



JAPAN RADIO TEST REPORT

Applicant: Zensbuds Limited

Address: Room 715, Fabrico Industrial Building, 78-84 Kwai Cheong Road, Kwai Chung, Hong Kong

Manufacturer: Dongguan Ouge Electronic Technology Co.Ltd

Address: Building 2, No.1 Dongshan Yongchang Road, Qishi Town, Dongguan City, Guangdong Province, China

Product Name: Earbuds

Trade Mark: ZENS

Model Number: ZB01, ZB01-XX, ZENSBUDS AI, EB-01

Date of Receipt: Apr. 15, 2026

Test Date: Apr. 15, 2026 - Apr. 29, 2026

Date of Report: Apr. 29, 2026

Prepared By: Shenzhen DL Testing Technology Co., Ltd.

Address: 101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1 Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China

Applicable Standards: ARIB STD T-66 Ver.3.7(2014)
Item 19 of Article 2 Paragraph 1
MIC Notice No.88 Appendix No.43

Test Result: Pass

Report Number: DLE-260415047R

Prepared (Test Engineer): Alisa Song

Reviewer (Supervisor): Jack Bu

Approved (Manager): Jade Yang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.



Table of Contents	Page
1 . SUMMARY OF TEST RESULTS	4
1.1 MEASUREMENT UNCERTAINTY	4
2 . GENERAL INFORMATION	5
2.1 GENERAL DESCRIPTION OF EUT	5
2.2 DESCRIPTION OF TEST MODES	6
2.3 TEST CONDITIONS	6
2.4 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING	7
2.5 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	7
2.6 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	8
2.7 EQUIPMENTS LIST FOR ALL TEST ITEMS	9
3 . RF SHIELDING METHOD	10
4 . TEST RESULT FOR BLUETOOTH	11
4.1 FREQUENCY ERROR	11
4.2 LIMIT	11
4.3 MEASURING INSTRUMENTS AND SETTING	11
4.4 TEST PROCEDURES	11
4.5 TEST SETUP LAYOUT	11
5 . ANTENNA POWER	14
5.1 LIMIT	14
5.2 MEASURING INSTRUMENTS AND SETTING	14
5.3 TEST PROCEDURES	14
5.4 TEST SETUP LAYOUT	15
5.5 TEST DEVIATION	15
5.6 TEST DEVIATION	15
5.7 TEST RESULT	15
6 . OCCUPIED BANDWITH	20
6.1 TEST PROCEDURES	20
6.2 DEVIATION FROM STANDARD	20
6.3 TEST SETUP LAYOUT	20
6.4 TEST RESULT	20
7. RADIO INTERFERENCE PREVENTION CAPABILITY MEASUREMENT	22
8. UNWANTED EMISSION INTENSITY MEASUREMENT	23



Table of Contents	Page
8.1 LIMIT	23
8.2. MEASURING INSTRUMENTS AND SETTING	23
8.3 TEST PROCEDURES	23
8.4. TEST SETUP LAYOUT	24
8.5. TEST DEVIATION	24
8.6. TEST RESULT	24
9. CARRIER SENSE	33
10. IMITATION OF COLLATERAL EMISSION OF RECEIVER MEASUREMENT	33
10.1 LIMIT	33
10.2 MEASURING INSTRUMENTS AND SETTING	33
10.3 TEST PROCEDURES	33
10.4 TEST RESULT	34
11. EUT TEST PHOTO	38
12. EUT PHOTOS	39
APPENDIX-PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS	



1.. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

Notice No. 88 of Annex 43			
Standard Section	Test Item	Judgment	Remark
General provisions			
5	Frequency Error	PASS	
6	Occupied Bandwidth	PASS	
7	Spurious Emissions Intensity	PASS	
8	Carrier Sense Capability	N/A ^{Note1}	
9	Interference Prevention Function	PASS	
Transmitting equipment			
14	Antenna Power	PASS	
Transmitting antenna			
20	Type, Configuration, etc., of Transmitting Antenna	PASS	
22	Direction Pattern of Transmitting Antenna (Provided at Individual Antenna Report)	PASS	
Receiving antenna			
24	Limitation of Collateral Emission of Receiver	PASS	
26	Refer to All Articles for Transmitting Antenna	PASS	
Operating frequency 2400~2483MHz			
49.20(1);a	RF Shielding Method	PASS	
49.20(1);a	Communication Method	PASS	
49.20(1);b	Spread-spectrum Method	PASS	
49.20(1);c	Antenna Power	PASS	
49.20(1); d	EIRP power	PASS	
4.10	Construction Protection Confirmation	PASS	
4.7	Transmission Radiation Angle Width (3dB Bandwidth)	N/A ^{Note2}	

NOTE:

- Application to transmitting devices which EIRP is less than (2.14dBi+ antenna power limit) and the shortage of EIRP is compensated by the antenna power. Not applicable to this product.
- 1
- 2 Not applicable since the EIRP Power is less than 12.14dBm.

1.1. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$ · where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$ · providing a level of confidence of approximately **95 %** ·

No.	Item	Uncertainty
1	RF power,conducted	$\pm 0.16\text{dB}$
2	Spurious emissions,conducted	$\pm 0.21\text{dB}$
3	frequency error ppm	$\pm 0.5\text{ppm}$
4	Occupied Bandwidth	$\pm 0.2\text{MHz}$



2.. GENERAL INFORMATION

2.1. GENERAL DESCRIPTION OF EUT

Product Name:	Earbuds	
Trade Mark:	ZENS	
Model Number:	ZB01, ZB01-XX, ZENSBUDS AI, EB-01	
Test Model:	ZB01	
Model Difference:	All models are same as the samples except model name and appearance color, they have the same structure and circuit.	
Product Description:	Operation Frequency:	2402~2480 MHz
	Modulation:	GFSK
	Number Of Channel:	40 CH
	BT Version:	V4.2
	Antenna Designation:	Please see Note 3.
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.	
Channel List:	Please refer to the Note 2.	
Power Supply:	DC 3.7V from battery DC 5V from charge	
Hardware Version:	HV01	
Software Version:	SV01	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- 2.

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2402	11	2422	21	2442
02	2404	12	2424	22	2444
03	2406	13	2426	23	2446
~	~	~	~	~	~
09	2418	19	2438	20	2440
10	2420	20	2440	40	2480

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	2.4G	Internal Antenna	N/A	2.78	



2.2. DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode1	CH01
Mode2	CH20
Mode3	CH40
Mode4	RX

GFSK

Pretest Mode	Conducted Emission
Mode1	CH01
Mode2	CH20
Mode3	CH40
Mode4	RX

GFSK

2.3. TEST CONDITIONS

The EUT tested while in a continuous transmitter/receiver mode.

The EUT was tuned to a low, middle, and high channel for all tests. For all test case pre/scans were completed in all Modes to determine worst case levels.

Power Supply Voltage Fluctuation Test

Voltage Fluctuation Test	Normal Voltage (Normal temperature)	High Voltage +10% of Normal Voltage (High temperature)	Low Voltage -10% of Normal Voltage (Low temperature)
Input DC Power	3.7V	4.07V	3.33V
RF module's voltage	3.3V	3.3V	3.3V
Voltage Variation (%)	0	0	0

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 external power source is varied by +/- 10%, if output voltage had been confirmed that the fluctuation of power supply to the RF circuit of EUT (excluding power source) is equal to or less than +/- 1%. Exempt extremely high and low supply voltage condition test, EUT only operated in normal voltage to test all regulations.

When the input voltage of the product changes within -10% and +10%, the voltage of the module does not change, so the test is only tested under normal voltage.

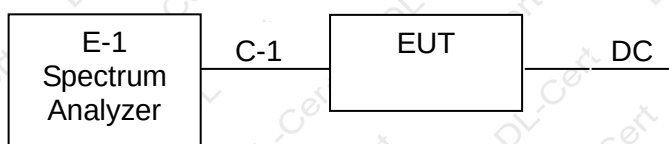


2.4. TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of BLE

Test software Name	bt_tool_v1.1.4		
Frequency	2402 MHz	2440 MHz	2480 MHz
Max output power parameters setting of software	4	4	4

2.5. BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED





2.6. DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Spectrum Analyzer	Agilent	N9020A	108040	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	10cm	RF Cable

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.

**2.7. EQUIPMENTS LIST FOR ALL TEST ITEMS**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated until
1	SPECTRUM ANALYZER	AGILENT	E4407B	160400005	Oct. 25, 2025	Oct. 24, 2026
2	TEST RECEIVER	R&S	ESPI	101318	Oct. 25, 2025	Oct. 24, 2026
3	BILOG ANTENNA	TESEQ	CBL6111D	31216	Oct. 25, 2025	Oct. 24, 2026
4	50Ω COAXIAL SWITCH	ANRITSU	MP59B	6200264416	Oct. 25, 2025	Oct. 24, 2026
5	SPECTRUM ANALYZER	ADVANTEST	R3132	150900201	Oct. 25, 2025	Oct. 24, 2026
6	HORN ANTENNA	EM	EM-AH-10180	2011071402	Oct. 25, 2025	Oct. 24, 2026
7	HORN ANT	SCHWARZBECK	BBHA 9170	9170-181	Oct. 25, 2025	Oct. 24, 2026
8	AMPLIFIER	EM	EM-30180	060538	Oct. 25, 2025	Oct. 24, 2026
9	LOOP ANTENNA	ARA	PLA-1030/B	1029	Oct. 25, 2025	Oct. 24, 2026
10	POWER METER	R&S	NRVS	100696	Oct. 25, 2025	Oct. 24, 2026
11	TEST RECEIVER	R&S	ESCI	101160	Oct. 25, 2025	Oct. 24, 2026
12	SPECTRUM ANALYZER	AGILENT	N9020A	MY55370280	Oct. 25, 2025	Oct. 24, 2026
13	WIDEBAND RADIO COMMUNICATION TESTER	R&S	CMW500	106504	Oct. 25, 2025	Oct. 24, 2026
14	50Ω COAXIAL SWITCH	ANRITSU	MP59B	6200264417	Oct. 25, 2025	Oct. 24, 2026

REMARK:

(A) CALIBRATION CONDUCTED BY THE NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY (NICT) IN JAPAN (HEREINAFTER REFERRED TO AS "NICT") OR A DESIGNATED CALIBRATION AGENCY UNDER ARTICLE102-18 PARAGRAPH (1) IN JRL.

(B) CORRECTION CONDUCTED PURSUANT TO THE PROVISIONS OF ARTICLE 135 OR ARTICLE 144 OF THE MEASUREMENT ACT (ACT NO.51 OF 1992).

(C) CALIBRATION CONDUCTED IN COUNTRIES EXCEPT JAPAN, WHICH SHALL BE EQUIVALENT TO THE CALIBRATION CONDUCTED BY THE NICT OR A DESIGNATED CALIBRATION AGENCY UNDER ARTICLE102-18 PARAGRAPH (1).

(D) CALIBRATION,ETC. CONDUCTED BY USING MEASURING INSTRUMENTS AND OTHER EQUIPMENT LISTED IN THE RIGHT COLUMN OF APPENDED TABLE NO.3, WHICH SHALL HAVE BEEN GIVEN ANY TYPE OF CALIBRATION, ETC. LISTED ABOVE FROM (A) TO (C)

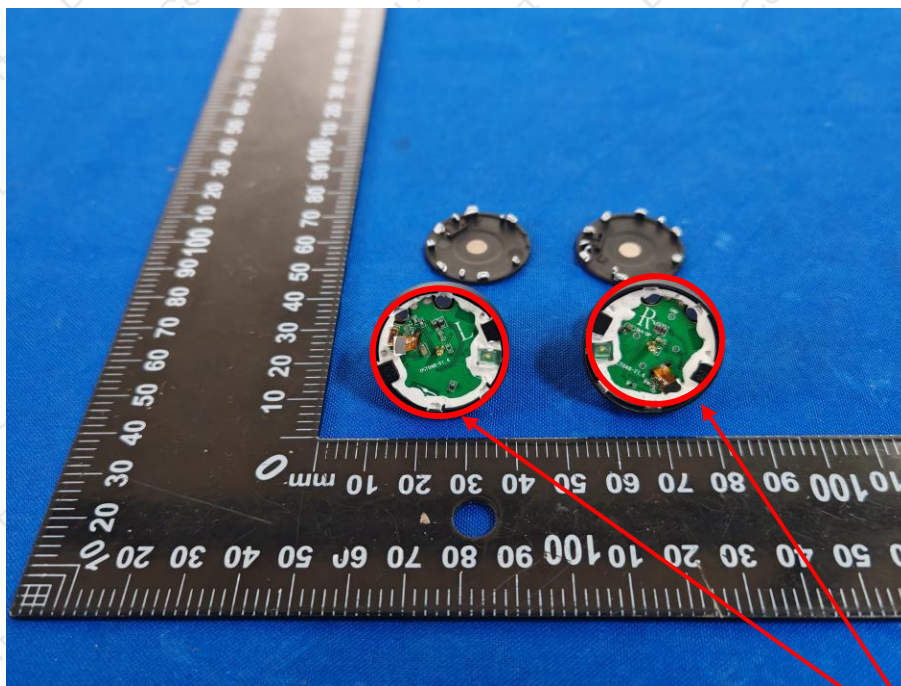
ALL EQUIPMENT HAS CALIBRATED IN GUANGZHOU GRE METROLOGY & TEST CO., LTD, THAT COMPLY WITH REMARK(C) REQUIREMENT.



