



Report No.: ET-26030854E01

MIC TEST REPORT

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Address of Manufacturer: Room 2403, East Tower, Lepu Building, No. 60 Xingke Road, Xili Street, Nanshan District, Shenzhen City, Guangdong Province China
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Address of Factory: Factory Building A18, Feixi Wanyang Innovation City, Intersection of Shusheng Road and Huihuang Road, Guanting Town, Feixi County, Hefei City, Anhui Province China
Product Name: Mini PC
Model No.: LS5,LS5 mini,LS5 PRO,LS5 ULTRA,LS5 MAX,LS5 AI
Trade Mark: jwawaken
Applicable standards: MIC notification No. 88 of 2004, annex 43 Article 2, Paragraph 1, Item 19
Date of Test: Mar.14, 2026-May.08, 2026
Date of report issued: May.09, 2026

Remark:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full without prior written permission of the company.

The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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Report Revision History		
Report No.	Description	Issue Date
ET-26030854E01	Original	May.09, 2026

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1 Test Summary

Item	Description of Test	Result	Test by
1	Frequency Tolerance	Pass	Yvan Fan
2	Antenna Power	Pass	Yvan Fan
3	Tolerances for Antenna Power	Pass	Yvan Fan
4	Occupied Bandwidth	Pass	Yvan Fan
5	Unwanted Emission Strength	Pass	Yvan Fan
6	E.I.R.P	Pass	Yvan Fan
7	Secondary Radiated Emission Strength	Pass	Yvan Fan
8	Carrier sensing function(1)	N/A,note2	/
9	Carrier sensing function(2)	N/A,note3	/
10	Antenna Absolute Gain	Pass	Yvan Fan
11	Half power beam angle	N/A,note1	/
12	Interference Prevention Function	Pass	Yvan Fan

note1: Not Applicable.

Note 2: Application to transmitting devices which E.I.R.P. is less than [2.14dBi+antenna power limit] and the shortage of E.I.R.P. is compensated by the antenna power.

Note 3: Application to transmitting devices with OFDM modulation and the occupied bandwidth greater than 26MHz.

Pass: The EUT complies with the essential requirements in the standard.

Note: Compliance determination rules

1).The Compliance determination of test results does not take into account measurement uncertainty. Measurement results are determined based on regulatory limitations or requirements specified by the applicant/manufacture. If measurement uncertainty is taken into account, the applicant/manufacture will bear all possible risks of non-compliance.

2).The measurement uncertainty please refer to each test result in the "Measurement Uncertainty"

Measurement Uncertainty

Test Item	Measurement Uncertainty	Notes
Bandwidth	$\pm 0.72\%$	(1)
Antenna Power	$\pm 0.67\text{dB}$	(1)
Frequency Tolerance	$\pm 6 \times 10^{-7}$	(1)
Conducted spurious emission	$\pm 0.64\text{dB}$	(1)
Spurious emissions, radiated($>1\text{G}$)	$\pm 4.16\text{dB}$	(1)
Spurious emissions, radiated($<1\text{G}$)	$\pm 4.88\text{dB}$	(1)

Note (1): The measurement uncertainty is for coverage factor of $k=2$ and a level of confidence of 95%.



2 General Information

2.1 General Description of EUT

Product Name:	Mini PC
Model No.:	LS5,LS5 mini,LS5 PRO,LS5 ULTRA,LS5 MAX,LS5 AI
Difference of Model:	All the models are electrical identical (i.e., circuit design, PCB Layout, RF module/circuit, antenna type(s) and antenna location, components on PCB, etc.), same mechanical structure and design, except the model names and housing colors.
Test model No.:	LS5
Hardware version:	N/A
Software version:	N/A
Sample(s) Status	Engineer sample
Frequency range:	2402MHz-2480MHz
Modulation technology:	GFSK
Antenna Type:	FPC antenna
Antenna gain:	-0.48dBi (Note: Antenna information is provided by applicant, Testing lab is not responsible for the accuracy of the information.)
Battery:	N/A
Power supply:	DC 19V From Adapter
Adapter:	Model: HKA12019063-0A3 INPUT:AC 100-240V 50/60Hz Output:DC 19V 6.32A

Remark: For more details, refer to the user's manual of the EUT.

2.2 Operation Channel List

Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	10	2422MHz	20	2442MHz
1	2404MHz	11	2424MHz	21	2444MHz
---	---	---	---	---	---
---	---	---	---	---	---
8	2418MHz	18	2438MHz	38	2478MHz
9	2420MHz	19	2440MHz	39	2480MHz

2.3 Test Frequency Channel

Low	2402MHz
Middle	2440MHz
High	2480MHz

2.4 Test mode

Transmitting mode	Keep the EUT in continuously TX/RX mode
<i>Remark: The test software was used to control EUT work in Continuous TX and RX mode, and select test channel, the test voltage was tuned from 90% to 110% of the nominal rated supply voltage.</i>	

2.5 Description of Support Units

No.	Description	Manufacturer	Model	Serial Number
1	Monitor	SKYWORTH	2BU1	/
2	Mouse	DELL	MS116	/
3	Keyboard	DELL	KB216t	/



2.6 Environmental conditions

Temperature range:	23.7°C
Humidity range:	47%
Pressure range:	101.6kPa

2.7 Test voltage

Voltage Fluctuation test	Normal Voltage	+10% of Normal Voltage	-10% of Normal Voltage
DC Power	19V	20.9V	17.1V
RF Chip	3.3V	3.3V	3.3V

Note:

Voltage Variation (%) = (Output high or Low Voltage - Output Normal Voltage) / Output Normal Voltage * 100

During the input supply voltage to the EUT from the power source is varied by +/- 10%, fluctuation of power supply to the RF circuit of EUT (excluding power source) is equal to or less than +/-1%, so only operated in normal voltage to test all regulations.

2.8 Test Facility

Test laboratory:	Shenzhen ETR Standard Technology Co., Ltd.
CNAS Registration No.:	L11864
Laboratory location:	No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

2.9 Additional Instructions

Test Software	DRTU.EXE
Power level setup	Default



3 Test Instruments list

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	Spectrum analyzer	KEYSIGHT	N9020A	MY55370280	2026.03.05	2027.3.04
2	Power detector	MWRFTtest	MW100-PSB	MW201020JY T	2026.3.05	2027.3.04
3	Signal generator	Agilent	N5182A	MY49060455	2026.3.05	2027.3.04
4	Oscilloscope	Tektronix	TDS3032B	B03245	2026.03.05	2027.3.04
5	DC Power Supply	LongWei	PS-305DF	170804961	2026.3.05	2027.3.04
6	Power Sensor	Keysight	U2021XA	MY54111006	2026.3.05	2027.3.04

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).
2. Power detector includes built-in attenuator
3. Test Instruments Calibration Information

Used	Calibration Company: Abbreviation	Full Name of-calibration company
☒	CCIC	CCIC(Shenzhen)Metrology & Testing service Co. Ltds
☒	SHITONG	GUANGDONG SHITONG MEASURED INSTRUMENTS SERVICE CO.,LTD.
Calibration Information (Article 24-2, Paragraph 4 of the Radio Act)		
☐	(a) Calibration, conducted by the National institute of information and communication Technology (NICT) or a designated calibration agency under Article 102-18-1 of the Radio-Act	
☐	(b) Calibration conducted based on the regulations of Article 135 -or-144 of the Measurement Act	
☒	(c) Calibration conducted in foreign countries, which is equivalent to calibration conducted by the NICT or a designated calibration agency under Article 102-18-1 -of-the Radio Act	
☐	(d) Calibration, etc. conducted by using measuring instruments and other facilities listed at the bottom of appended table 3 of the Radio Act, which is to have been calibrated as described in (a) through (c) above.	

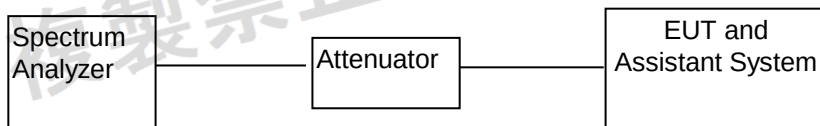
4 Test results and Measurement Data

4.1 Frequency Tolerance

4.1.1 Limit

+/- 50ppm.

4.1.2 Block diagram of test setup



4.1.3 Test Procedures

- (1) Configure EUT and assistant system according clause 2.3 and 4.3
- (2) Set EUT work in carrier Tx mode as described in clause 2.4
- (3) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:

Centre Frequency: The centre frequency of the channel under test.

Resolution BW: 10 KHz.

Video BW: 10 KHz.

Span: 1MHz.

Detector: Peak.

Trace Mode: Max Hold.

- (4) When the trace is complete, find the peak value of the power envelope and record the frequency.
- (5) Calculate frequency tolerance.

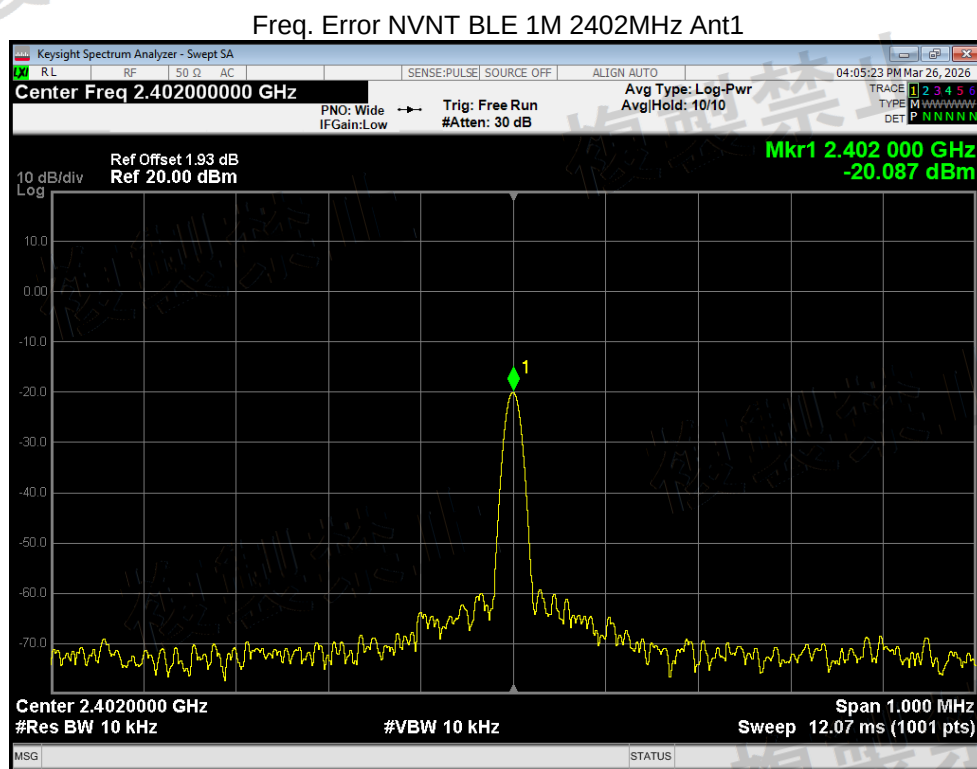
Tolerance (MHz)= Measured Frequency (MHz)- Centre Frequency (MHz)

Frequency tolerance (ppm)= Tolerance (MHz)/ Centre Frequency (MHz) ×10⁶ (ppm)

