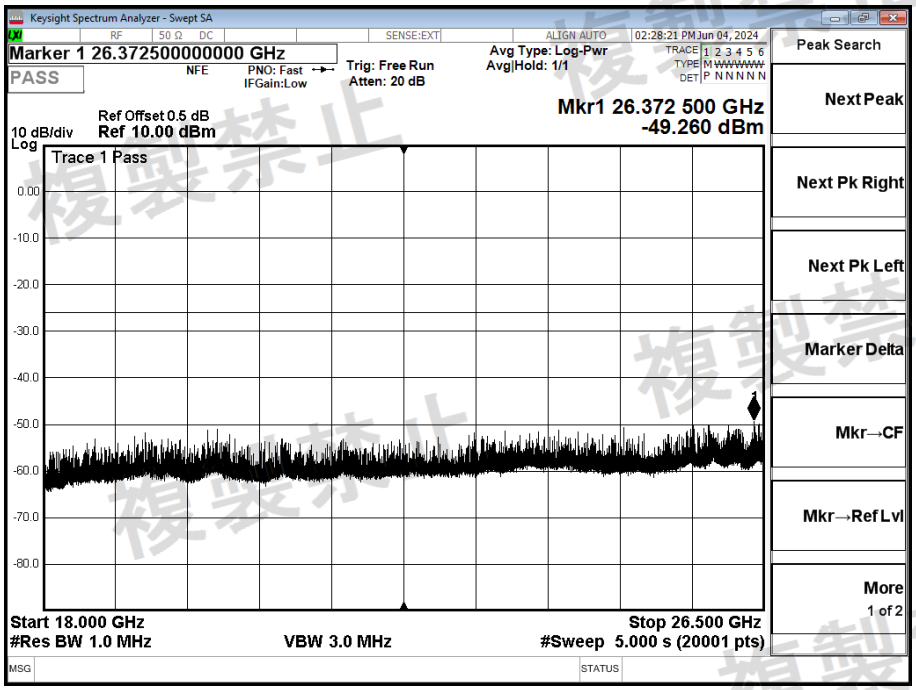


Figure 37 - 2478 MHz - 18000 MHz to 26500 MHz

2.4 GHz BLE 125k

3.3 V DC Supply

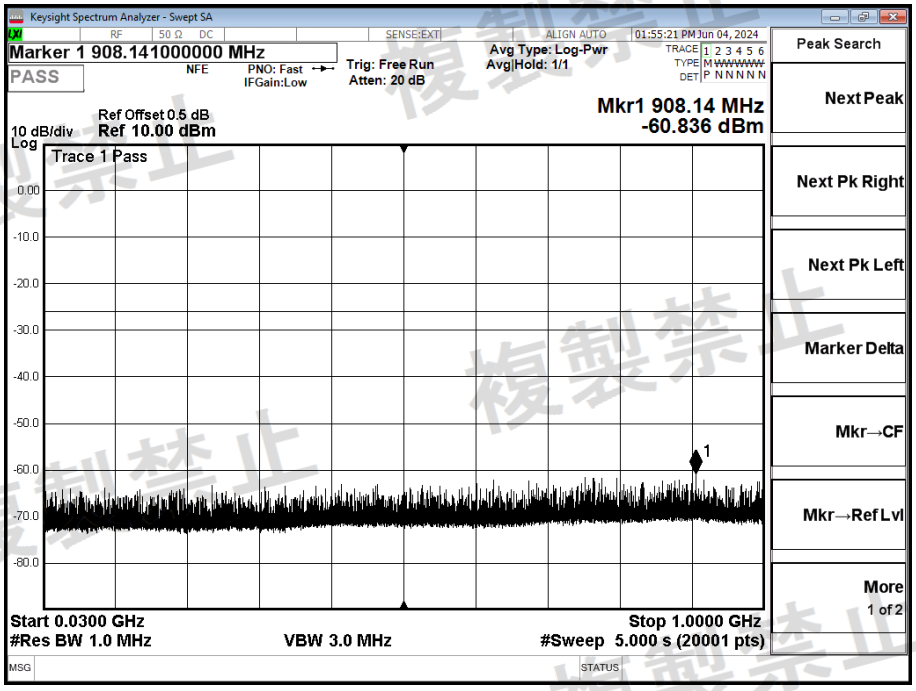