3.. RF SHIELDING METHOD

Enclosure:

the product structure is stuck by special glue, If you do not use a special tool, you will not be able to open it. See below the structure:



Special glue is used on red line for cannot be open easily structure.



Glue name: SA0097

Glue type: Acrylic tree structure

Manufacturer: supreme resources Inc



4.. TEST RESULT FOR BLUETOOTH

4.1. FREQUENCY ERROR

4.2. LIMIT

Item	Limits
Frequency Error	$\leq \pm 50 \text{ ppm}$

4.3. MEASURING INSTRUMENTS AND SETTING

The following table is the setting of Spectrum Analyzer.

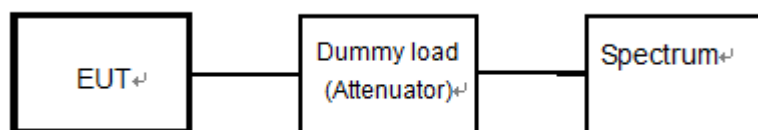
Spectrum Parameter	Setting
Attenuation	Auto
RB / VB	10KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.4. TEST PROCEDURES

- (1) In the case of unmodulated signal (continuous or continuous burst), measure the frequency directly by a frequency meter.
- (2) In the case of burst waves, the measurement shall be done for enough time in order to obtain the enough measuring accuracy, and the average of the measured values becomes the final value.
- (3) In the case of a test mode with a specific frequency spectrum, measure the frequency of the specific spectrum by a spectrum analyzer.
- (4) In the cases above, if the frequency equivalent to the test frequency is not directly measured in principle, it shall be obtained by necessary calculation.

In the case of modulated signal, if there is no specific spectrum measurable by a spectrum analyzer but a specific dip is observed, it is allowed to measure the frequency with the signal generator (synthesized). That is, observe a signal of the signal generator concurrently (or alternately) with the tested signal using the spectrum analyzer while setting the frequency of the signal generator to the position of the dip on the screen of the spectrum analyzer, and determine the frequency of the signal generator at the time as a measured value.

4.5. TEST SETUP LAYOUT



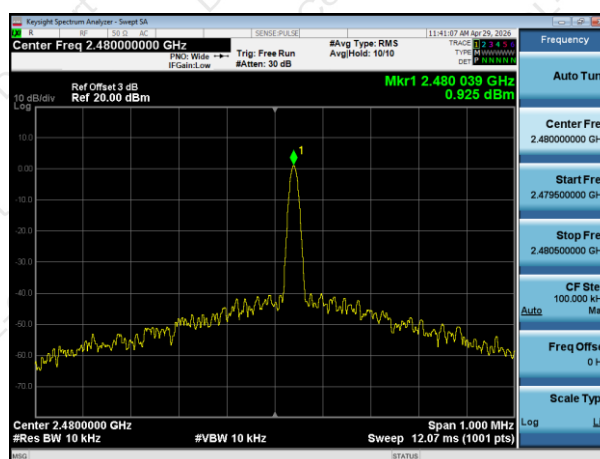
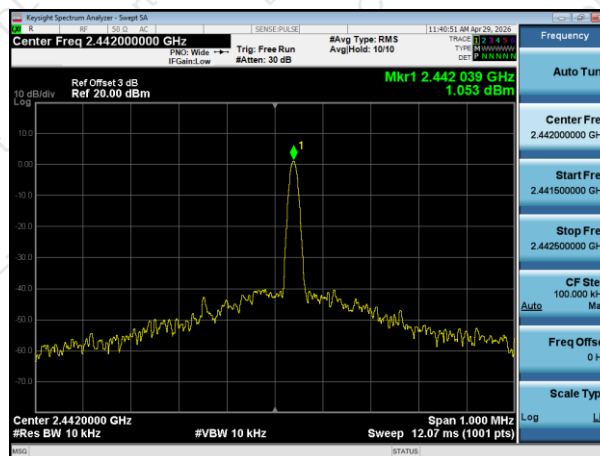
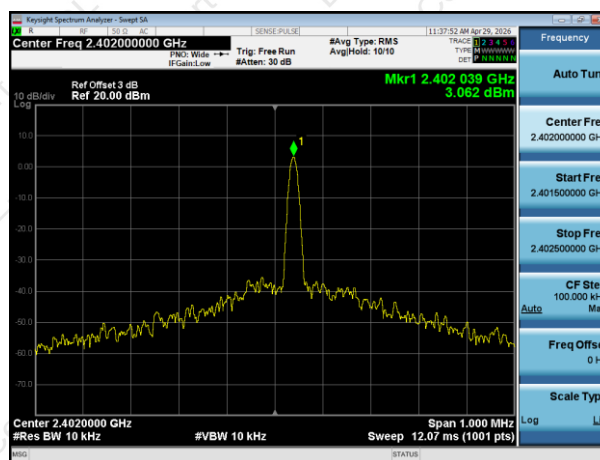
**4.5.1. TEST RESULT**

Temperature:	25.6 °C	Relative Humidity:	55.8%	Pressure:	1010mbar
--------------	---------	--------------------	-------	-----------	----------

Voltage	Frequency	Reading	Tolerance	Limit
Normal	MHz	MHz	ppm	(ppm)
	2402	2402.039	16.24	≤±50ppm
	2440	2442.039	15.97	≤±50ppm
	2480	2480.039	15.73	≤±50ppm



Normal volatge





5.. ANTENNA POWER

5.1. LIMIT

Item	Limits
Antenna Power Density	$\leq 3\text{mW/MHz}$ (FH form 2427 - 2470.75 MHz) $\leq 10\text{mW/MHz}$ (OFDM,DS from 2400~2483.5MHz) $\leq 10\text{mW}$ (Other from 2400~2483.5MHz)
Antenna Power Error	+20%(Base on manufacturer declare antenna power density)

5.2. MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

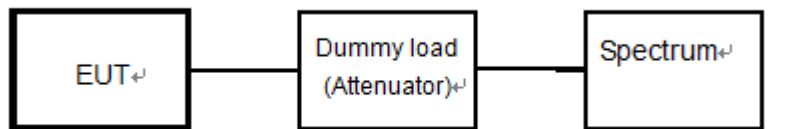
Spectrum Parameter	Setting
Attenuation	Auto
RB / VB	2 MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.3. TEST PROCEDURES

1. The EUT is connected on the spectrum analyzer.
2. Adjust the spectrum analyzer to have the center frequency the same with the measured carrier. RBW=VBW=2MHz, detector mode is positive peak. Turn off the averaging function and use zero span.
3. The calibrating signal power shall be reduced to 0 dBm and it shall be verified that the power meter reading also reduces by 10 dB.
- 4 . Connect the equipment to be measured. Using the following settings of the spectrum analyzer in combination with "max hold" function, find the frequency of highest power output in the power envelope: center frequency equal to operating frequency; RBW & VBW: 2 MHz; detector mode: positive peak; averaging: off; span: 3 times the spectrum width; amplitude: adjust for middle of the instrument' range. The frequency found shall be recorded.
- 5 . Set the center frequency of the spectrum analyzer to the found frequency and switch to zero span. The power meter indicates the measured power density "E".
7. Antenna Power Error is definition that actual measure antenna power tolerance between + 20% power range that base on manufacturer declare the conducted power density.



5.4. TEST SETUP LAYOUT



5.5. TEST DEVIATION

There is no deviation with the original standard.

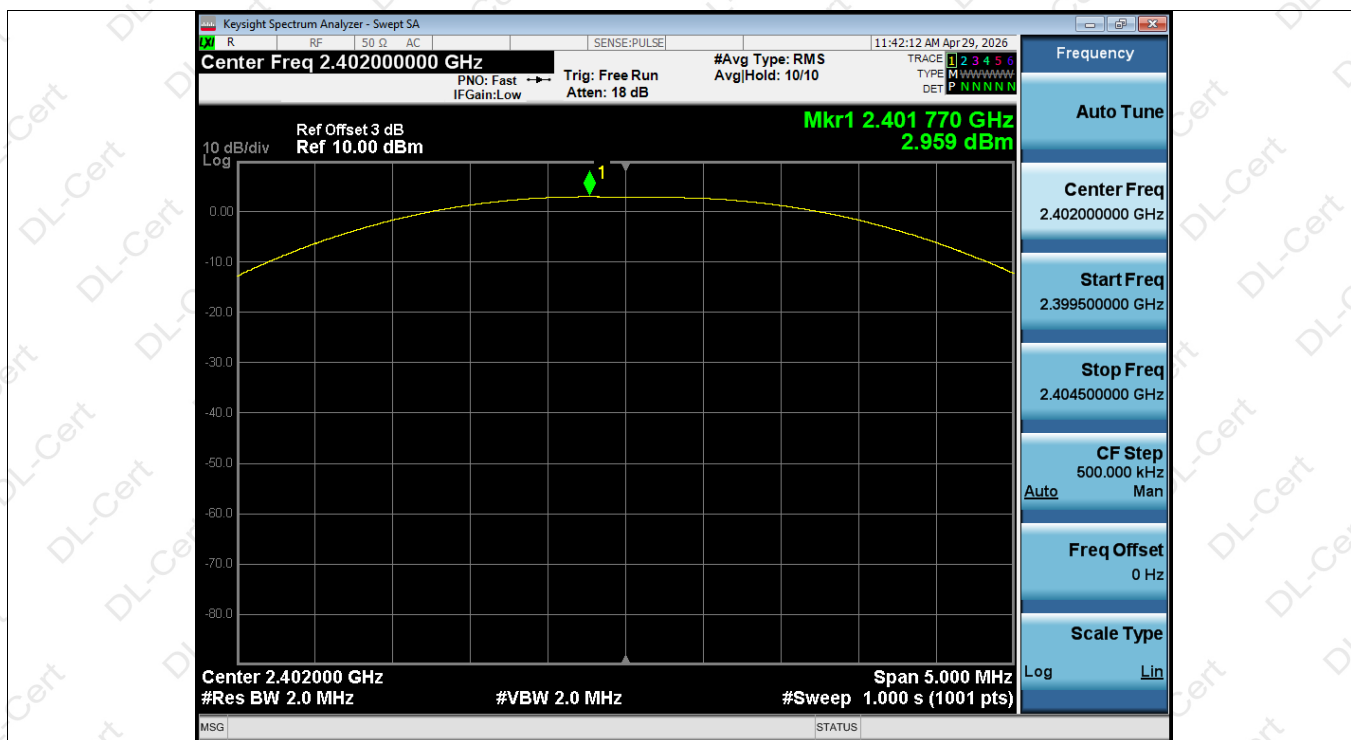
5.6. TEST DEVIATION

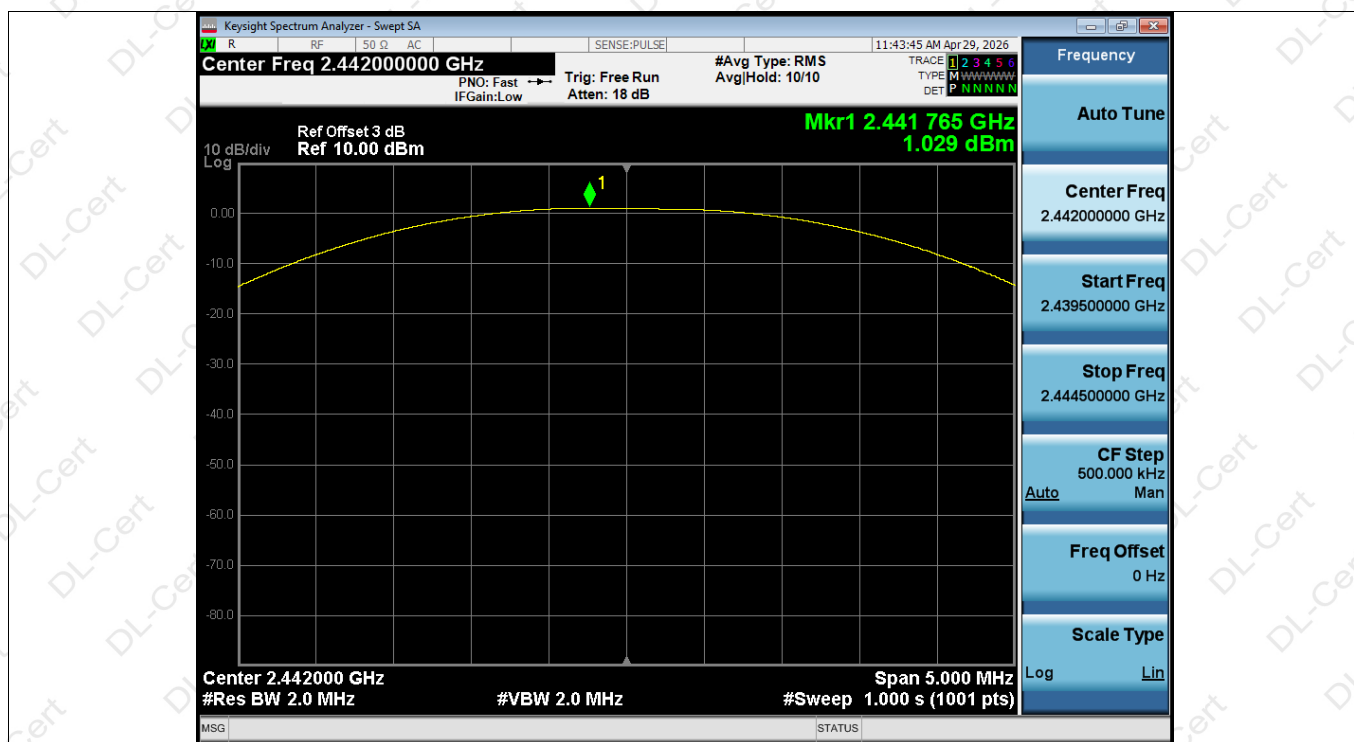
The EUT was programmed to be in continuously transmitting mode.