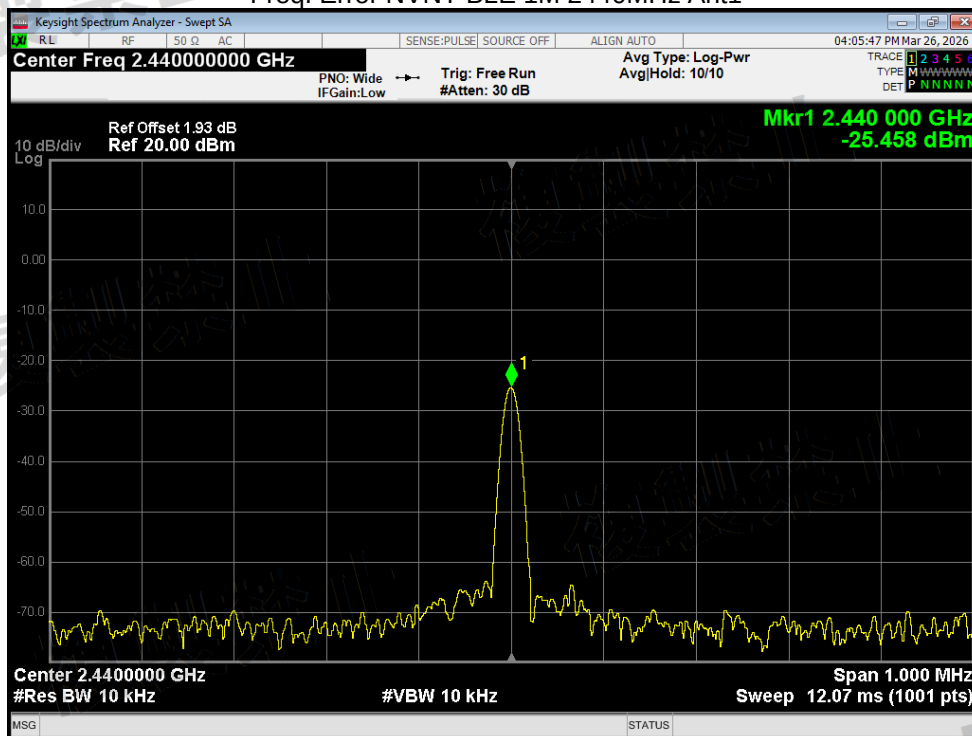
4.1.4 Test Result

Mode	CH	Measured	Tolerance	Result	Limit
		MHz	MHz	ppm	ppm (+/-)
Carrier Tx Mode	CH0: 2402MHz	2402	0	0	50
	CH19:2440MHz	2440	0	0	50
	CH39:2480MHz	2480	0	0	50
Conclusion: PASS					

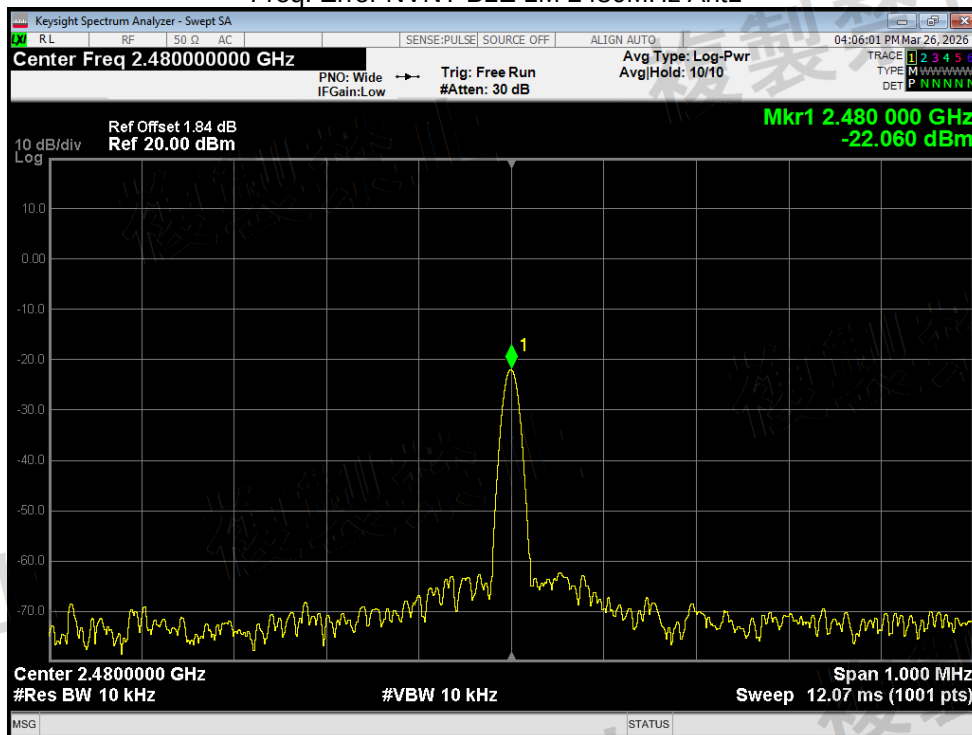
Test plots:



Freq. Error NVNT BLE 1M 2440MHz Ant1



Freq. Error NVNT BLE 1M 2480MHz Ant1

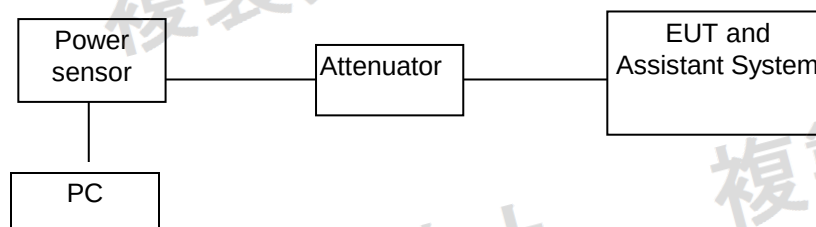


4.2 Antenna power and Antenna Power Tolerance & E.I.R.P

4.2.1 Limit

Item	Limits
Antenna Power Density	(1) FHSS 2427-2470.75MHz: 3mW/MHz or less 2400-2483.5MHz: 10mW/MHz or less (2) DSSS ,OFDM Occupied Bandwidth Within 26MHz: 10mW/MHz or less Occupied Bandwidth 26- 40MHz: 5mW/MHz or less (3) Other : 10mW
Antenna Power Tolerance	+20%
E.I.R.P	12.14dBm

4.2.2 Block diagram of test setup



4.2.3 Test Procedure

- (1) Configure EUT and assistant system according clause 2.3 and 4.3
- (2) Set EUT work in carrier Tx mode as described in clause 2.4
- (3) Connected the EUT's antenna port to the power sensor by suitable attenuator.
- (4) Reading power sensor value and recorded.

4.2.4 Test Result

Mode	Frequency (MHz)	Output power (dBm)	Output power (mW)	Power Limit (mW)	Antenna power tolerance (%)	Limit of antenna power tolerance (%)
GFSK	2402	0.28	1.07	10	-46.67	20%
	2440	1.26	1.34	10	-33.00	
	2480	-0.04	0.99	10	-50.50	
Result	Pass The declared output power is 2mW					

E.I.R.P

Mode	Frequency (MHz)	Output power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	Limit (dBm)
GFSK	2402	0.28	-0.48	-0.20	12.14
	2440	1.26	-0.48	0.78	12.14
	2480	-0.04	-0.48	-0.52	12.14
Result	Pass				

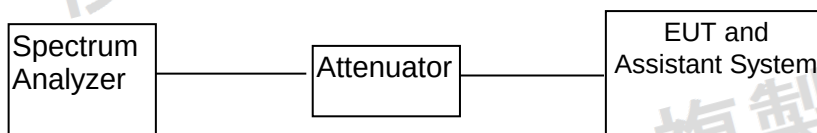
4.3 Occupied Frequency Bandwidth

4.3.1 Limits

Item	Limits
Occupied Band Width:	FH : Within 83.5MHz OFDM1,DSSS : Within 26MHz OFDM2(802.11n40):26-40MHz Other: Within 26MHz;

Permissible value for occupied bandwidth using the FH system, a hybrid system combining DS and FH systems, or a hybrid system combining FH and OFDM systems shall be 83.5 MHz or less, while necessary bandwidth (minimum occupied bandwidth sufficient to ensure information transmission of required quality at a required transmission rate for the system used under specified conditions for a given emission type) using a system other than any of the above shall be 26 MHz or less.

4.3.2 Block diagram of test setup



4.3.3 Test Procedures

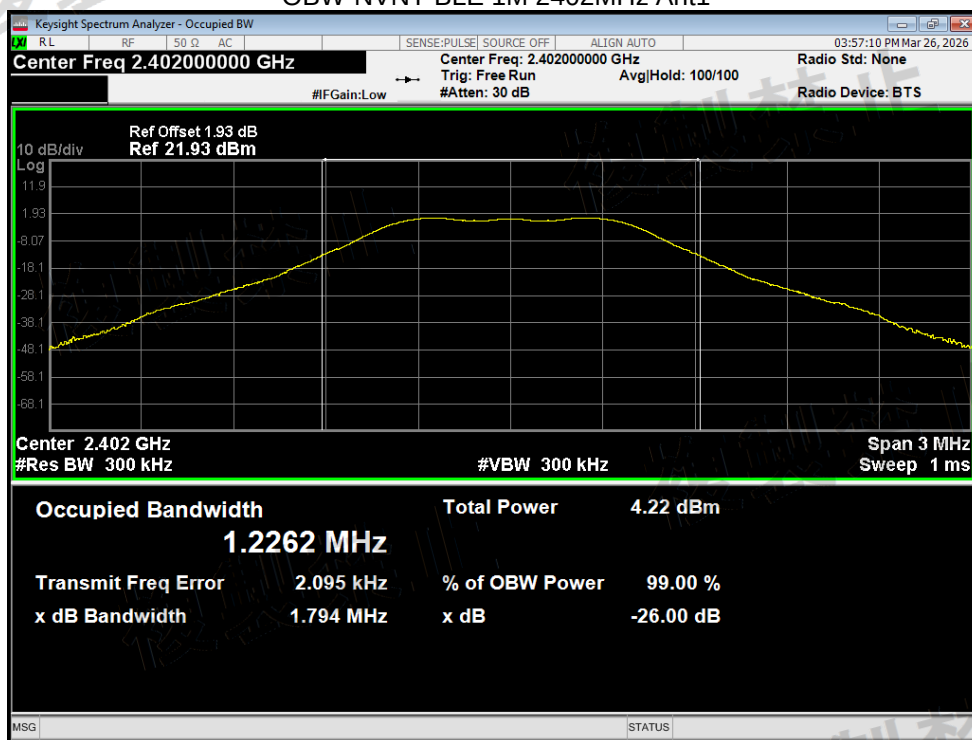
- Configure EUT and assistant system according clause 2.3 and 5.3
- Set EUT work in test mode as described in clause 2.4
- Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:
 Centre Frequency: The centre frequency of the channel under test.
 Resolution BW: 300 KHz
 Video BW: 300 KHz
 Span: Wide enough to cover the complete power envelope of the signal of the EUT.
 Detector: Peak.
 Trace Mode: Max Hold.
- When the trace is complete, measure the occupied bandwidth (99% bandwidth) with spectrum analyzer's bandwidth measure function.