Figure 38 - 2402 MHz - 30 MHz to 1000 MHz

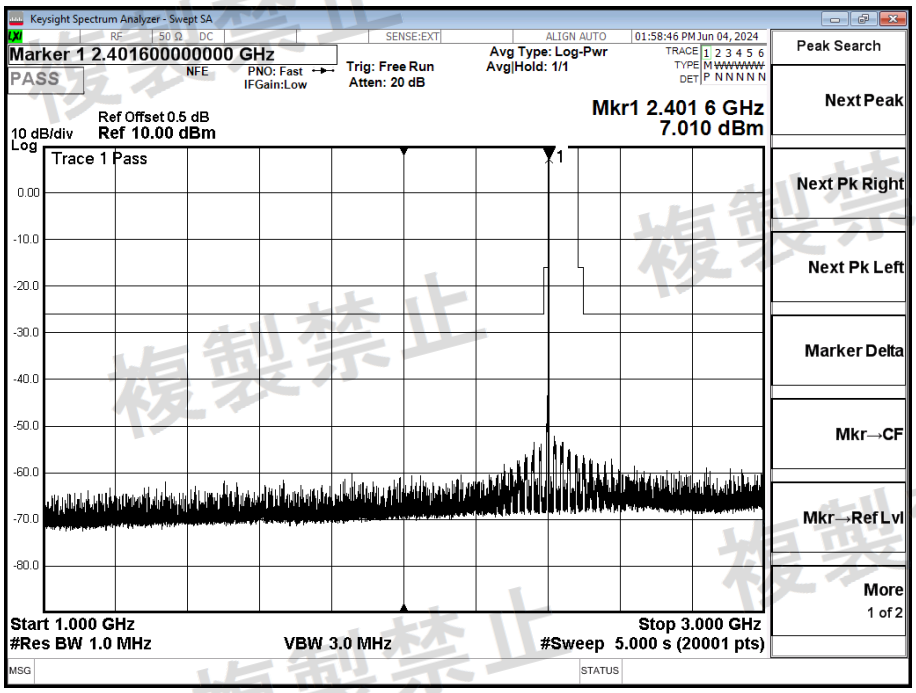


Figure 39 - 2402 MHz - 1000 MHz to 3000 MHz

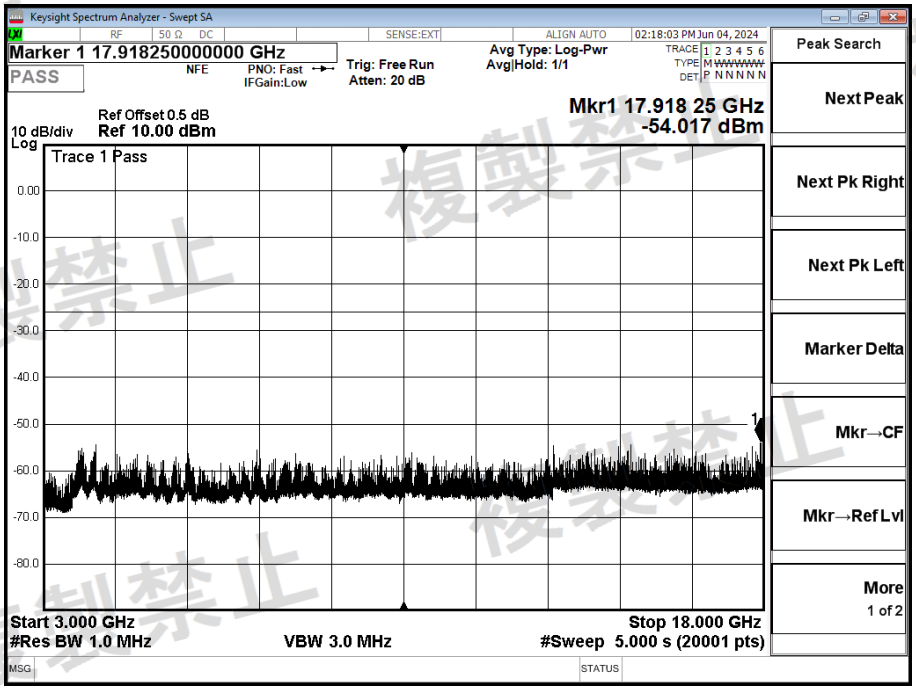