5.7. TEST RESULT

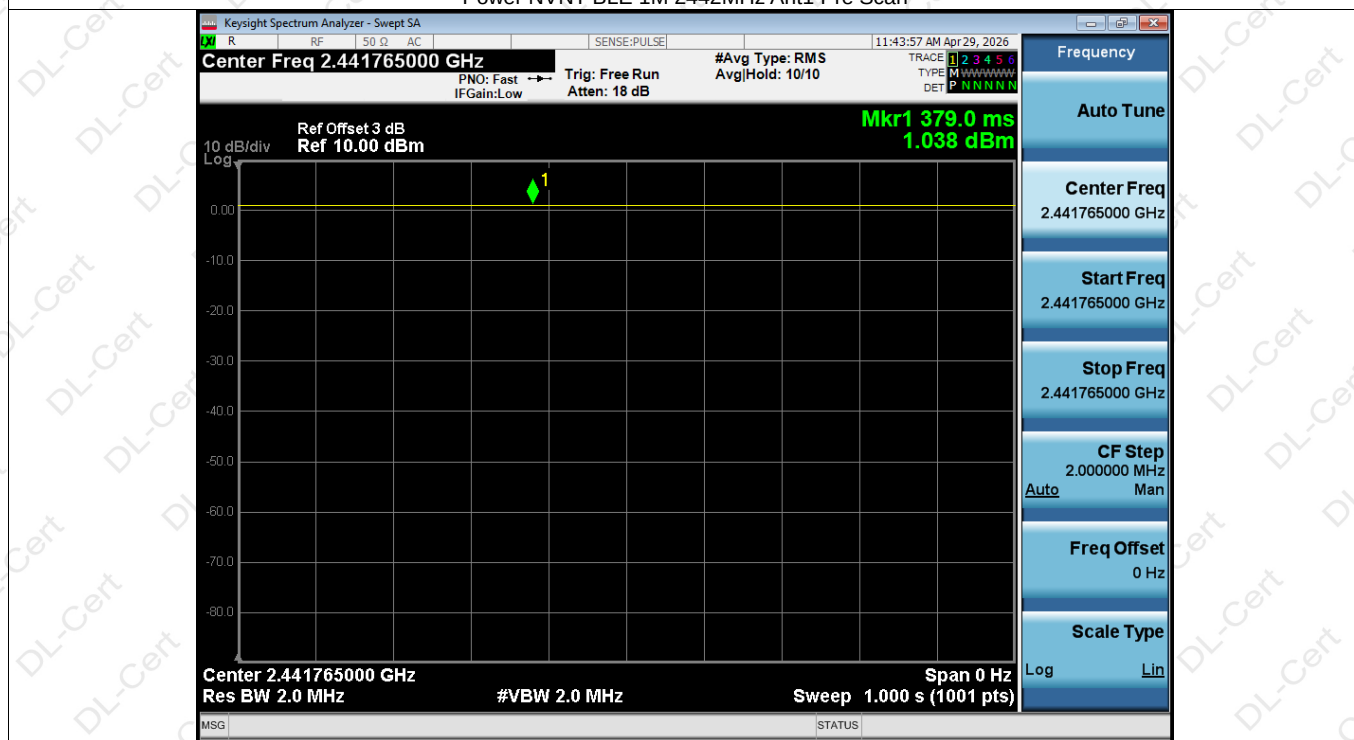
Temperature:	25.4 °C	Relative Humidity:	55.3%	Pressure:	1010mbar
--------------	---------	--------------------	-------	-----------	----------

Voltage	Test Frequency MHz	Conducted RF output power density (mW)	Rated power density (mW)	Limits (mW)	Antenna Power Error (%)
Normal	2402	1.986	2.5	10	-20.56
	2440	1.271	2.5	10	-49.16
	2480	1.23	2.5	10	-50.8
Limit: +20%(Base on manufacturer declare antenna power density)					

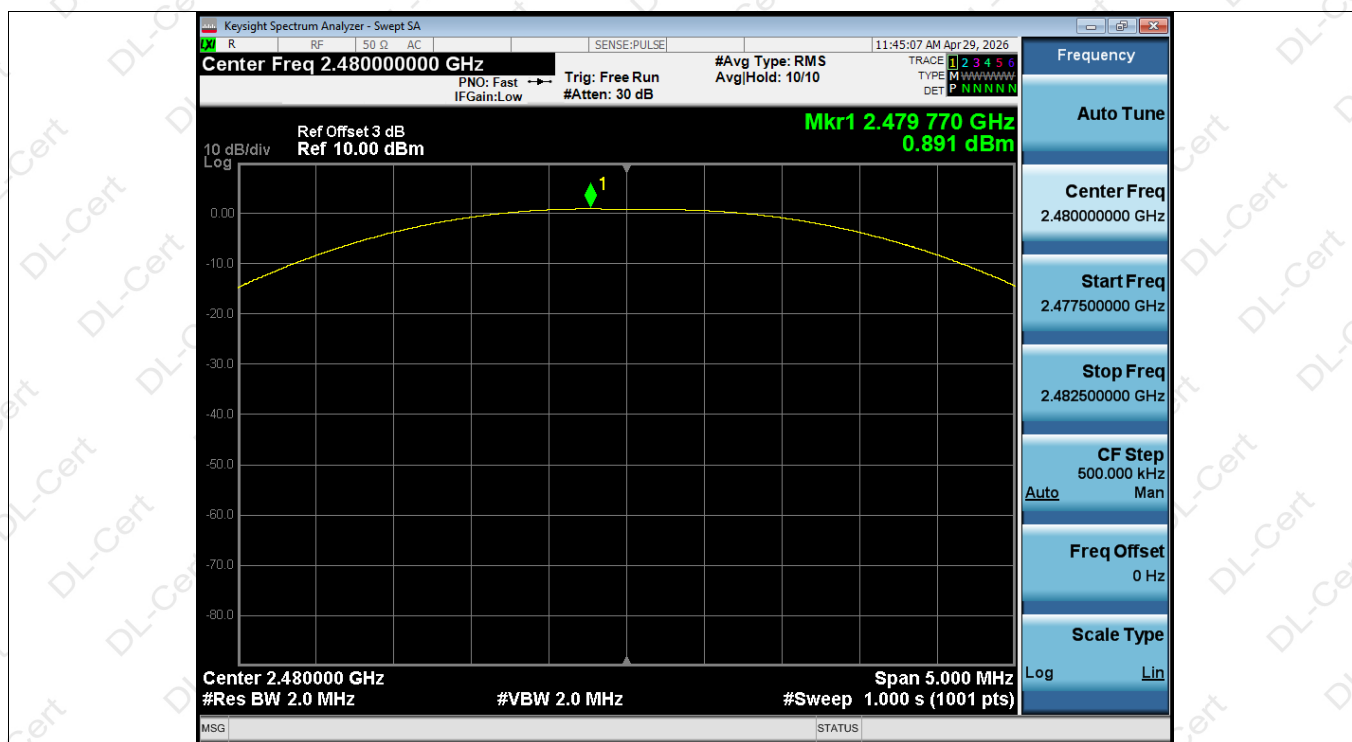




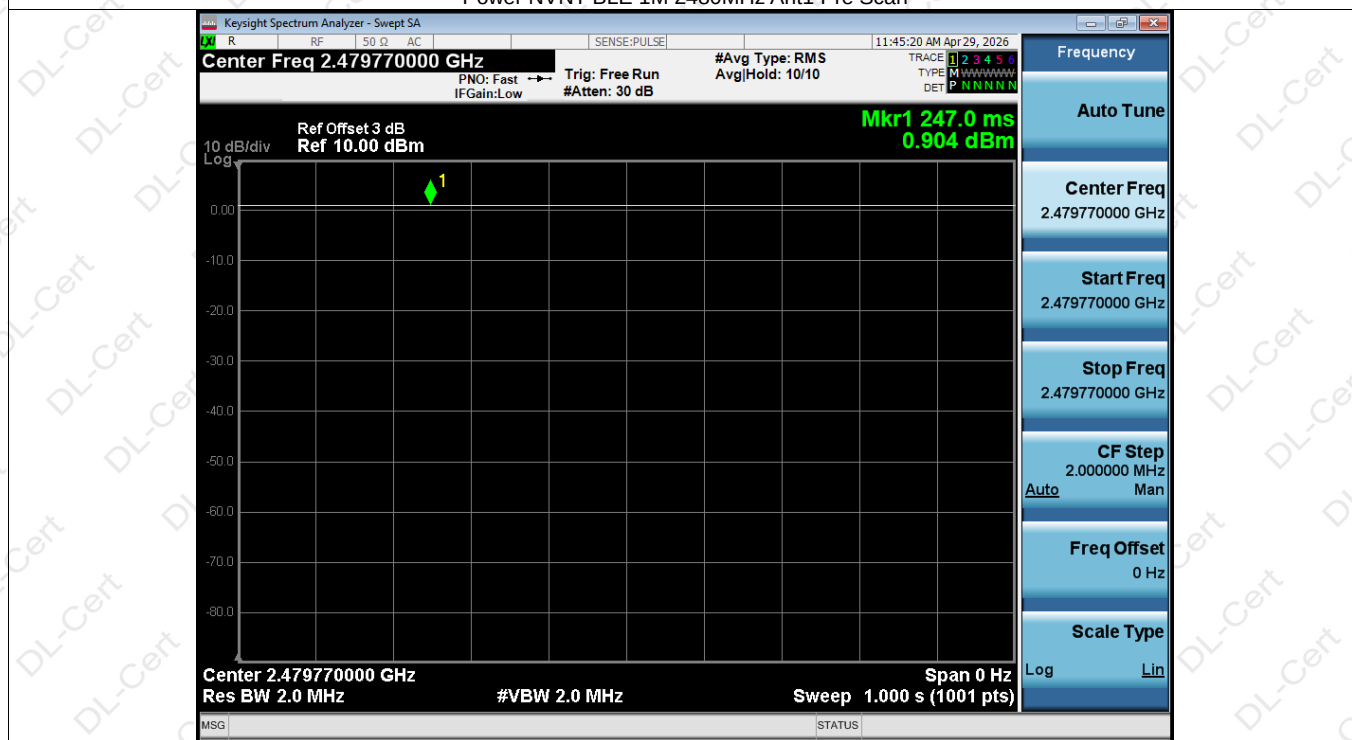
Power NVNT BLE 1M 2442MHz Ant1 Pre Scan



Power NVNT BLE 1M 2442MHz Ant1 Zero Span



Power NVNT BLE 1M 2480MHz Ant1 Pre Scan



Power NVNT BLE 1M 2480MHz Ant1 Zero Span



6.. EIRP POWER

6.1. LIMIT

Item	Limits
Radiation power EIRP	FH form 2427-2470,75 MHz, $EIRP \leq 6.91\text{dBm}$ CCK/OFDM/DBPSK(2400-2483.5MHz) OFDM or DS other than(802.11b/g/n HT20) $EIRP \leq 12.14\text{dBm}$ OFDM or DS other than(802.11n HT40) $EIRP \leq 9.13\text{dBm}$ other than 2400-2483.5MHz: 12.14dBm or less

The EIRP power= Conducted RF output power density(dBm/MHz) + Antenna Gain

6.2. TEST RESULT

Temperature:	25.5 °C	Relative Humidity:	55.8%	Pressure:	1010mbar
--------------	---------	--------------------	-------	-----------	----------

Test Frequency MHz	Conducted RF output power density		Antenna Gain	EIRP	Limits
	(mW)	(dBm)	dBi	(dBm)	(dBm)
2402	1.986	2.98	2.78	5.76	≤ 12.14
2440	1.271	1.04	2.78	3.82	
2480	1.23	0.9	2.78	3.68	



7.. OCCUPIED BANDWITH

7.1. TEST PROCEDURES

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	300KHz
VB	$\geq$ RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto
Limit	Occupied Band Width: FH 83.5MHz; OFDM,DS $\leq$ 26MHz; Others $\leq$ 26MHz

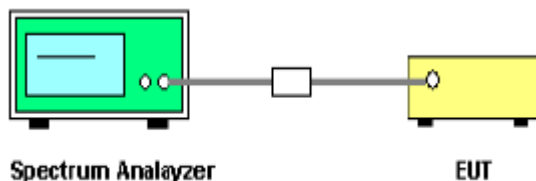
1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

2.Spectrum Setting : RBW= 300KHz, VBW $\geq$ RBW, Sweep time = Auto.