4.3.4 Test Result

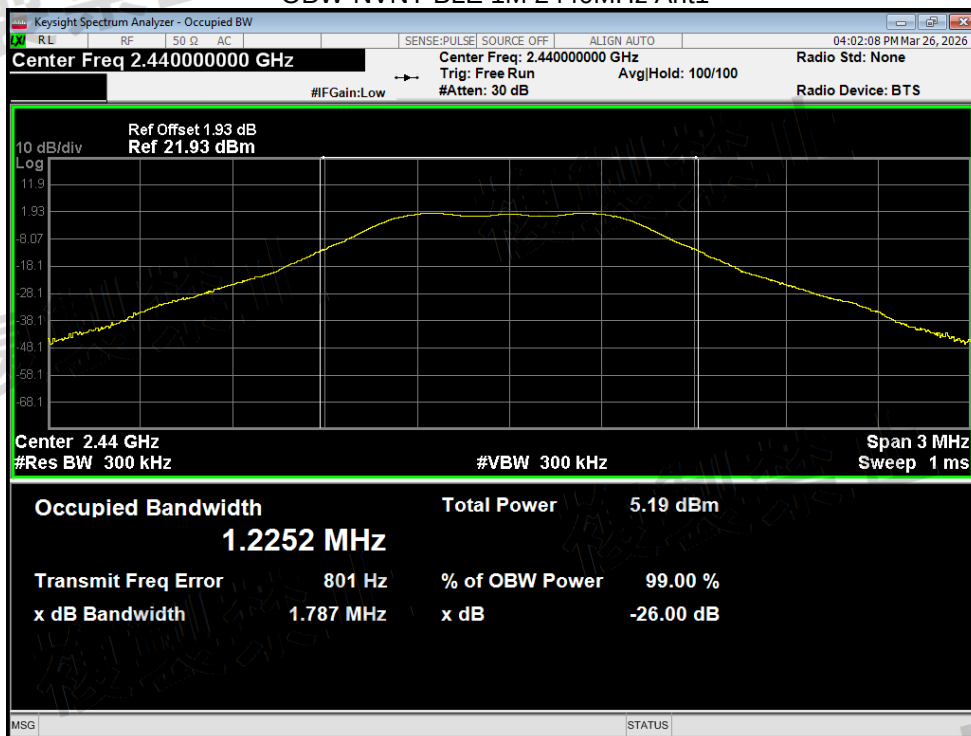
Mode	Condition	CH	Result	Limit
			(MHz)	(MHz)
GFSK	Normal	CH0	1.2262	≦ 26
		CH19	1.2252	≦ 26
		CH39	1.2261	≦ 26
Conclusion: PASS				

Test plots:

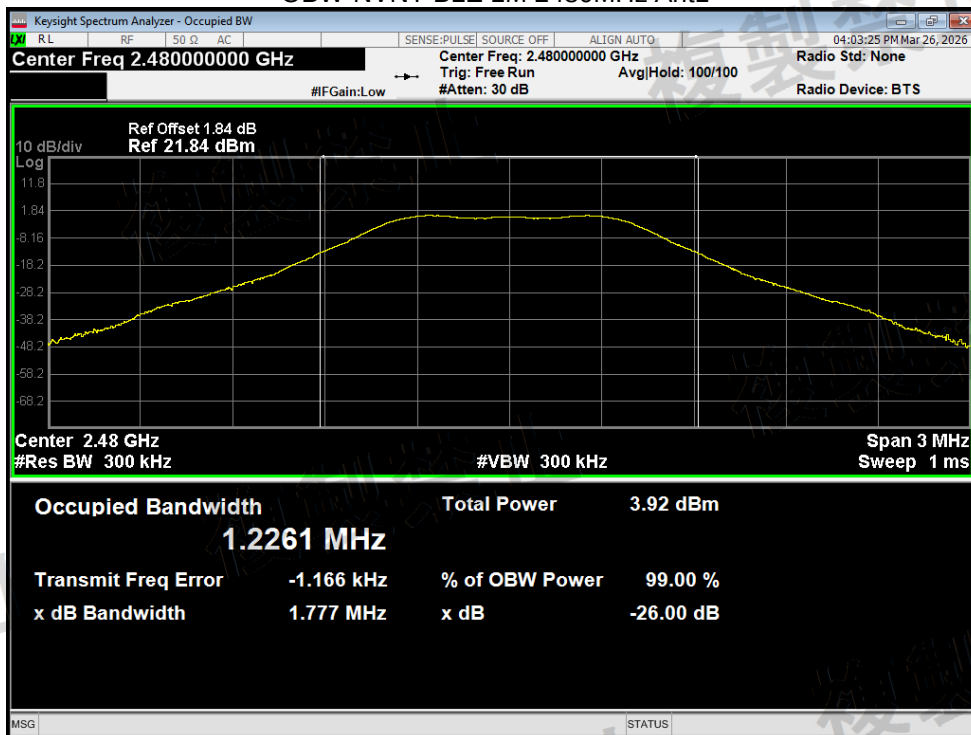
OBW NVNT BLE 1M 2402MHz Ant1



OBW NVNT BLE 1M 2440MHz Ant1



OBW NVNT BLE 1M 2480MHz Ant1



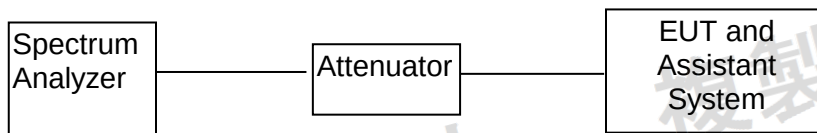
4.4 Unwanted Emission Strength (conducted)

4.4.1 Limits

Permissible mean power of spurious emission of each frequency supplied to a feeder, that is, mean power of spurious emission in the 1 MHz bandwidth at frequency f other than frequency band used shall be as follows:

Unwanted Emission Strength	$\leq 2.5 \mu\text{W}/\text{MHz}$ ($30\text{MHz} \leq f \leq 1000\text{MHz}$)
	$\leq 2.5 \mu\text{W}/\text{MHz}$ ($1000\text{MHz} < f \leq 2387\text{MHz}$)
	$\leq 25 \mu\text{W}/\text{MHz}$ ($2387\text{MHz} < f \leq 2400\text{MHz}$)
	$\leq 25 \mu\text{W}/\text{MHz}$ ($2483.5\text{MHz} \leq f < 2496.5\text{MHz}$)
	$\leq 2.5 \mu\text{W}/\text{MHz}$ ($2496.5\text{MHz} \leq f < 12500\text{MHz}$)
Note: 30MHz-2387 MHz: $2.5 \mu\text{W}$ (-26 dBm)/MHz or less. When 30M~1GHz, RBW is set to 100kHz, The limit should be reduced by $10\log(1\text{M}/100\text{k})$ accordingly. Then limit=$-26\text{dBm}-10\log(1\text{M}/100\text{k})=-36\text{dBm}/\text{MHz}=0.25\mu\text{W}/\text{MHz}$	

4.4.2 Block Diagram of Test Setup



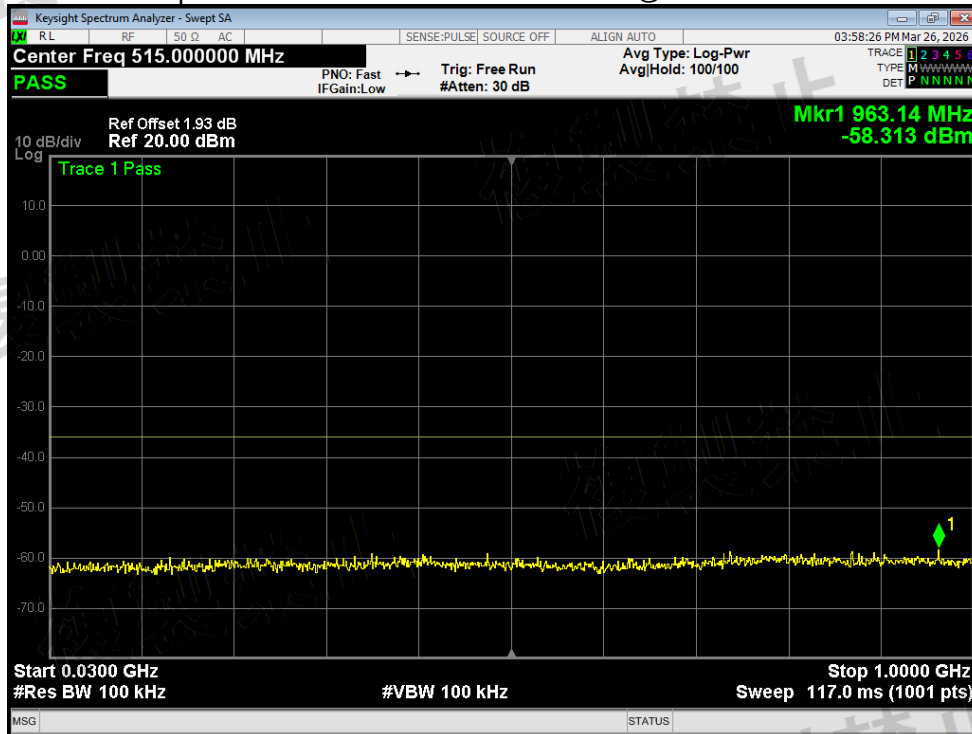
4.4.3 Test Procedures

- (1) Configure EUT and assistant system according clause 2.3 and 7.3
- (2) Set EUT work in test mode as described in clause 2.4
- (3) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:
 - Resolution BW: Below 1GHz RB:100KHz
 - Above 1GHz RB:1MHz
 - Video BW: Below 1GHz RB:100KHz
 - Above 1GHz RB:1MHz
 - Detector: Peak.
 - Trace Mode: Max Hold.
- (4) All the emissions from 30MHz to 13GHz were measured and record.

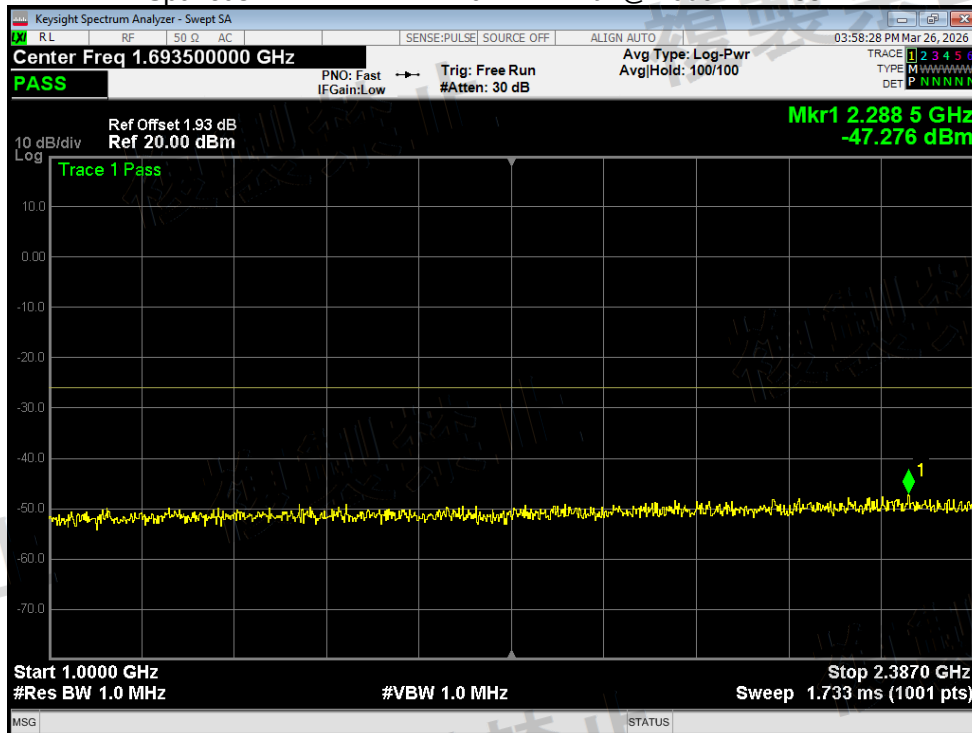
Condition	Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm)	Max Value (μ W/MHz)	Limit (μ W/MHz)	Verdict
NVNT	BLE	2402	30-1000	963.14	-48.313	0.015	2.5	Pass
NVNT	BLE	2402	1000-2387	2288.523	-47.276	0.019	2.5	Pass
NVNT	BLE	2402	2387-2400	2400	-37.041	0.198	25	Pass
NVNT	BLE	2402	2483.5-2496.5	2488.726	-46.718	0.021	25	Pass
NVNT	BLE	2402	2496.5-13000	12642.881	-45.587	0.028	2.5	Pass
NVNT	BLE	2440	30-1000	806.97	-48.503	0.014	2.5	Pass
NVNT	BLE	2440	1000-2387	2245.526	-46.876	0.021	2.5	Pass
NVNT	BLE	2440	2387-2400	2391.836	-47.18	0.019	25	Pass
NVNT	BLE	2440	2483.5-2496.5	2492.067	-47.108	0.019	25	Pass
NVNT	BLE	2440	2496.5-13000	12873.958	-45.461	0.028	2.5	Pass
NVNT	BLE	2480	30-1000	806.97	-48.359	0.015	2.5	Pass
NVNT	BLE	2480	1000-2387	2259.396	-47.184	0.019	2.5	Pass
NVNT	BLE	2480	2387-2400	2393.825	-46.471	0.023	25	Pass
NVNT	BLE	2480	2483.5-2496.5	2484.709	-44.71	0.034	25	Pass
NVNT	BLE	2480	2496.5-13000	5090.865	-45.073	0.031	2.5	Pass