Figure 40 - 2402 MHz - 3000 MHz to 18000 MHz

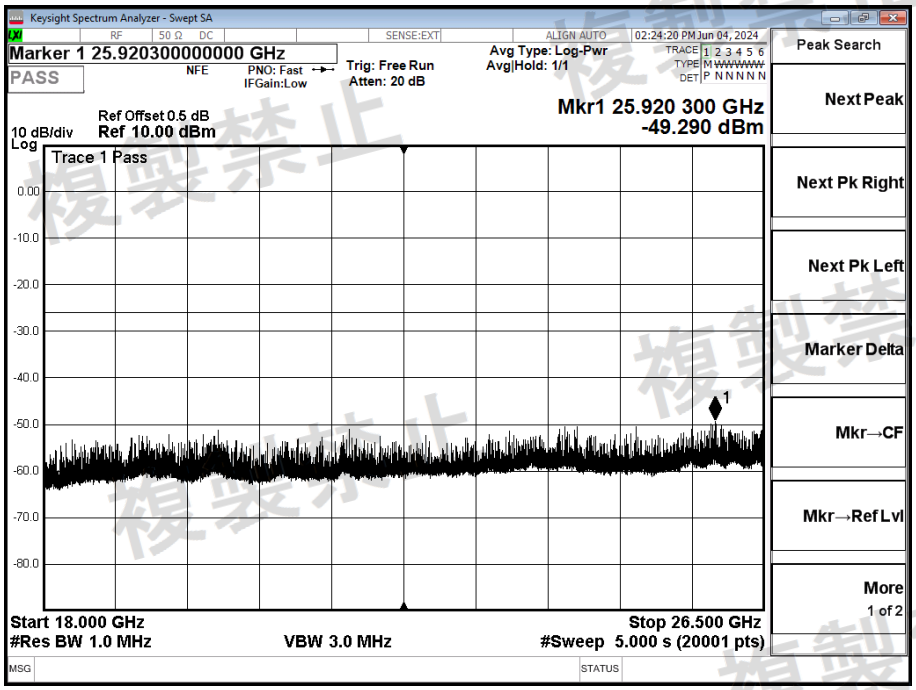


Figure 41 - 2402 MHz - 18000 MHz to 26500 MHz