7.2. DEVIATION FROM STANDARD

No deviation.

7.3. TEST SETUP LAYOUT



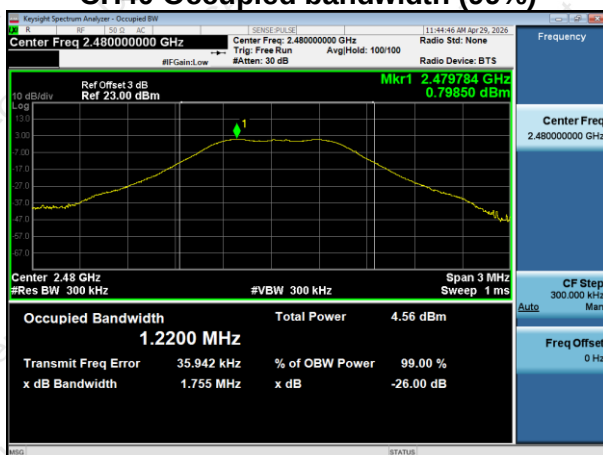
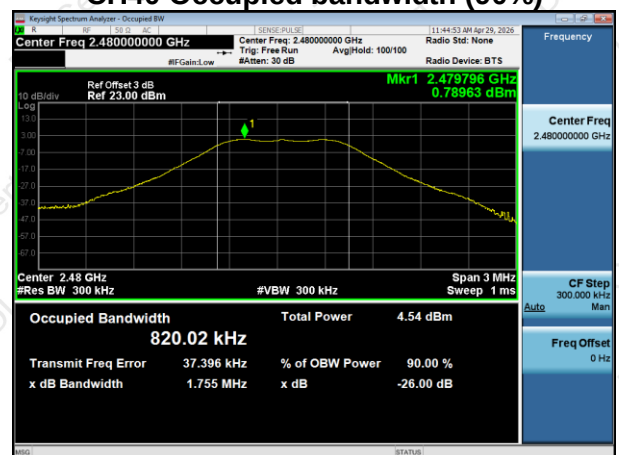
7.4. TEST RESULT

Temperature:	25.4 °C	Relative Humidity:	55.2%	Pressure:	1010mbar
--------------	---------	--------------------	-------	-----------	----------

Voltage	Frequency MHz	99%Occupied bandwidth MHz	90%Occupied bandwidth MHz
Normal	2402	1.2212	0.82164
	2440	1.2199	0.82029
	2480	1.22	0.82002



Normal volatge

CH01 Occupied bandwidth (99%)**CH01 Occupied bandwidth (90%)****CH20 Occupied bandwidth (99%)****CH20 Occupied bandwidth (90%)****CH40 Occupied bandwidth (99%)****CH40 Occupied bandwidth (90%)**



7. RADIO INTERFERENCE PREVENTION CAPABILITY MEASUREMENT

7.1. LIMIT

Item	Limits
Identification code	≥ 48 bits

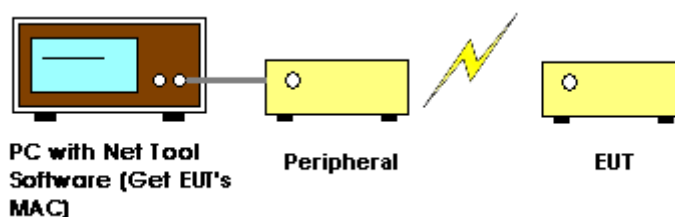
7.2. MEASURING ID CODE SOFTWARE

Item	Limits
MAC IP List	MAC Scan

7.3. TEST PROCEDURES

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

7.4. TEST SETUP LAYOUT



7.5. TEST DEVIATION

There is no deviation with the original standard.

7.6. EUT OPERATION DURING TEST

The EUT was programmed to be in normal transmitting mode.

7.7. TEST RESULT OF RADIO INTERFERENCE PREVENTION CAPABILITY

Temperature:	25.2 °C	Relative Humidity:	55.4%	Pressure:	1010mbar
--------------	---------	--------------------	-------	-----------	----------

Test result:	CONFORM MAC Address:90:2B:D2:6C:5B:7A
--------------	--



8. UNWANTED EMISSION INTENSITY MEASUREMENT

8.1 LIMIT

Item	Limits
TX Spurious Emission	$\leq 2.5 \mu\text{W}/-26\text{dBm}$ ($30\text{MHz} \leq f \leq 1000\text{MHz}$)
	$\leq 2.5 \mu\text{W}/-26\text{dBm}$ ($1000\text{MHz} < f \leq 2387\text{MHz}$)
	$\leq 25 \mu\text{W}/-16\text{dBm}$ ($2387\text{MHz} < f \leq 2400\text{MHz}$)
	$\leq 25 \mu\text{W}/-16\text{dBm}$ ($2483.5\text{MHz} \leq f < 2496.5\text{MHz}$)
	$\leq 2.5 \mu\text{W}/-26\text{dBm}$ ($2496.5\text{MHz} \leq f < 12500\text{MHz}$)

8.2. MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

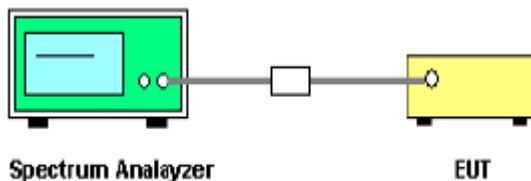
Spectrum Parameter	Setting
Attenuation	Auto
RB / VB	1 MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

8.3 TEST PROCEDURES

1. EUT have transmitted the maximum modulation signal and fixed channelize.
2. Setting of SA is following as: Below 1GHz RB:1MHz / VB:1MHz
Above 1GHz RB:1MHz / VB:1MHz / AT: 10dB Ref: 0dBm / Sweep time: Auto
Sweep Mode: Continuous sweep / Detect mode: Positive peak
Trace mode: Max hold
3. Setting of SA is following as 30MHz and stop frequency 1000MHz Then to mark peak reading value + cable loss shall be less than 0.25 $\mu\text{W}/-26\text{dBm}$.
4. Setting of SA is following as 1000MHz and stop frequency 2387MHz Then to mark peak reading value + cable loss shall be less than 2.5 $\mu\text{W}/-26\text{dBm}$.
5. SA adjusted to start frequency 2387MHz and stop frequency 2400MHz. Then to mark peak reading value + cable loss shall be less than 25 $\mu\text{W}/-16\text{dBm}$.
6. SA adjusted to start frequency 2483.5MHz and stop frequency 2496.5MHz Then to mark peak reading value + cable loss shall be less than 25 $\mu\text{W}/-16\text{dBm}$
7. SA adjusted to start frequency 2496.5MHz and stop frequency 12500MHz Then to mark peak reading value + cable loss shall be less than 2.5 $\mu\text{W}/-26\text{dBm}$
8. Measure side band spurious as follows: For 2.4GHz band: 2374MHz~2400MHz and 2483.5MHz~2509.5MHz RBW = VBW = 30kHz, Result_Value = Measured_Value + 15.2 [dBm]
9. If the Result_Value is over the requirement, take total sum of 1MHz band centered at the spur frequency like ACLP measurement as Result_Value.



8.4. TEST SETUP LAYOUT



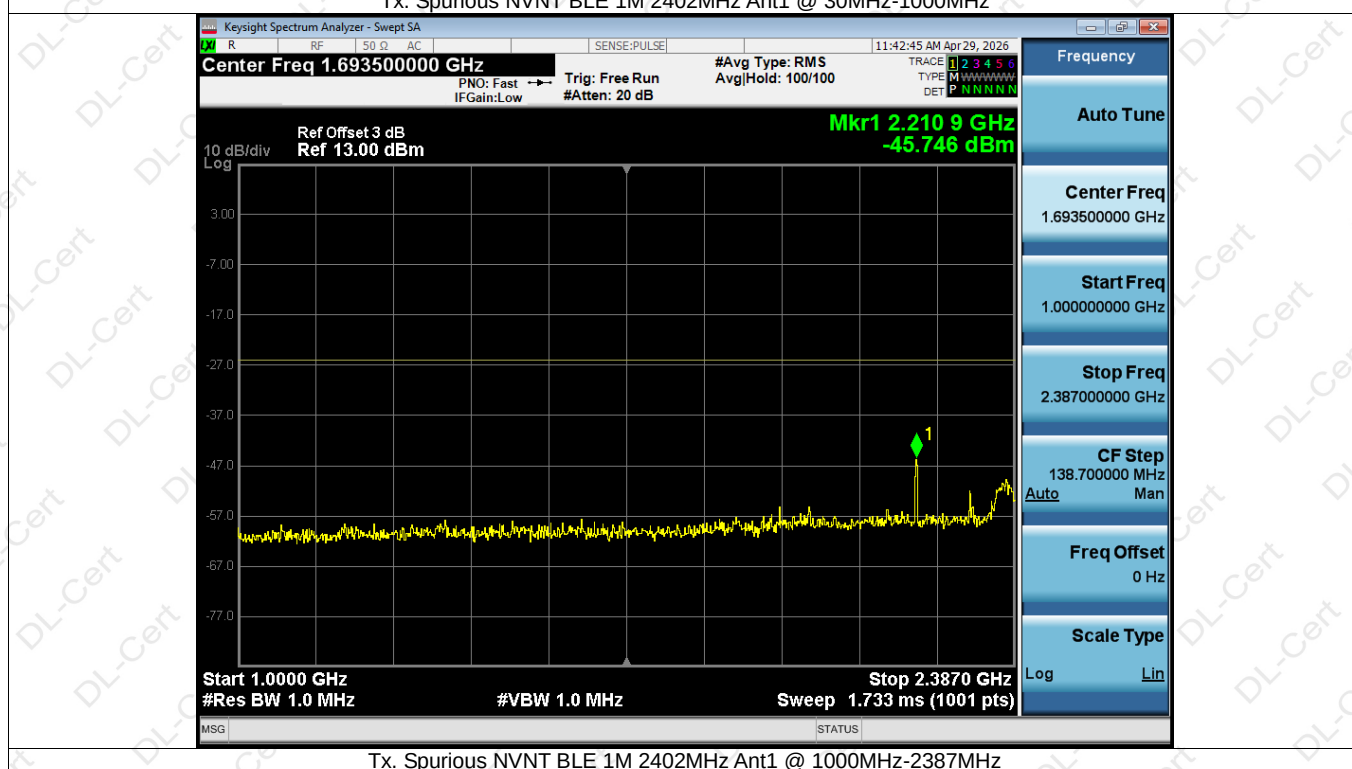
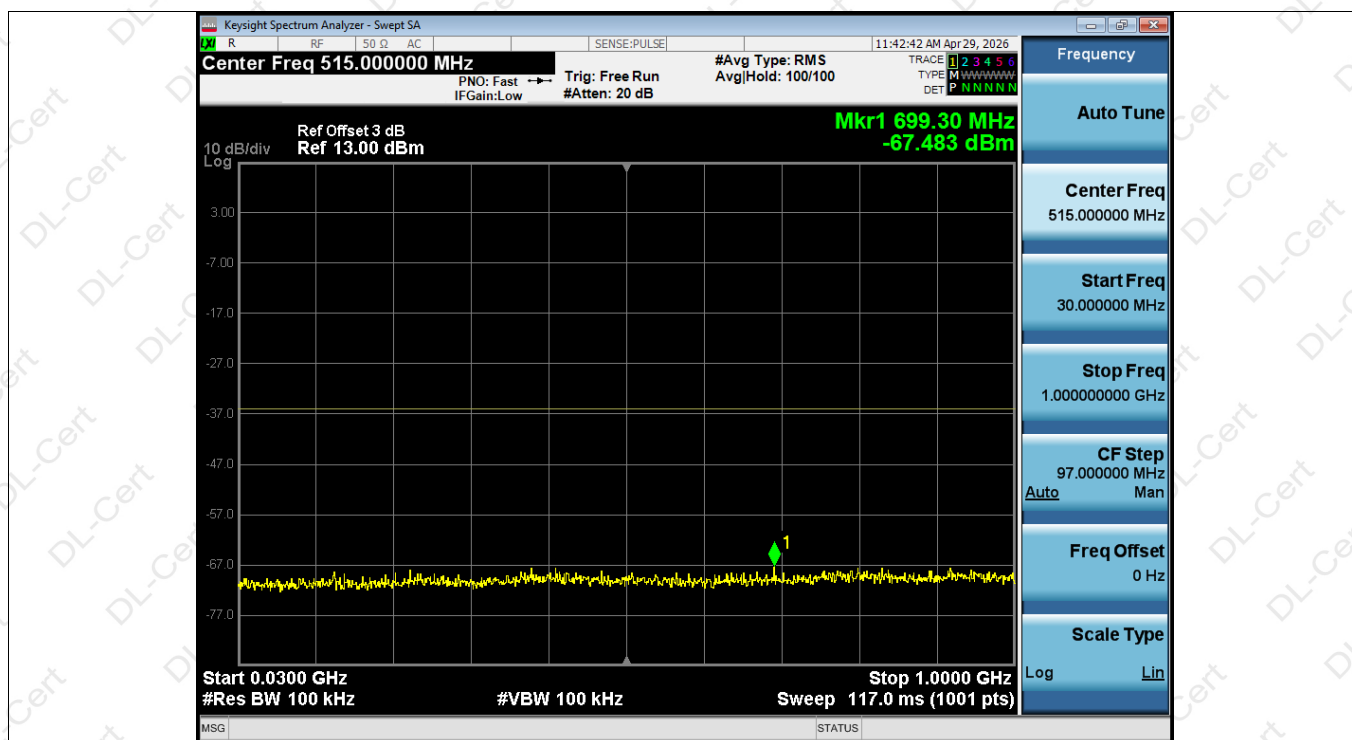
8.5. TEST DEVIATION