NOET: For 30M-1G final test result (dBm/MHz) = test values + $10 \cdot \log(1000\text{kHz}/100\text{kHz})$

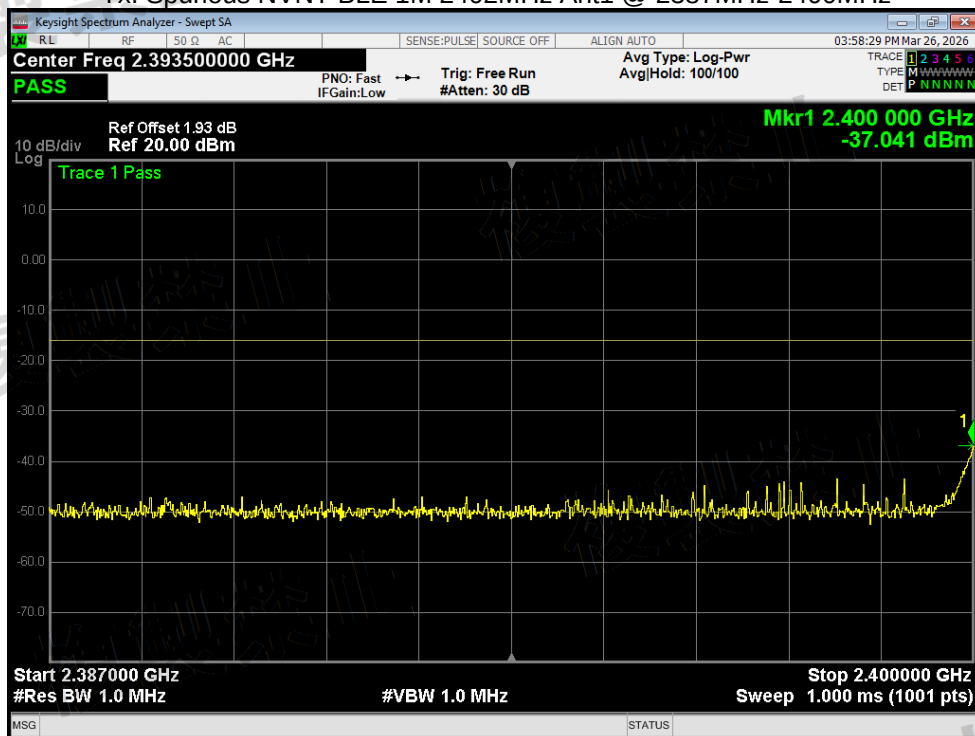
Tx. Spurious NVNT BLE 1M 2402MHz Ant1 @ 30MHz-1000MHz



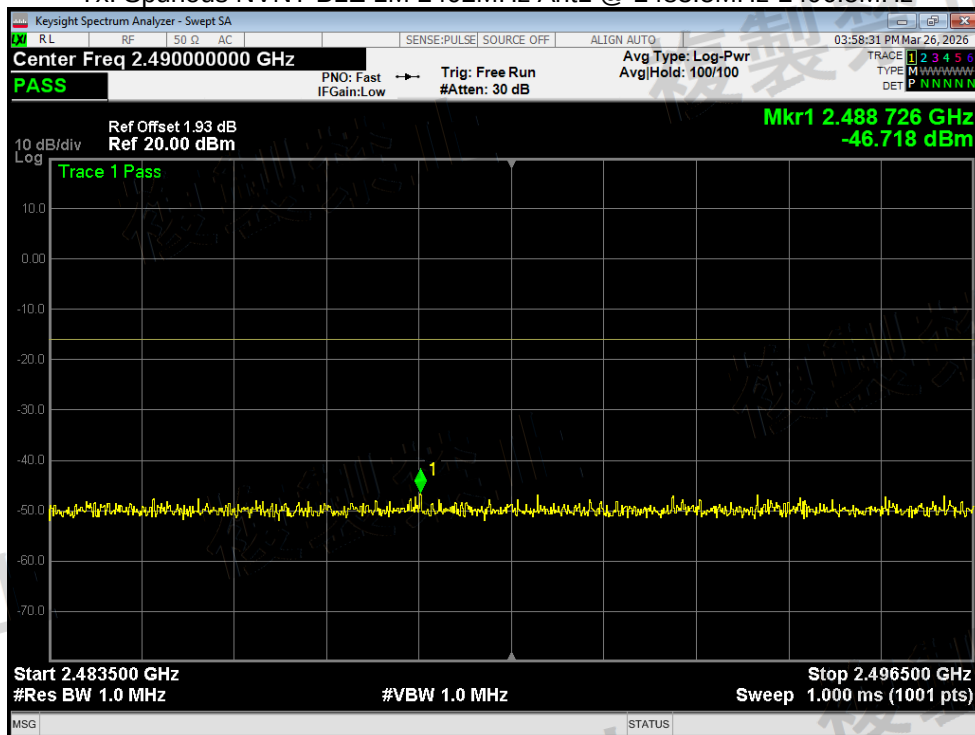
Tx. Spurious NVNT BLE 1M 2402MHz Ant1 @ 1000MHz-2387MHz