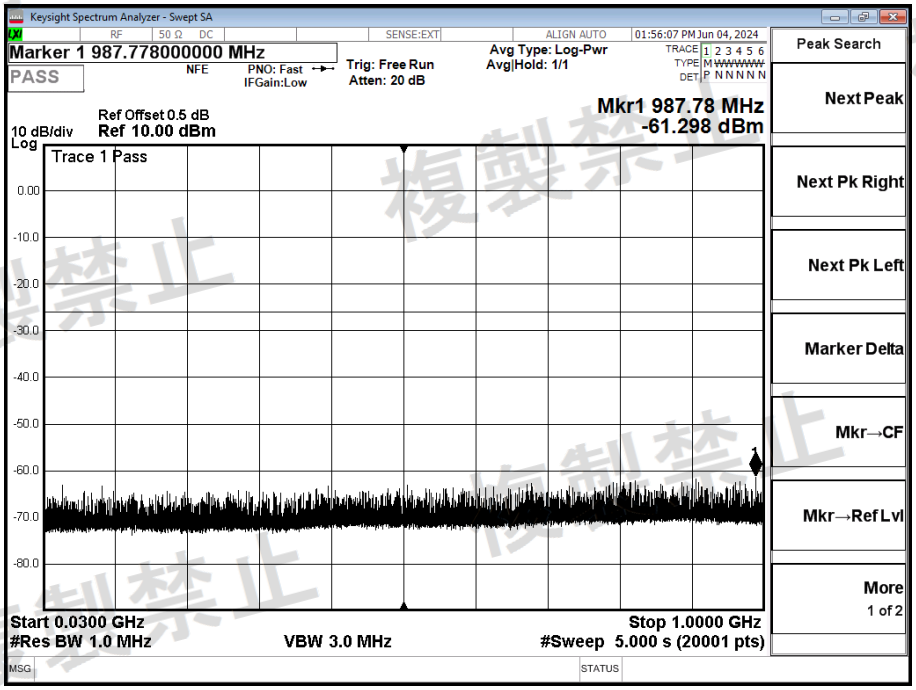


Figure 42 - 2440 MHz - 30 MHz to 1000 MHz

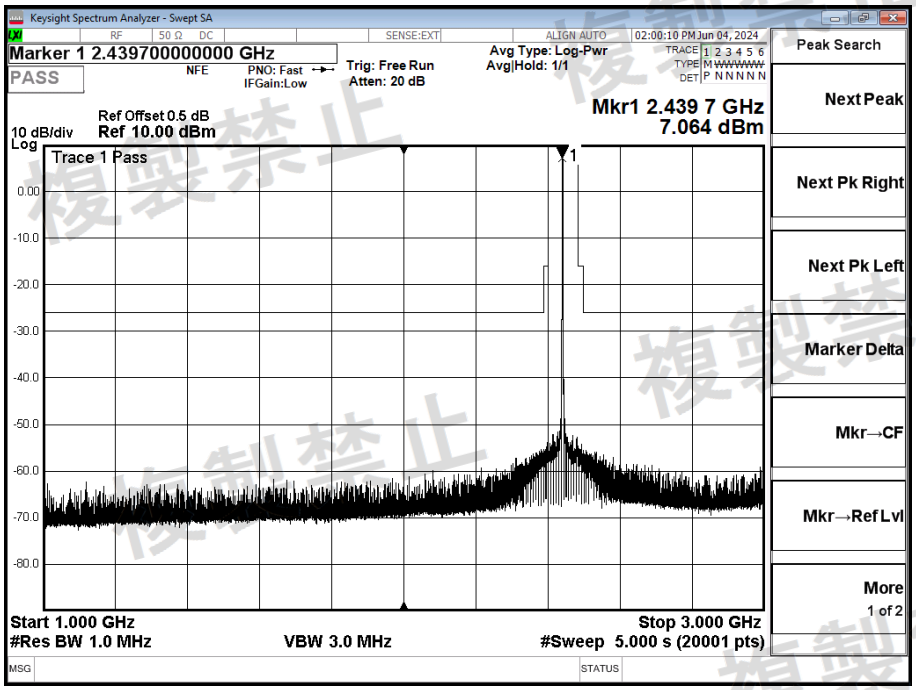


Figure 43 - 2440 MHz - 1000 MHz to 3000 MHz