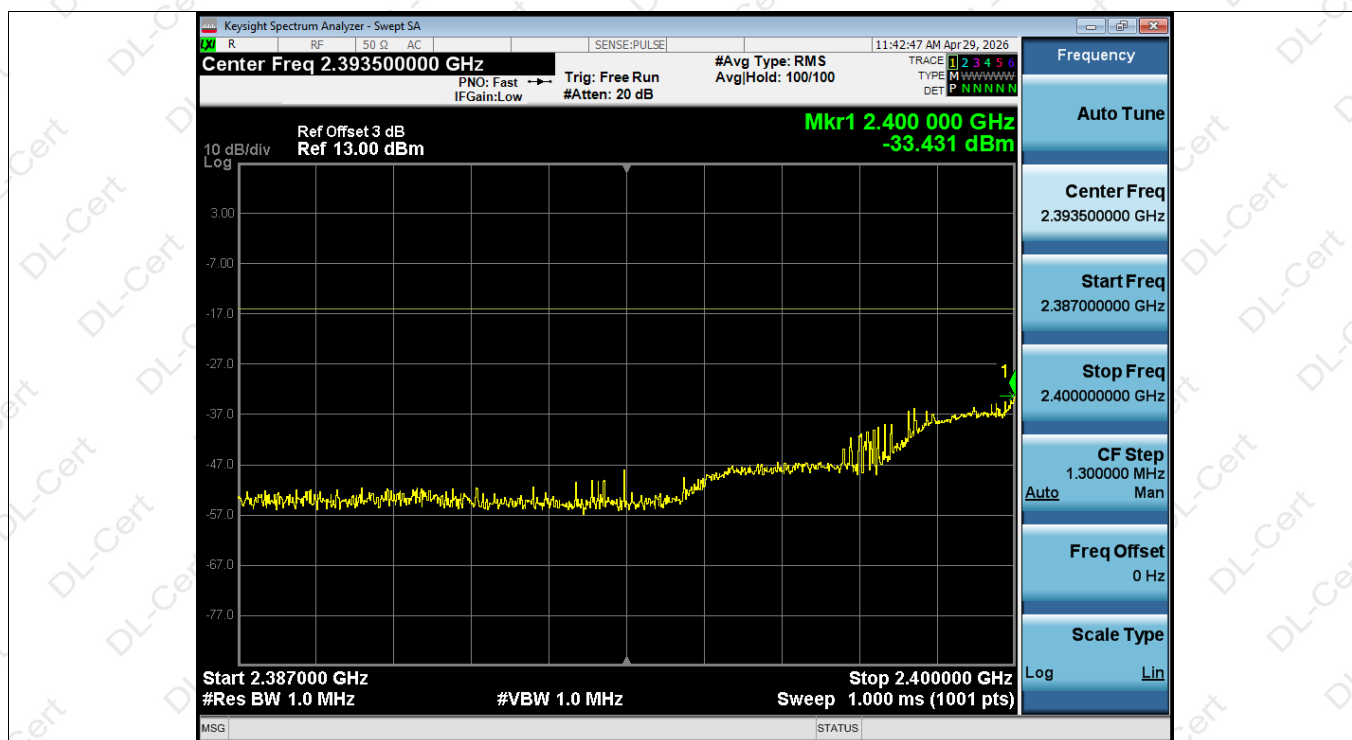
There is no deviation with the original standard.

8.6. TEST RESULT

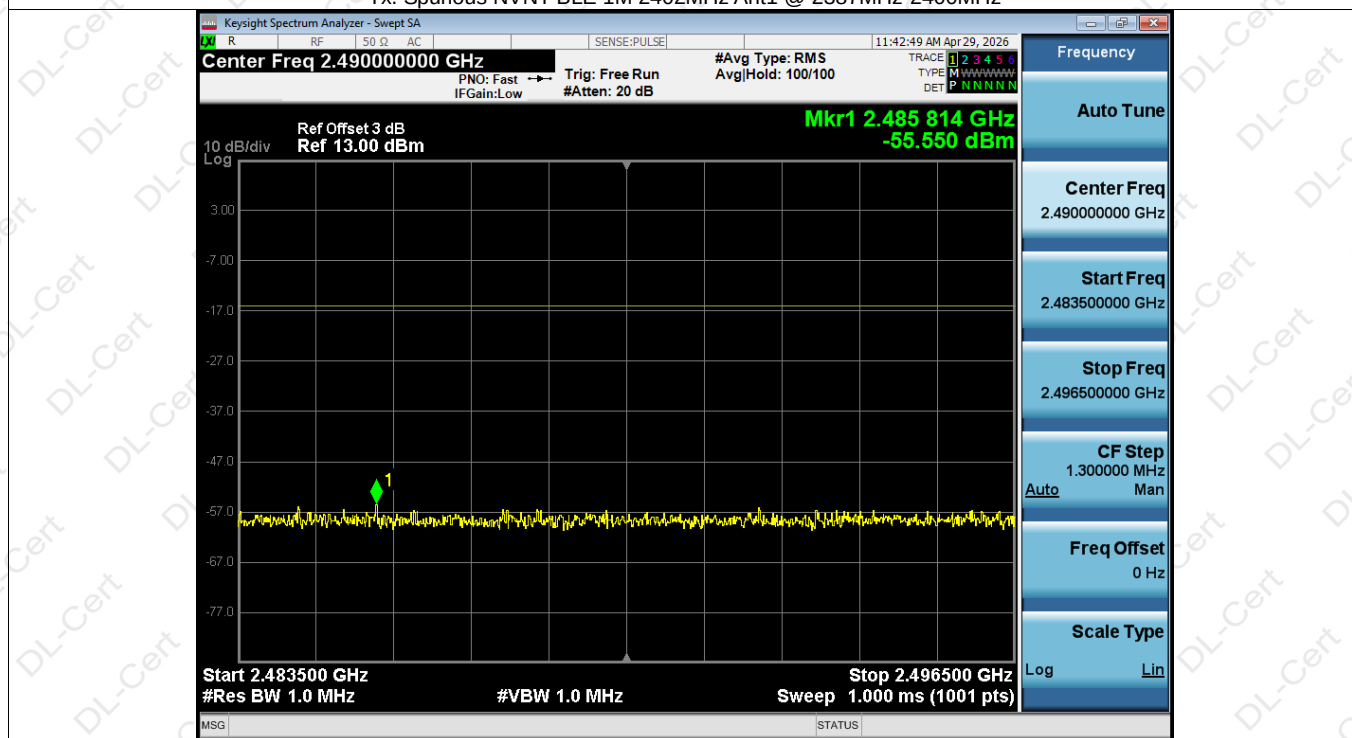
Temperature:	25.4 °C	Relative Humidity:	55.3%	Pressure:	1010mbar
--------------	---------	--------------------	-------	-----------	----------

Condition	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Peak Value (dBm)	Max RMS Value (dBm)	Max Peak Value (uW)	Max RMS Value (uW)	Limit Start(uW)	Limit Stop (uW)	Verdict
NVNT	2402	30-1000	699.30	-67.48	NA	0.0002	NA	0.25	0.25	Pass
NVNT	2402	1000-2387	2210.85	-45.75	NA	0.0266	NA	2.5	2.5	Pass
NVNT	2402	2387-2400	2400.00	-33.43	NA	0.4539	NA	25	25	Pass
NVNT	2402	2483.5-2496.5	2485.81	-55.55	NA	0.0028	NA	25	25	Pass
NVNT	2402	2496.5-13000	2591.03	-44.30	NA	0.0372	NA	2.5	2.5	Pass
NVNT	2442	30-1000	701.24	-67.36	NA	0.0002	NA	0.25	0.25	Pass
NVNT	2442	1000-2387	2251.07	-43.72	NA	0.0425	NA	2.5	2.5	Pass
NVNT	2442	2387-2400	2395.26	-47.76	NA	0.0167	NA	25	25	Pass
NVNT	2442	2483.5-2496.5	2485.42	-50.45	NA	0.009	NA	25	25	Pass
NVNT	2442	2496.5-13000	4880.79	-46.35	NA	0.0232	NA	2.5	2.5	Pass
NVNT	2480	30-1000	912.70	-67.62	NA	0.0002	NA	0.25	0.25	Pass
NVNT	2480	1000-2387	2288.52	-41.89	NA	0.0647	NA	2.5	2.5	Pass
NVNT	2480	2387-2400	2394.07	-54.56	NA	0.0035	NA	25	25	Pass
NVNT	2480	2483.5-2496.5	2483.69	-41.87	NA	0.065	NA	25	25	Pass
NVNT	2480	2496.5-13000	2675.06	-44.47	NA	0.0357	NA	2.5	2.5	Pass