Tx. Spurious NVNT BLE 1M 2402MHz Ant1 @ 2387MHz-2400MHz

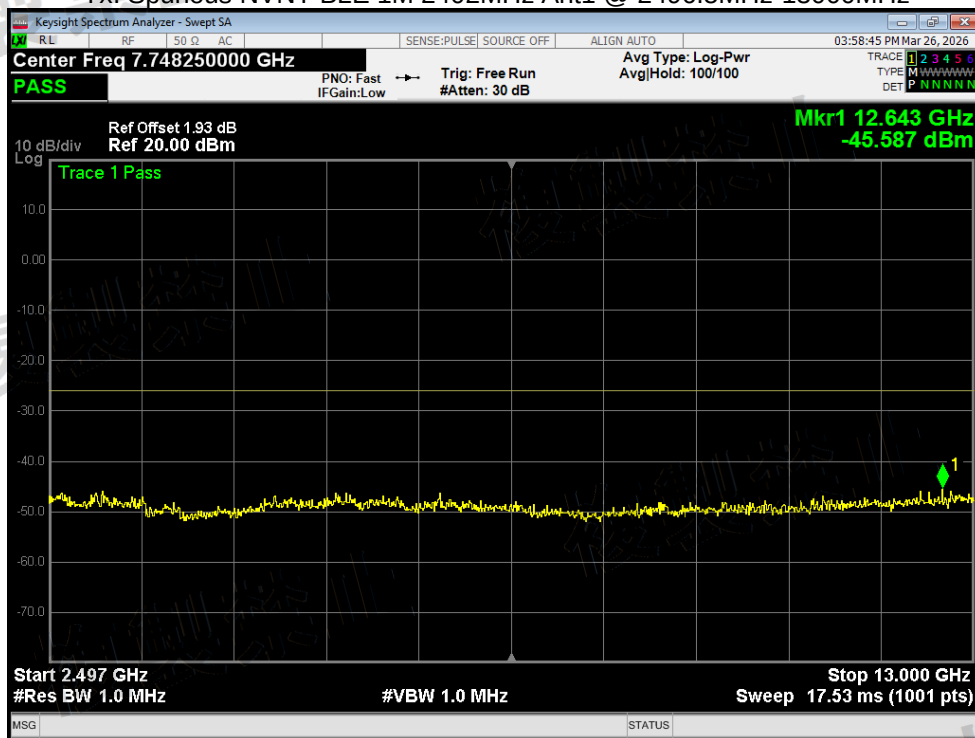


Tx. Spurious NVNT BLE 1M 2402MHz Ant1 @ 2483.5MHz-2496.5MHz

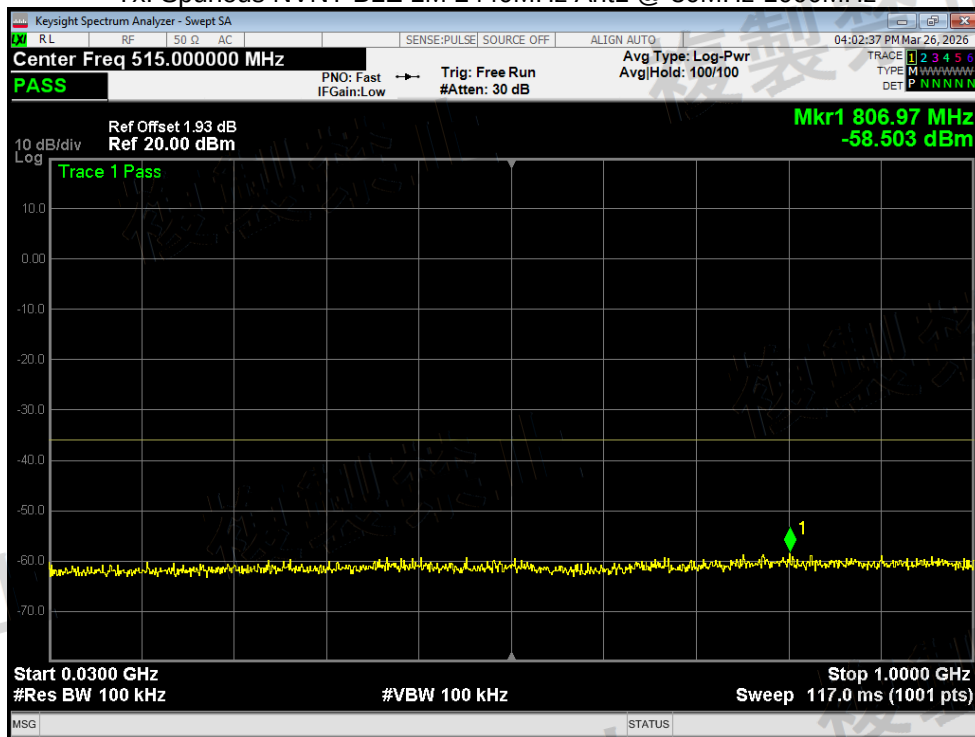




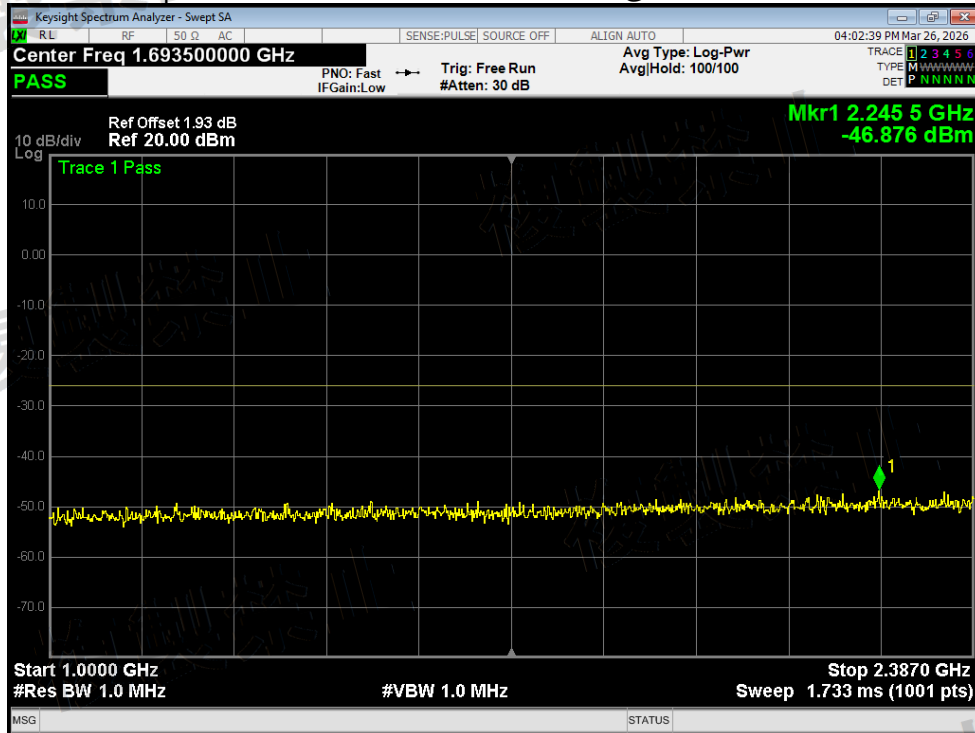
Tx. Spurious NVNT BLE 1M 2402MHz Ant1 @ 2496.5MHz-13000MHz



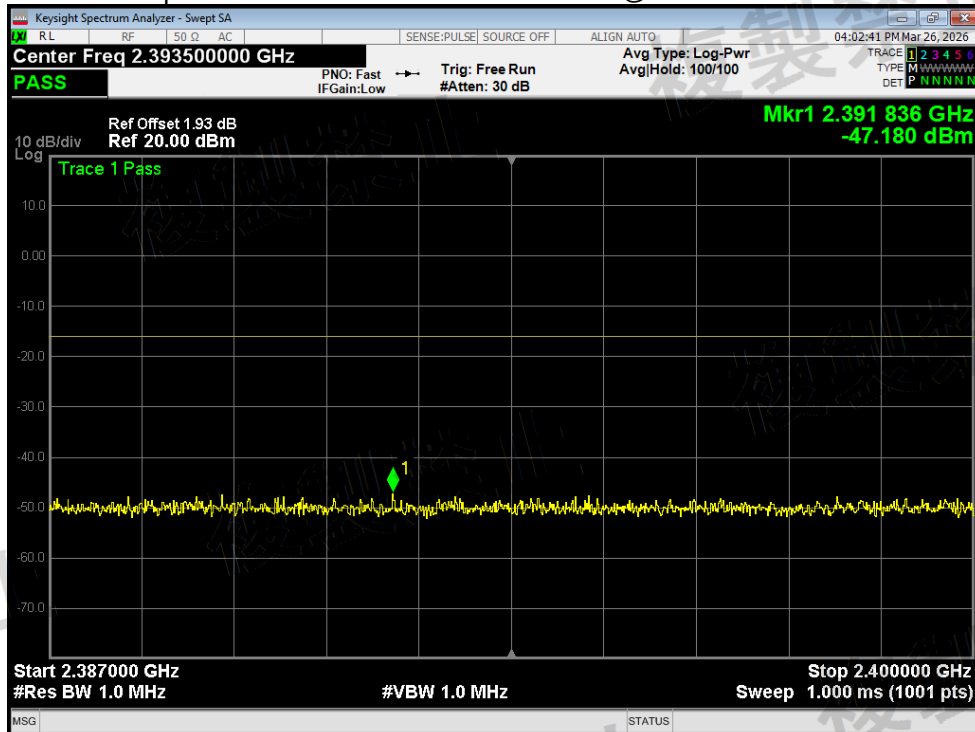
Tx. Spurious NVNT BLE 1M 2440MHz Ant1 @ 30MHz-1000MHz



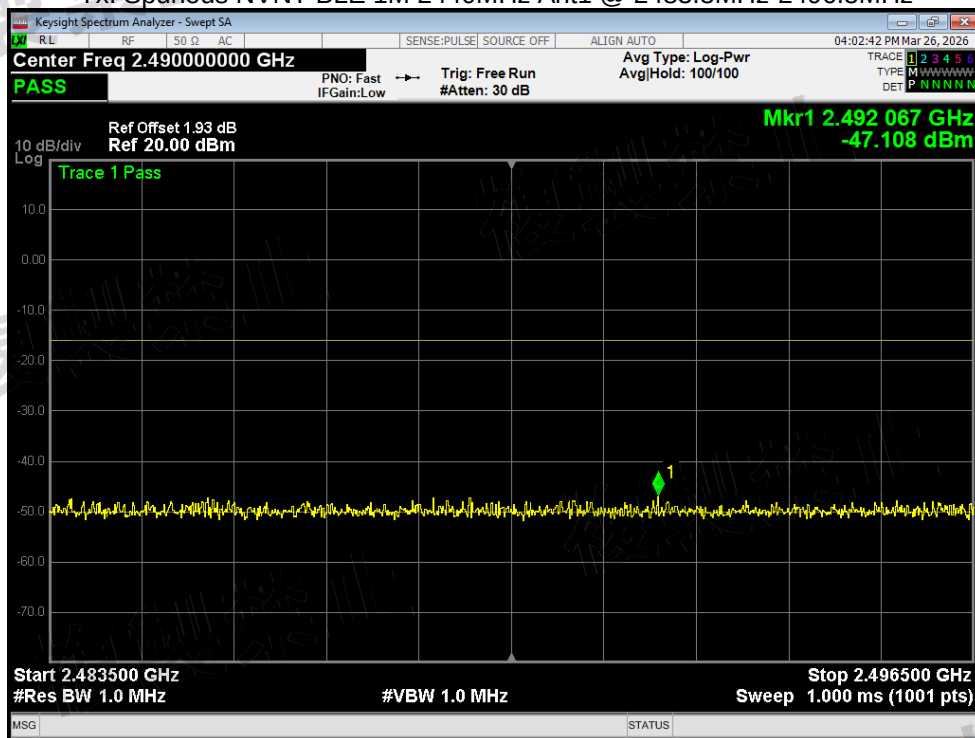
Tx. Spurious NVNT BLE 1M 2440MHz Ant1 @ 1000MHz-2387MHz



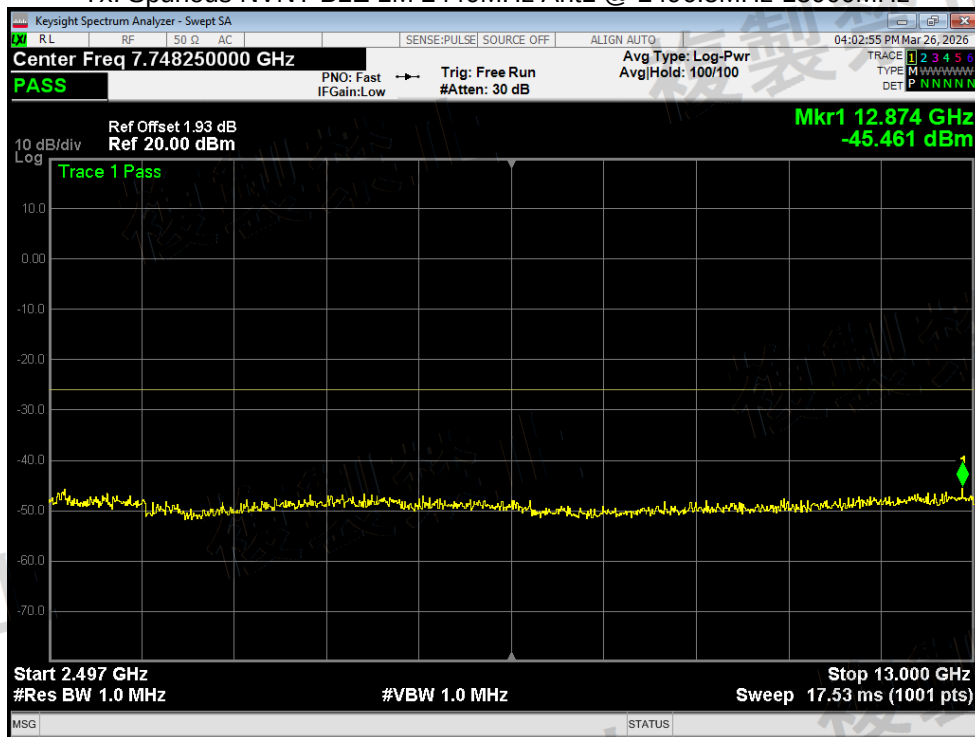
Tx. Spurious NVNT BLE 1M 2440MHz Ant1 @ 2387MHz-2400MHz



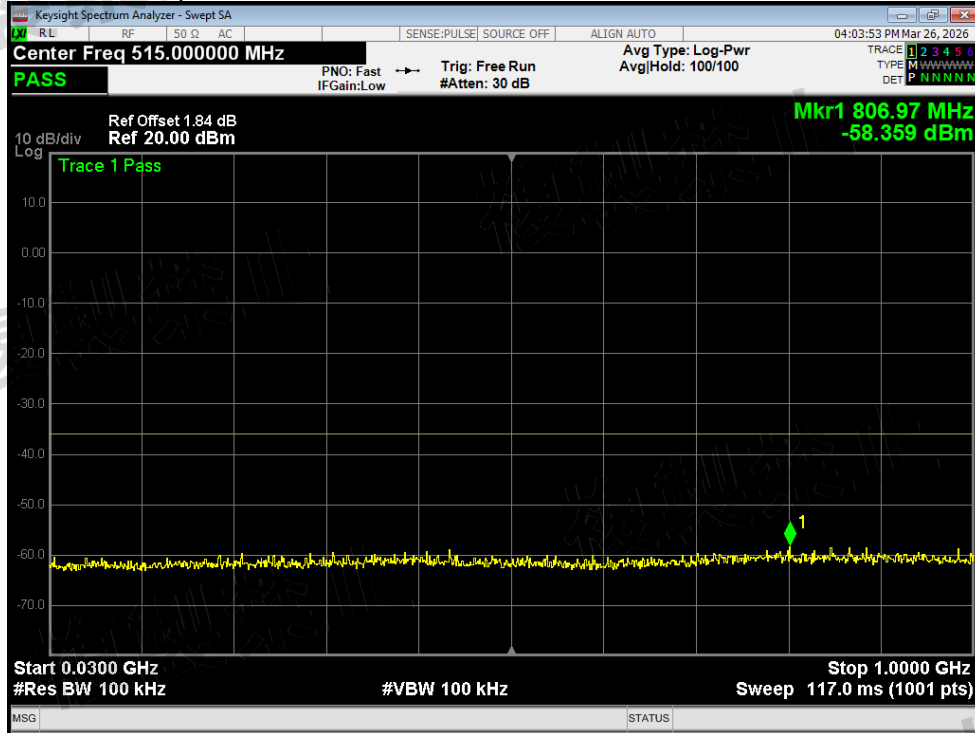
Tx. Spurious NVNT BLE 1M 2440MHz Ant1 @ 2483.5MHz-2496.5MHz