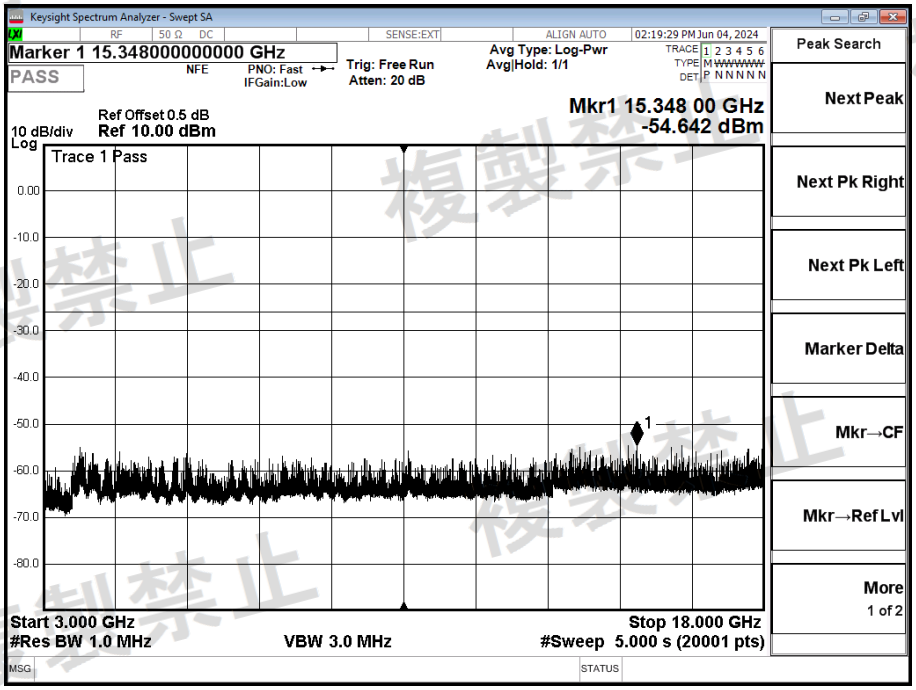


Figure 44 - 2440 MHz - 3000 MHz to 18000 MHz

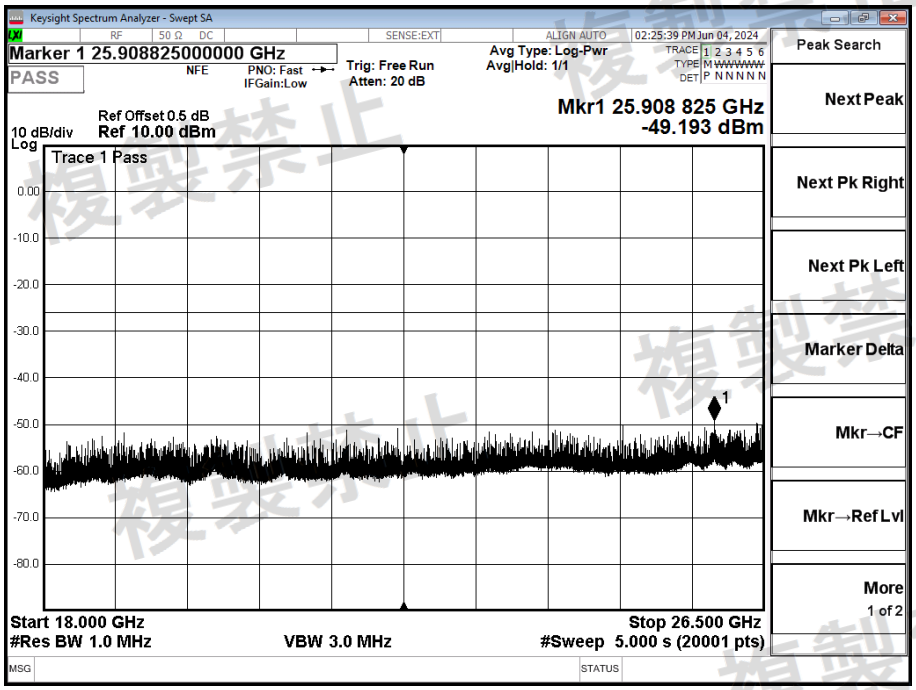


Figure 45 - 2440 MHz - 18000 MHz to 26500 MHz