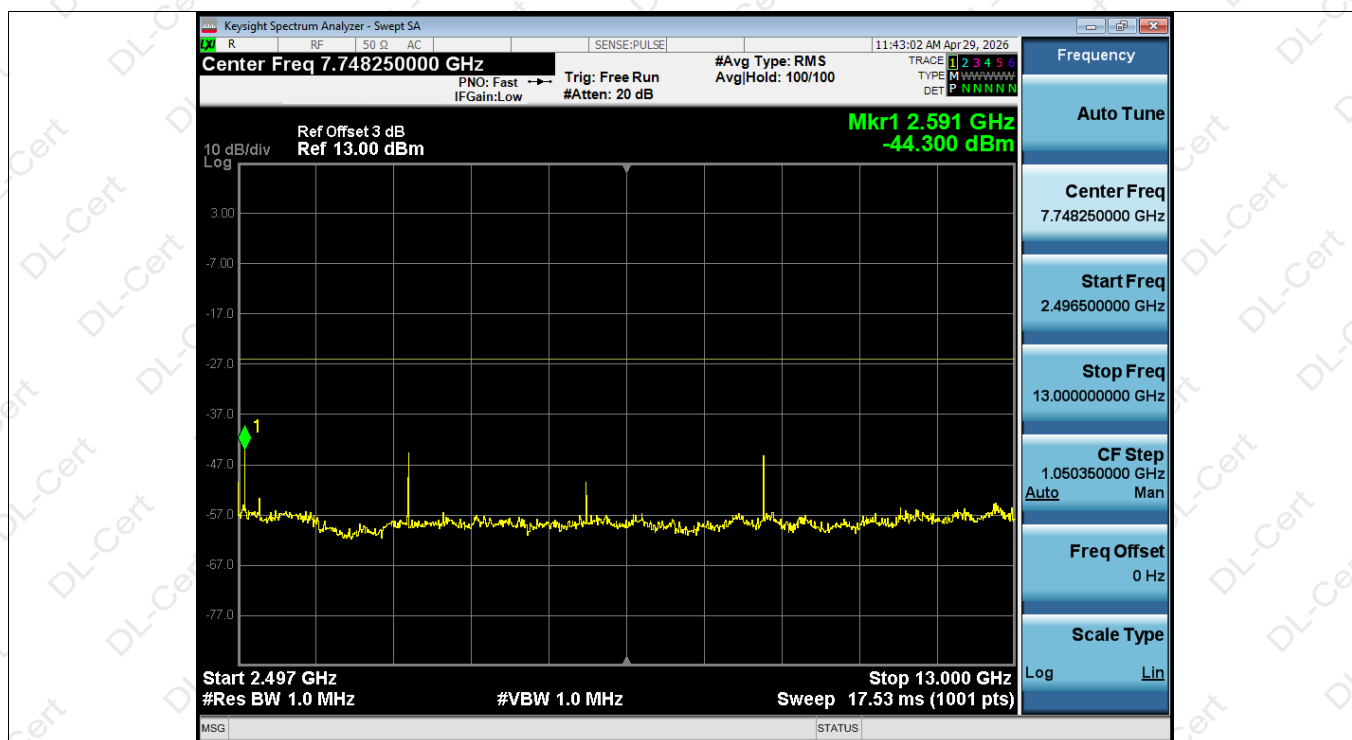




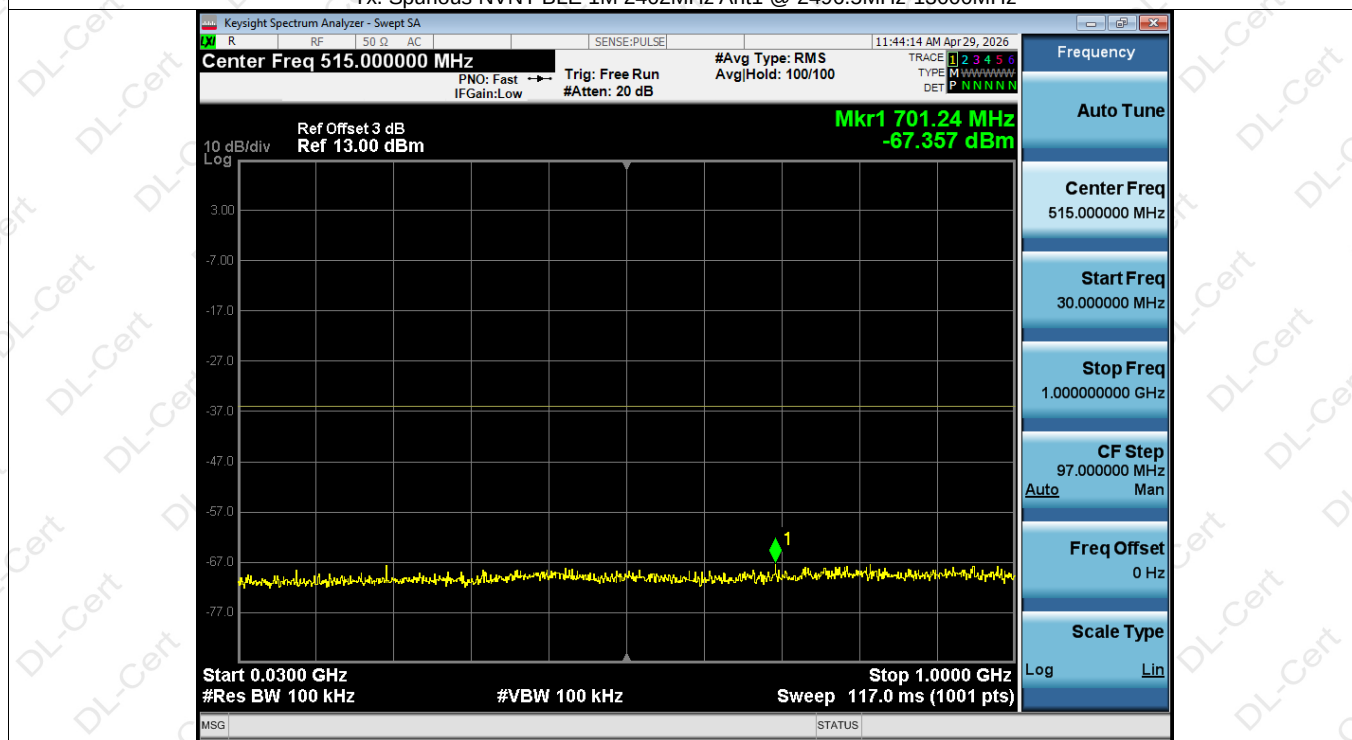
Tx. Spurious NVNT BLE 1M 2402MHz Ant1 @ 2387MHz-2400MHz



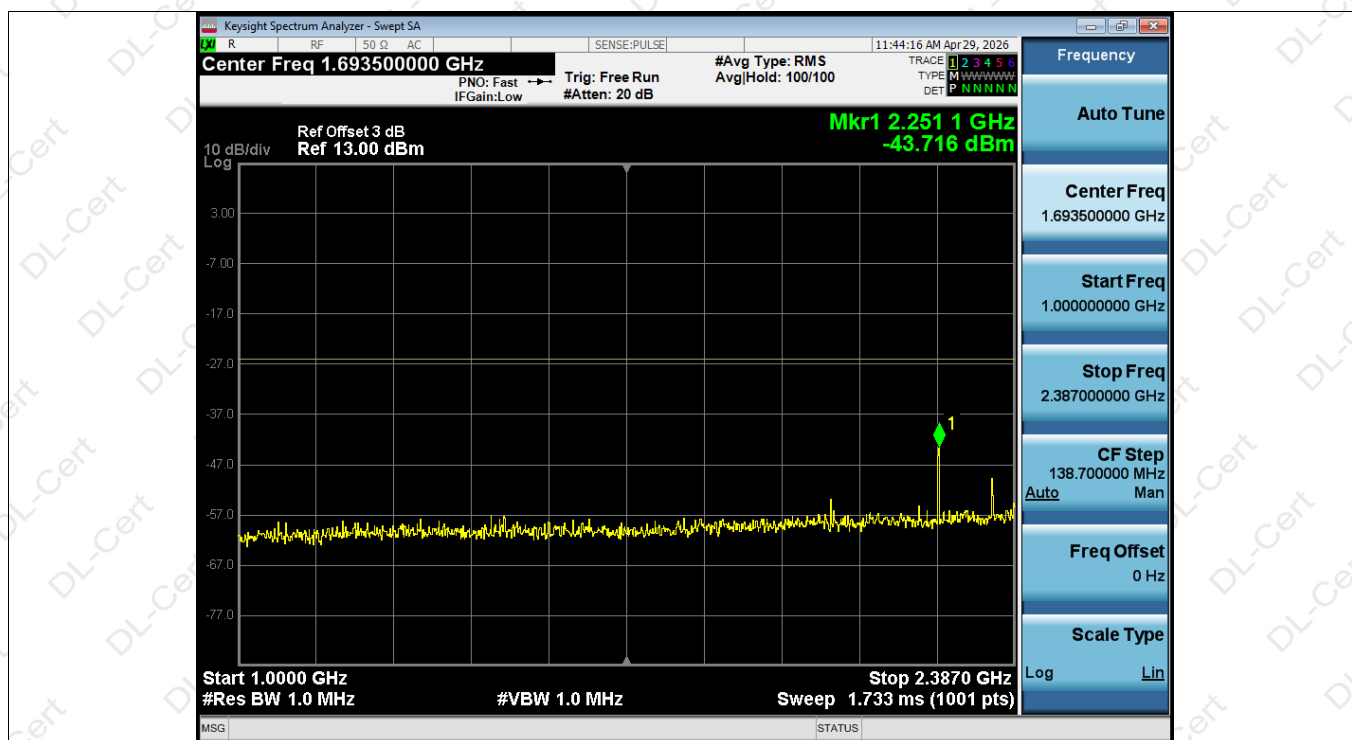
Tx. Spurious NVNT BLE 1M 2402MHz Ant1 @ 2483.5MHz-2496.5MHz



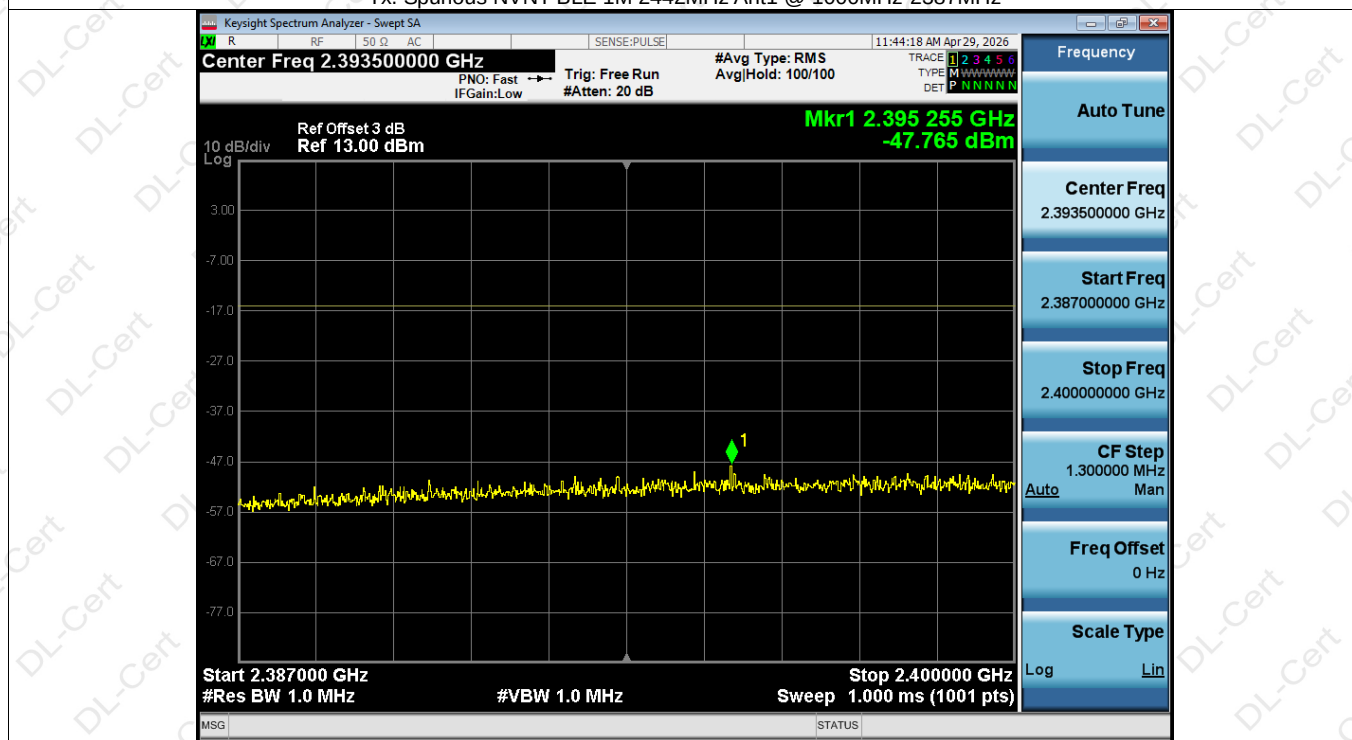
Tx. Spurious NVNT BLE 1M 2402MHz Ant1 @ 2496.5MHz-13000MHz



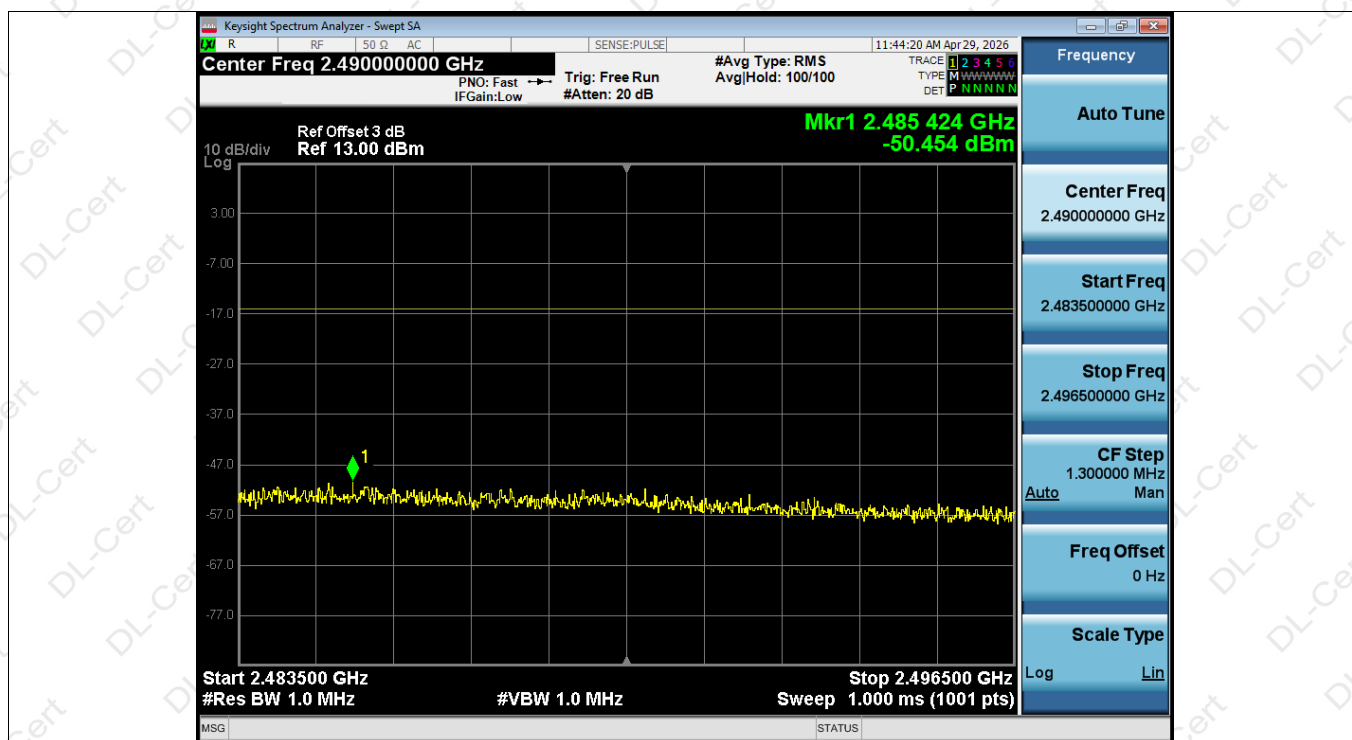
Tx. Spurious NVNT BLE 1M 2442MHz Ant1 @ 30MHz-1000MHz