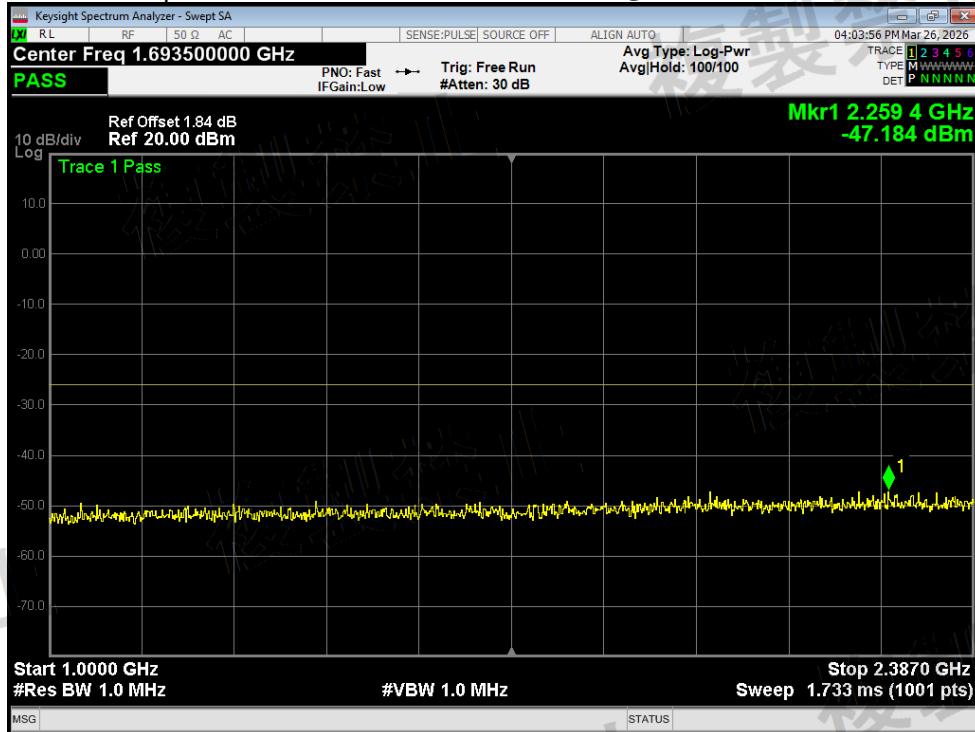
Tx. Spurious NVNT BLE 1M 2440MHz Ant1 @ 2496.5MHz-13000MHz



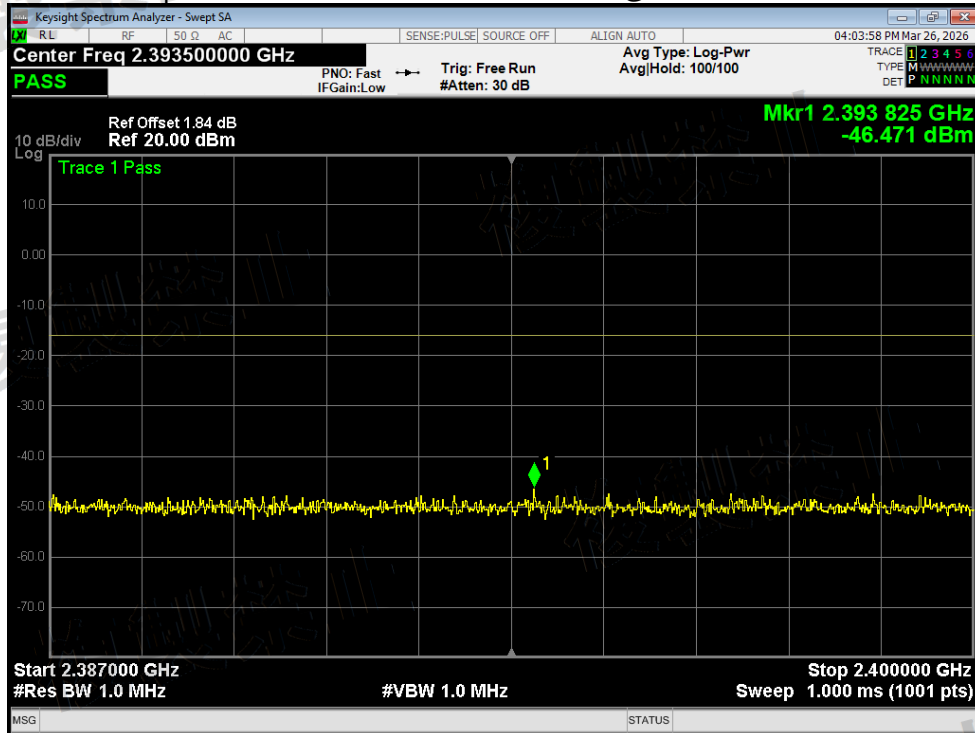
Tx. Spurious NVNT BLE 1M 2480MHz Ant1 @ 30MHz-1000MHz



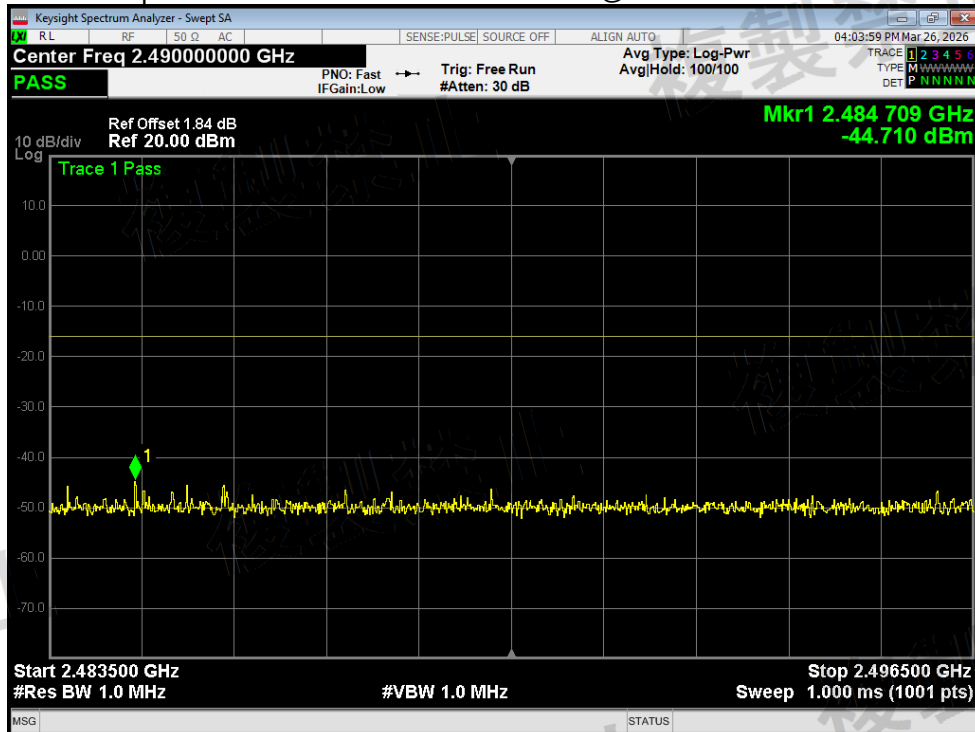
Tx. Spurious NVNT BLE 1M 2480MHz Ant1 @ 1000MHz-2387MHz



Tx. Spurious NVNT BLE 1M 2480MHz Ant1 @ 2387MHz-2400MHz

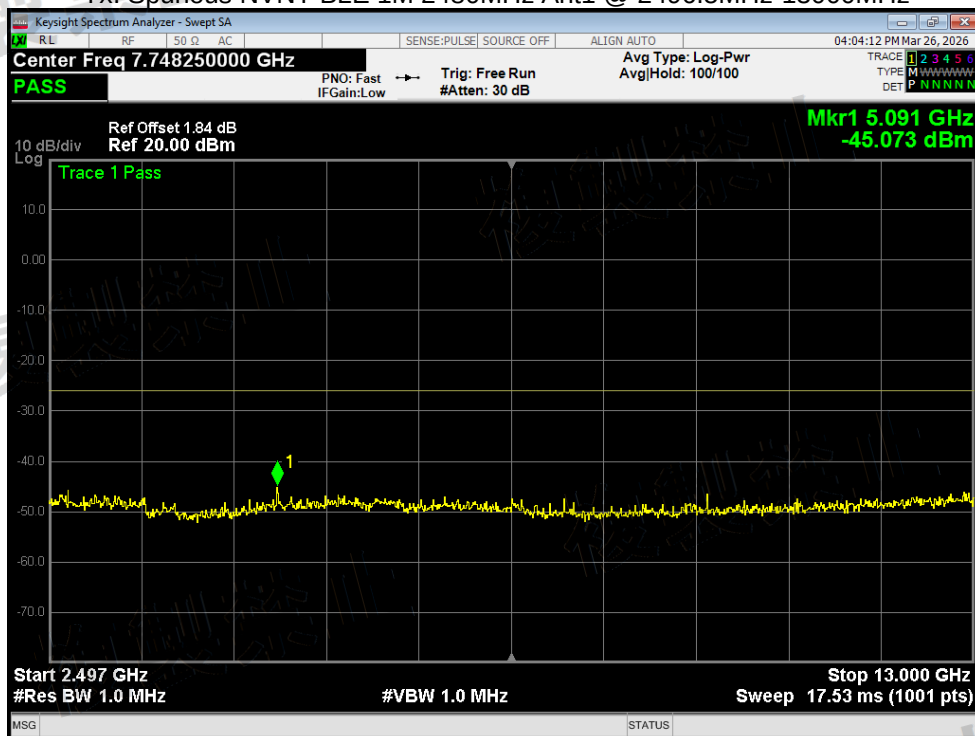


Tx. Spurious NVNT BLE 1M 2480MHz Ant1 @ 2483.5MHz-2496.5MHz





Tx. Spurious NVNT BLE 1M 2480MHz Ant1 @ 2496.5MHz-13000MHz

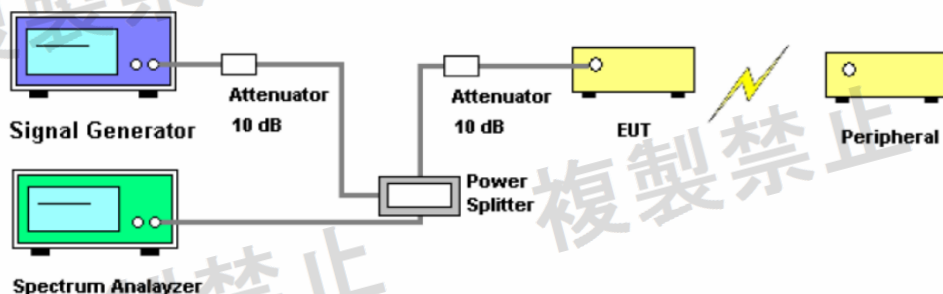


4.5 Carrier sensing function

4.5.1 Limit

EUT stop RF transmission signal after carrier inject to EUT.