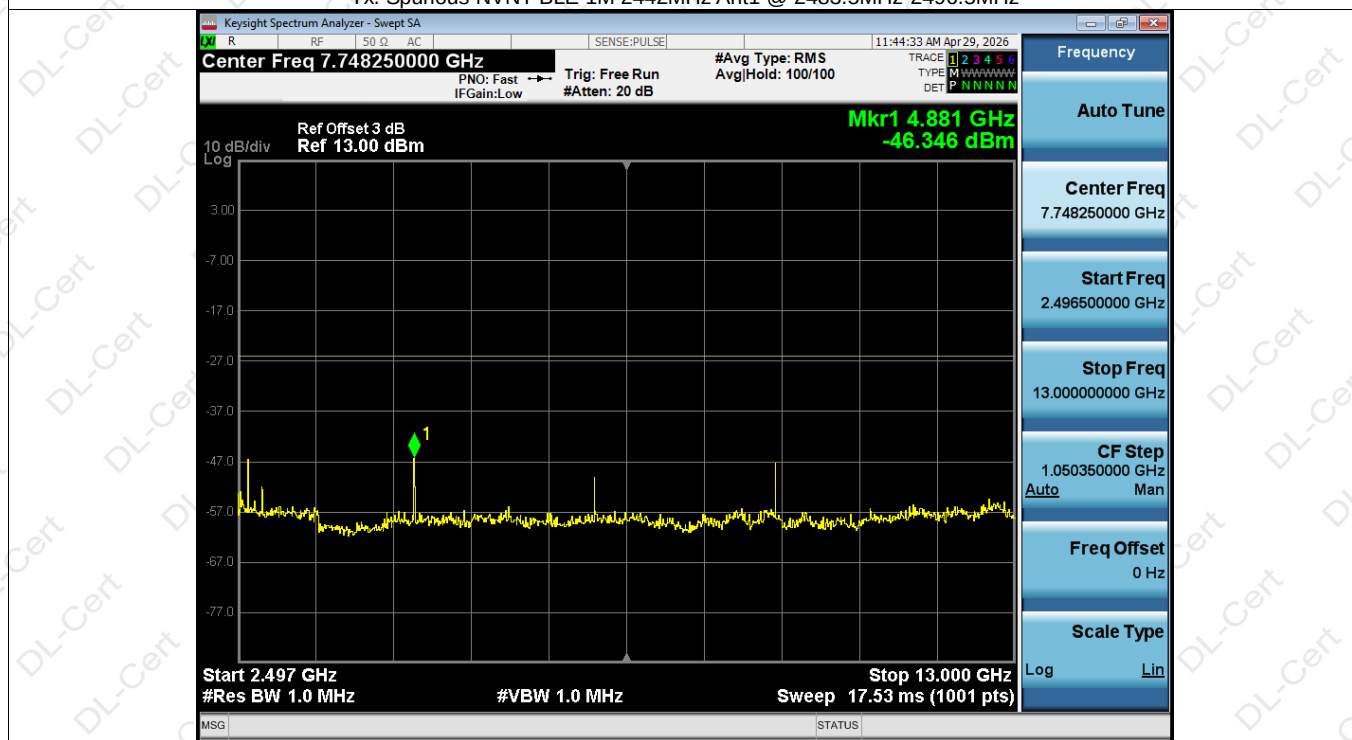
Tx. Spurious NVNT BLE 1M 2442MHz Ant1 @ 1000MHz-2387MHz



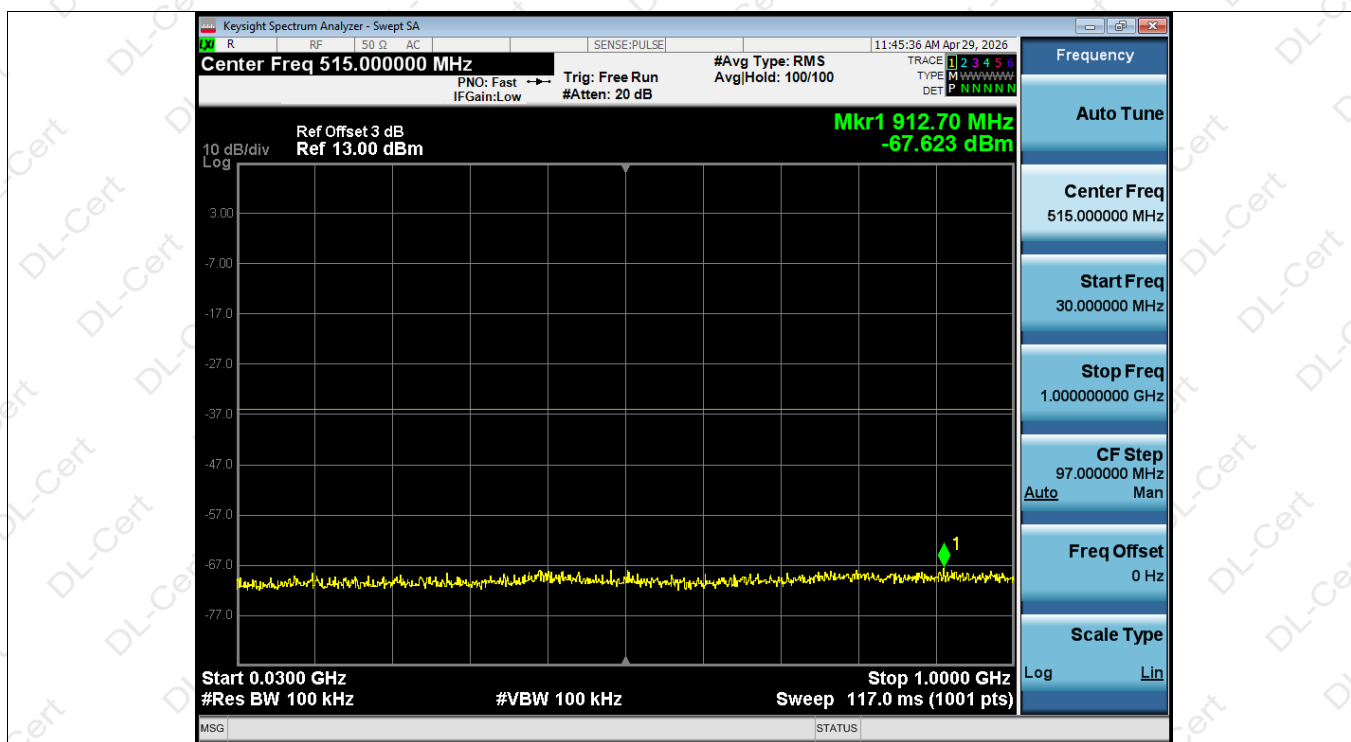
Tx. Spurious NVNT BLE 1M 2442MHz Ant1 @ 2387MHz-2400MHz



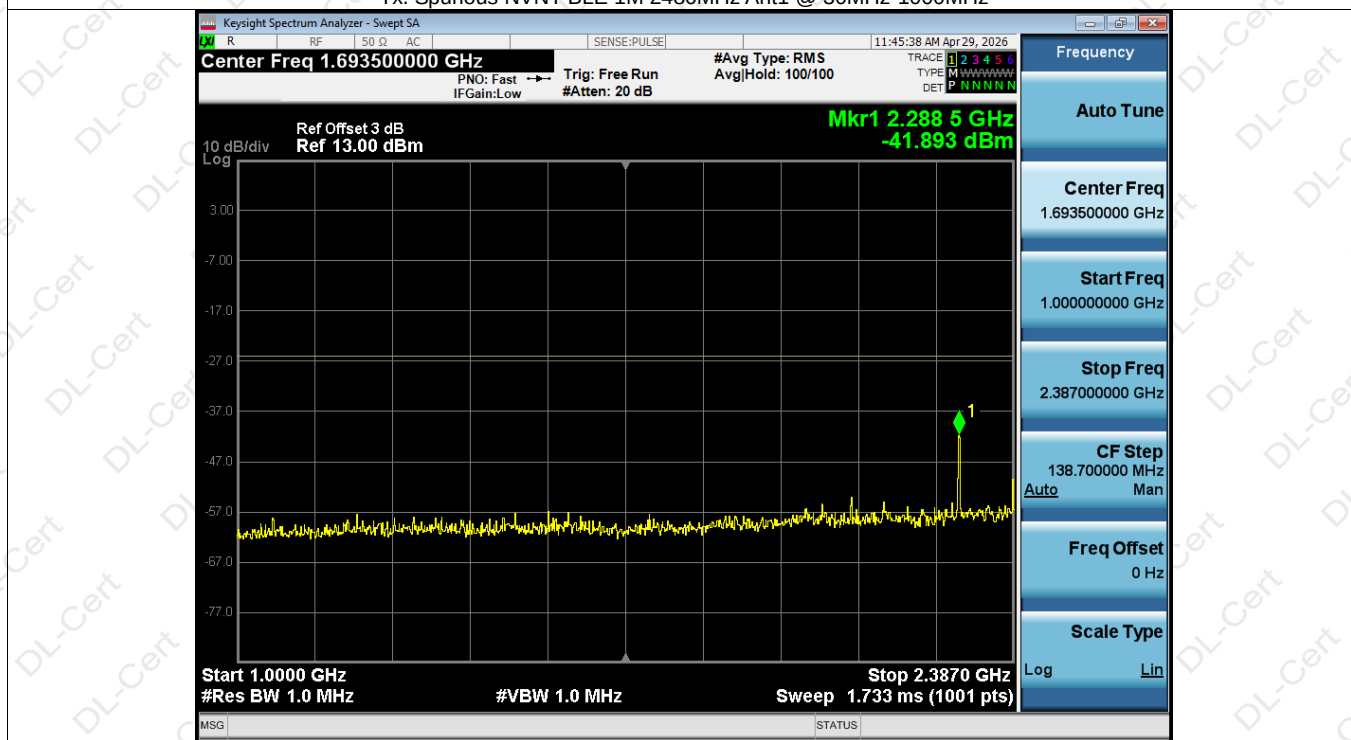
Tx. Spurious NVNT BLE 1M 2442MHz Ant1 @ 2483.5MHz-2496.5MHz