4.5.2 Block diagram of test setup



4.5.3 Test Procedure

1. SG adjusted the frequency as same as the EUT transmitted signal and emitted the absence of modulation from SG and power level is $(on\ 22.79 + G - 20 \cdot \log(f) \text{ dBm})$ (G is the antenna gain, f is the test frequency).
2. turn off the RF signal of the SG.
3. EUT have transmitted the maximum modulation signal and fixed channelize.
4. Setting of SA :RBW/VBW=1MHz/1MHz, Span=50MHz, Sweep time=Auto, Sweep mode=continuous, Detect mode=positive peak
5. SG RF signal on.
6. EUT shall be stop the transmitted any signal and SG RF signal off, the EUT will be continuous transmitted signal.

4.5.4 Test Result

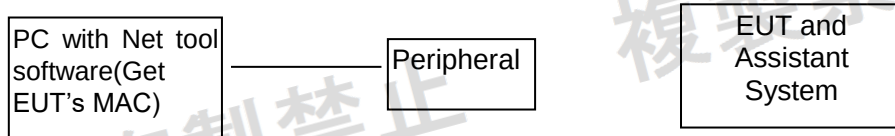
N/A

4.6 Interference prevention function

4.6.1 Limits

When conducting wireless communications that transmit data or other information" : A function that automatically sends or receives an identification code When performing radiolocaton work: A functon that allows you to distinguish between reflected waves of radio waves transmitted by your own station and radioyaves tansmitted by other adio statons y detfvna the moduaton method and other characteristics ot receive radio waves. (However, f t also nas the functon otransmitting signals for data transmission, both functions shall be included)

4.6.2 Block Diagram of Test Setup



4.6.3 Test 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 ocde: 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 idnetification codes are different from the predetermined ones.

4.6.4 Test Result

EUT:	Mini PC	Pressure:	1012 hPa
Temperature:	25.3°C	Humidity:	52%RH
MAC	F8:B5:4D:59:09:24		
Test result:	PASS		

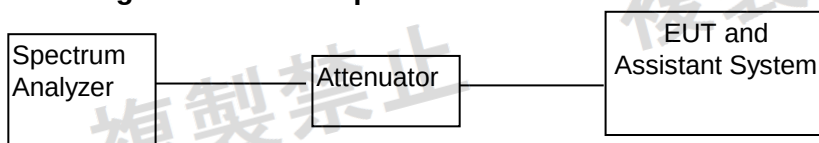
4.7 Secondary Radiated Emissions

4.7.1 Limits

Item	Limits
RX Spurious Emission:	$\leq 4\text{nW}$ ($f < 1\text{GHz}$)
	$\leq 20\text{nW}$ ($1\text{GHz} \leq f$)

The limit on secondary emissions radiated from the receiving equipment within which the function of other radio equipment will not be impaired shall be, in terms of the power of a dummy antenna circuit that has the same electrical constant as the receiving antenna, 4 nW or less at a frequency below 1 GHz and 20 nW or less at a frequency of 1 GHz or higher as measured using the circuit.

4.7.2 Block diagram of test setup



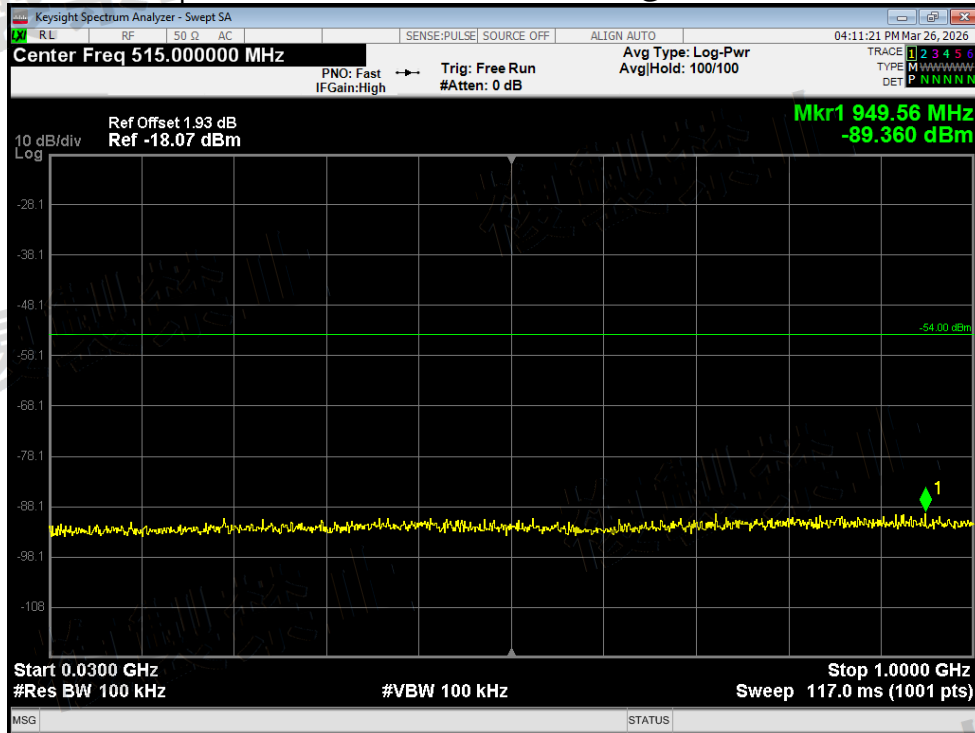
4.7.3 Test Procedure

1. EUT have the continuous reception mode and fixed only one channelize.
2. Setting of SA is following as RB / VB: 100 kHz (below 1GHz emissions) / 1 MHz (above 1GHz emissions) /
AT: Auto / Ref: Auto / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
3. SA set RB: 100kHz and VB: 100kHz. Then adjust to start frequency 30MHz and stop frequency 1000MHz. Search to mark peak reading value + cable loss shall be less than 4nW
4. SA set RB: 1MHz and VB: 1MHz. Then adjust to start frequency 1000MHz and stop frequency 12500MHz. Search to mark peak reading value + cable loss shall be less than 20nW
5. If power level of lower emissions are more than 1/10 of limit (.0.4nW for $f < 1\text{GHz}$, 2nW for $f \geq 1\text{GHz}$), all those are to be indicated in the 2nd and 3rd lines. If others are 1/10 or less more of the limit, no necessary to be indicated.

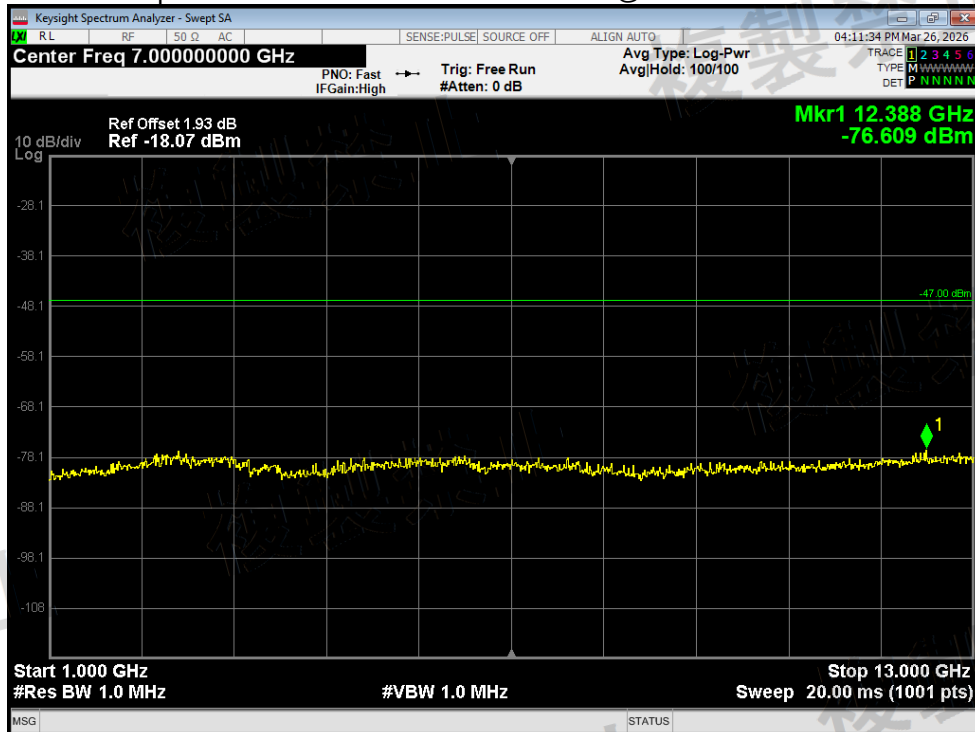
4.7.4 Test result

Condition	Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm)	Max Value (nW)	Limit (nW)	Verdict
NVNT	BLE	2402	30-1000	949.56	-89.36	0.001	4	Pass
NVNT	BLE	2402	1000-13000	12388	-76.609	0.022	20	Pass
NVNT	BLE	2440	30-1000	967.02	-89.542	0.001	4	Pass
NVNT	BLE	2440	1000-13000	12904	-75.762	0.027	20	Pass
NVNT	BLE	2480	30-1000	939.86	-89.352	0.001	4	Pass
NVNT	BLE	2480	1000-13000	2632	-76.768	0.021	20	Pass

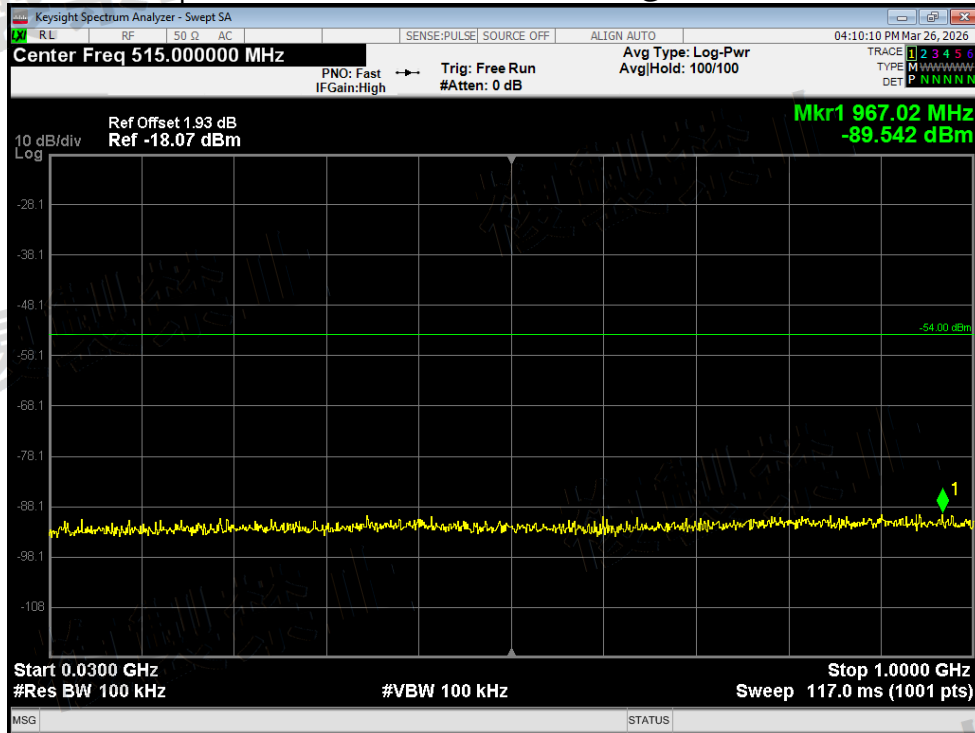
Rx. Spurious NVNT BLE 1M 2402MHz Ant1 @ 30MHz-1000MHz



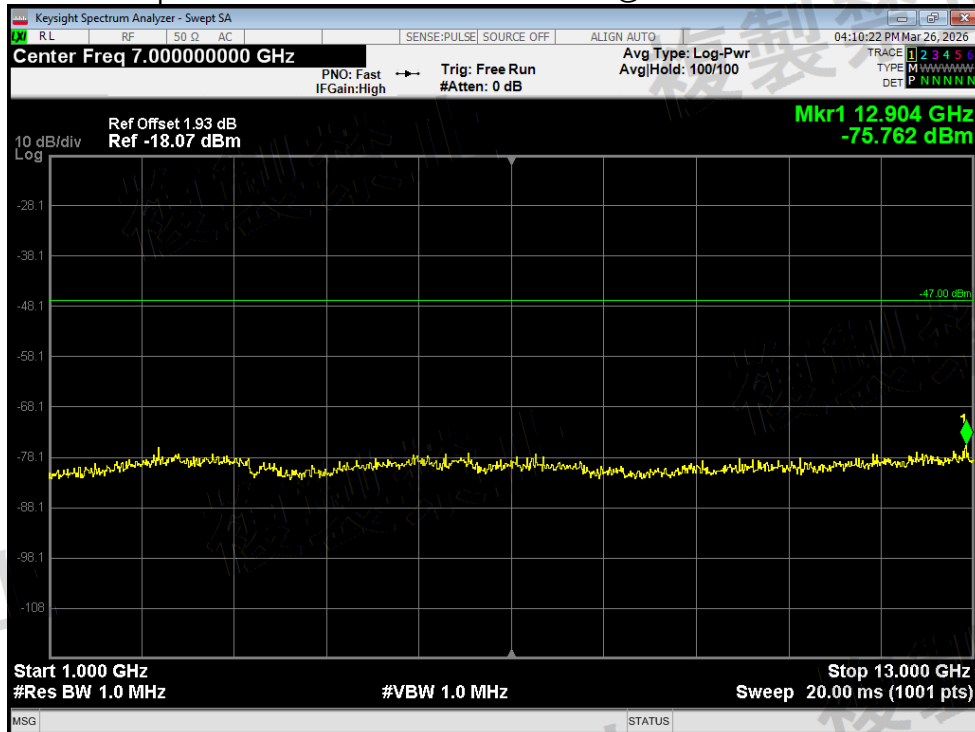
Rx. Spurious NVNT BLE 1M 2402MHz Ant1 @ 1000MHz-13000MHz



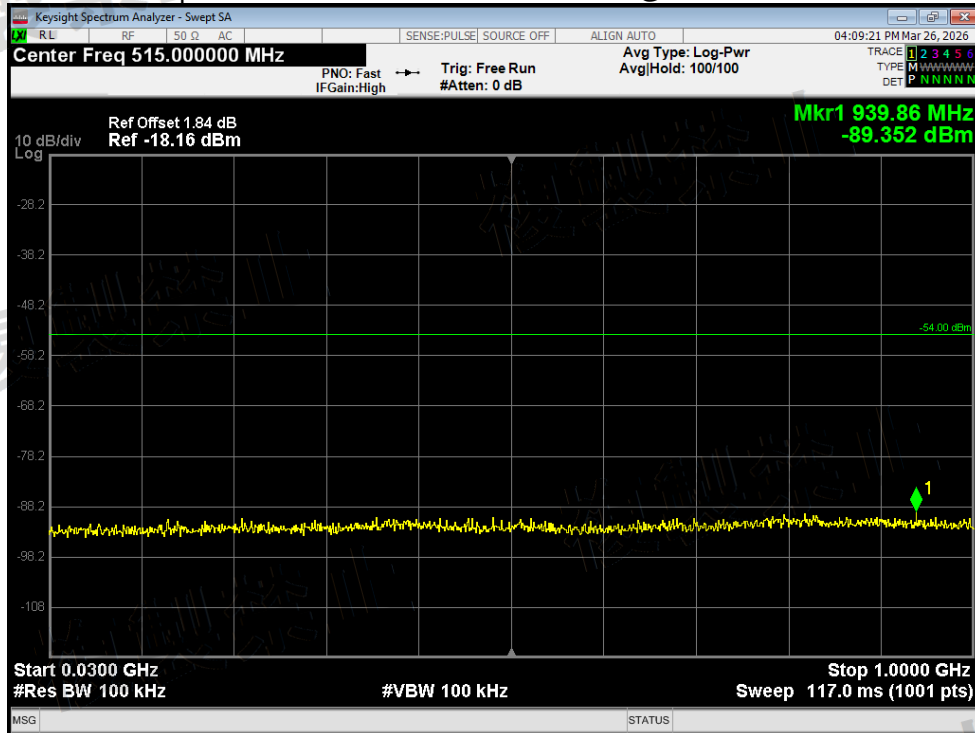
Rx. Spurious NVNT BLE 1M 2440MHz Ant1 @ 30MHz-1000MHz



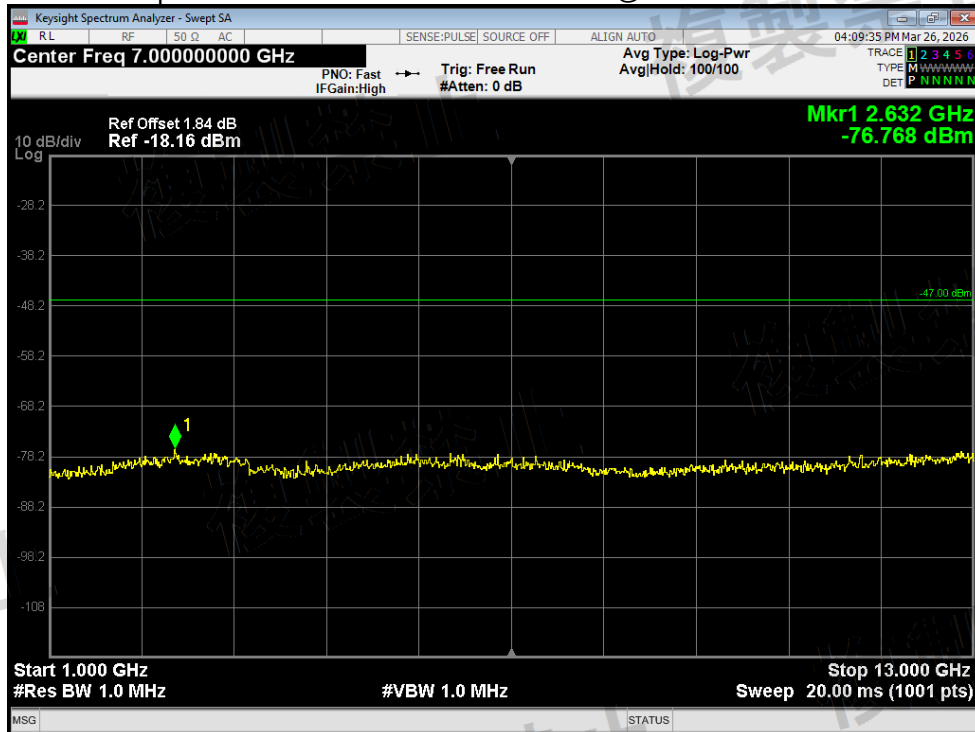
Rx. Spurious NVNT BLE 1M 2440MHz Ant1 @ 1000MHz-13000MHz



Rx. Spurious NVNT BLE 1M 2480MHz Ant1 @ 30MHz-1000MHz



Rx. Spurious NVNT BLE 1M 2480MHz Ant1 @ 1000MHz-13000MHz

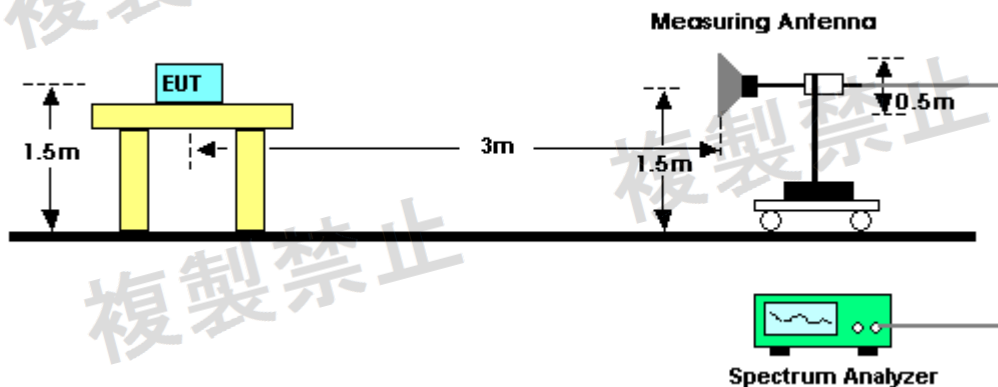


4.8 Antenna Absolute Gain Measurement

4.8.1 Limit

12.14dBi or less (when an EIRP is less than a limit, the shortage shall be compensated for By the gain of the transmitting antenna)

4.8.2 Block diagram of test setup



4.8.3 Test Procedure

Step 1

Set the test equipment at test frequency, and in continuous transmitting mode or intermittent burst mode (constant frequency and constant burst time). Stop the spread.

Step 2

Set the height and direction of test equipment and measurement antenna approximately facing each other.

Step 3

In the frequency derived in D), change the height of the measurement antenna from the ground by $\pm 50\text{cm}$ with a central focus on the antenna of test equipment. Search the location that the power is maximum by adjusting the direction of measurement antenna. Set the indicator of spectrum analyzer at this point as "E".

Step 4

Remove the test equipment from the turntable, set the opening of substitution antenna at the same location as the opening of the test equipment, and receive by outputting radio wave of the same frequency from the standard signal generator for substitution.

Step 5

Adjust at the maximum power point, turning the substitution antenna.

Step 6

Change the height of the measurement antenna from the ground by $\pm 50\text{cm}$ with a central focus on the substitution antenna, and adjust the direction of measurement antenna to the location that the received power is maximum.

Step 7

Adjust output of standard signal generator and record the power P_s that is equal to "E". Or record P_s by counting backward from the difference with "E" as the close value to "E" (within $\pm 1\text{dB}$).

Step 8

EIRP is derived from the following calculating formula:



$$EIRP = G_s - L_F + P_s$$

G_s ; Absolute gain of substitution antenna (dBi).

L_F ; Loss of electric supply line between standard signal generator and substitution antenna (dB).

P_s ; Output of standard signal generator (dBm).

Step 9

Spectrum Analyzer as below:

Centre Frequency: centre frequency of the channel Under test.

Frequency Span: 0Hz

Resolution BW: 1MHz

Video BW: 3MHz

Detector: Peak.

Sweep mode: Continuous sweep

4.8.4 Test Result

N/A.

The EIRP less than 12.14dBm.

4.9.1 Limit

4.9.2 Block diagram of test setup



1. Set EUT and measuring antenna at the same height and roughly facing each other.
2. Set spectrum analyzer with RBW=1 MHz, VBW=1 KHz, Y scale=5 dB, Detector=Peak, Trace mode=Max Hold, and tune reference level to observe receiving signal position.
3. Rotate directions of the EUT horizontally and vertically to find the maximum receiving power.
4. Move the measuring antenna height up and down within $\pm 50\text{cm}$ 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"
5. Calculate permitted radiation angle in horizontal and vertical using EIRP measured in another test method.
6. 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 $A = \{\text{EIRP Power [mW]} / 4.9 \text{ for FH}\}$

4.9.4 Test Result

N/A.

The EIRP less than 12.14dBm.



5 Test Setup Photo

Reference to the file No.: ET-26030854SP for details.

6 EUT Constructional Details

Reference to the file No.: ET-26030854EP and ET-26030854IP for details.

-----End-----

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