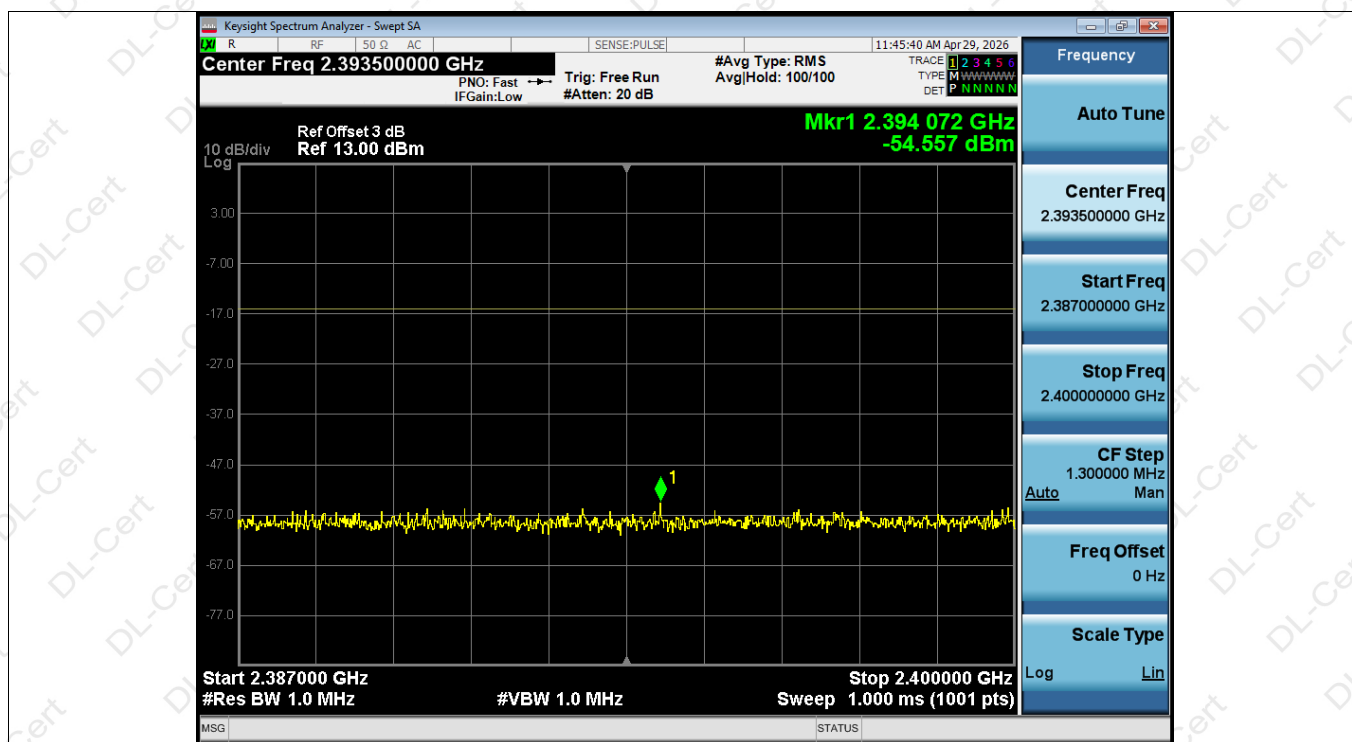
Tx. Spurious NVNT BLE 1M 2442MHz Ant1 @ 2496.5MHz-13000MHz



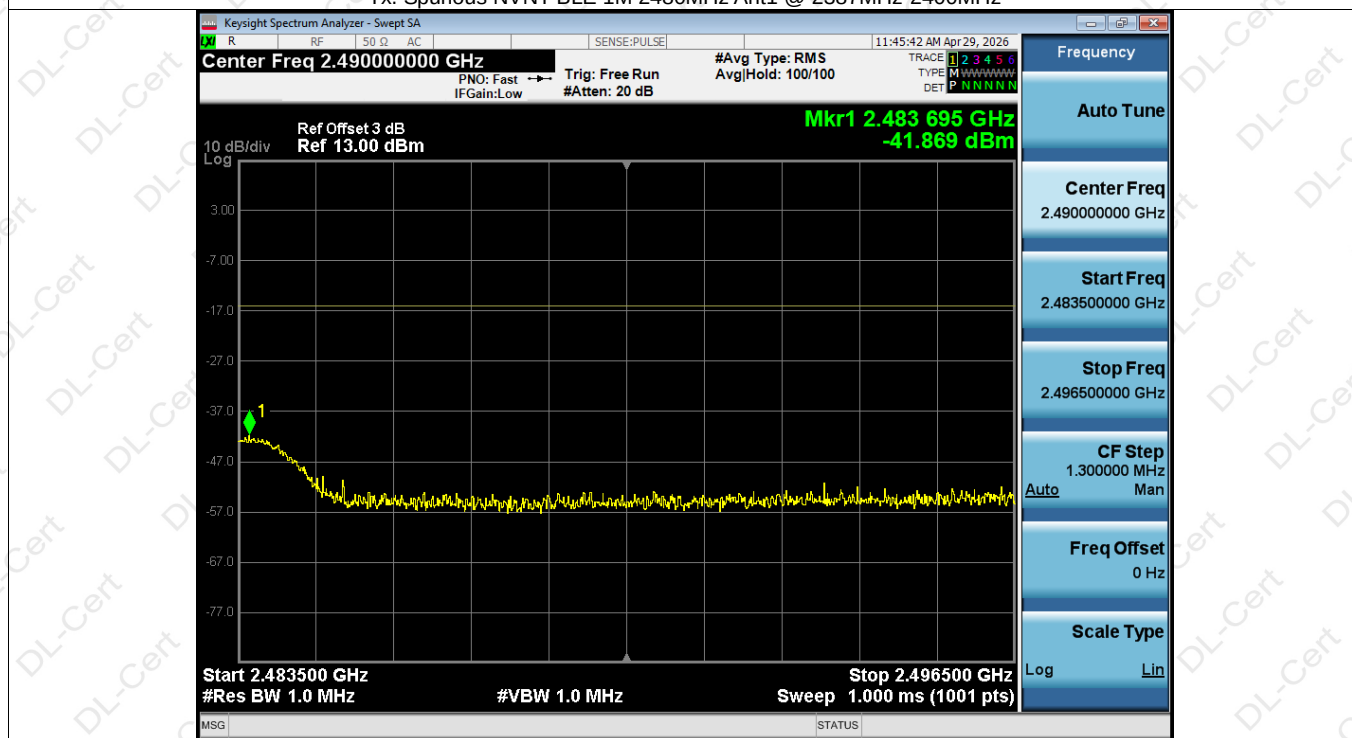
Tx. Spurious NVNT BLE 1M 2480MHz Ant1 @ 30MHz-1000MHz



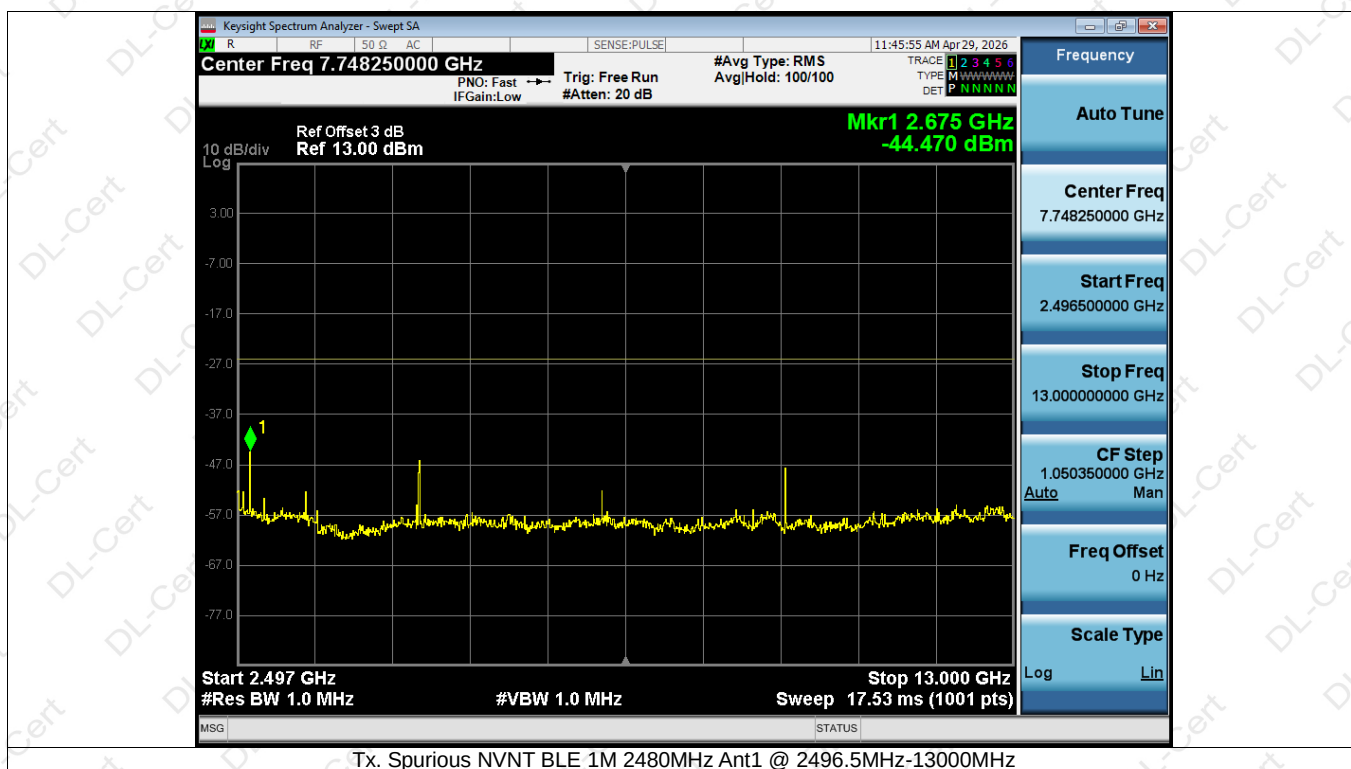
Tx. Spurious NVNT BLE 1M 2480MHz Ant1 @ 1000MHz-2387MHz



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



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





9. CARRIER SENSE

Not apply to the test item, since EIRP does not require compensation through Antenna Power.

10. IMITATION OF COLLATERAL EMISSION OF RECEIVER MEASUREMENT

10.1 LIMIT

Item	Limits
RX Spurious Emission:	$\leq 4\text{nW/-54dBm}$ ($f < 1\text{GHz}$)
	$\leq 20\text{nW/-47dBm}$ ($1\text{GHz} \leq f$)

10.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
VB	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

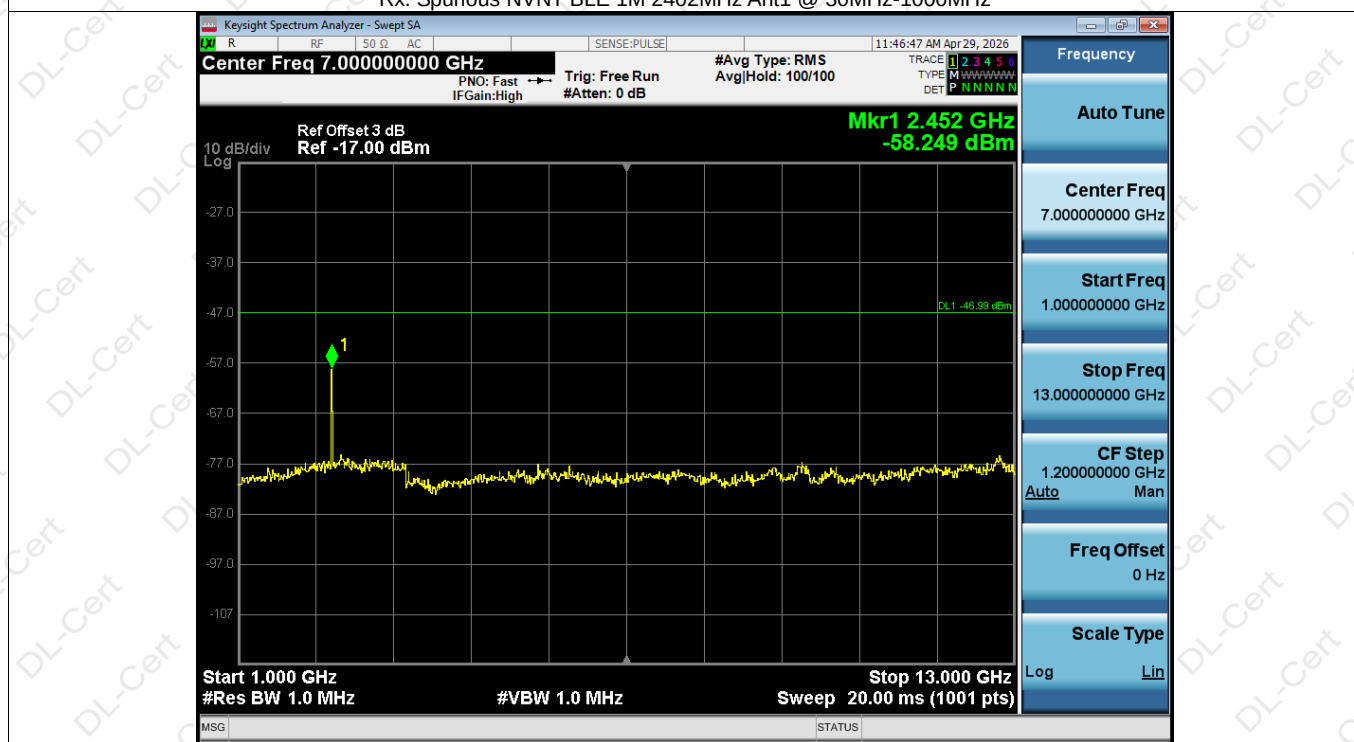
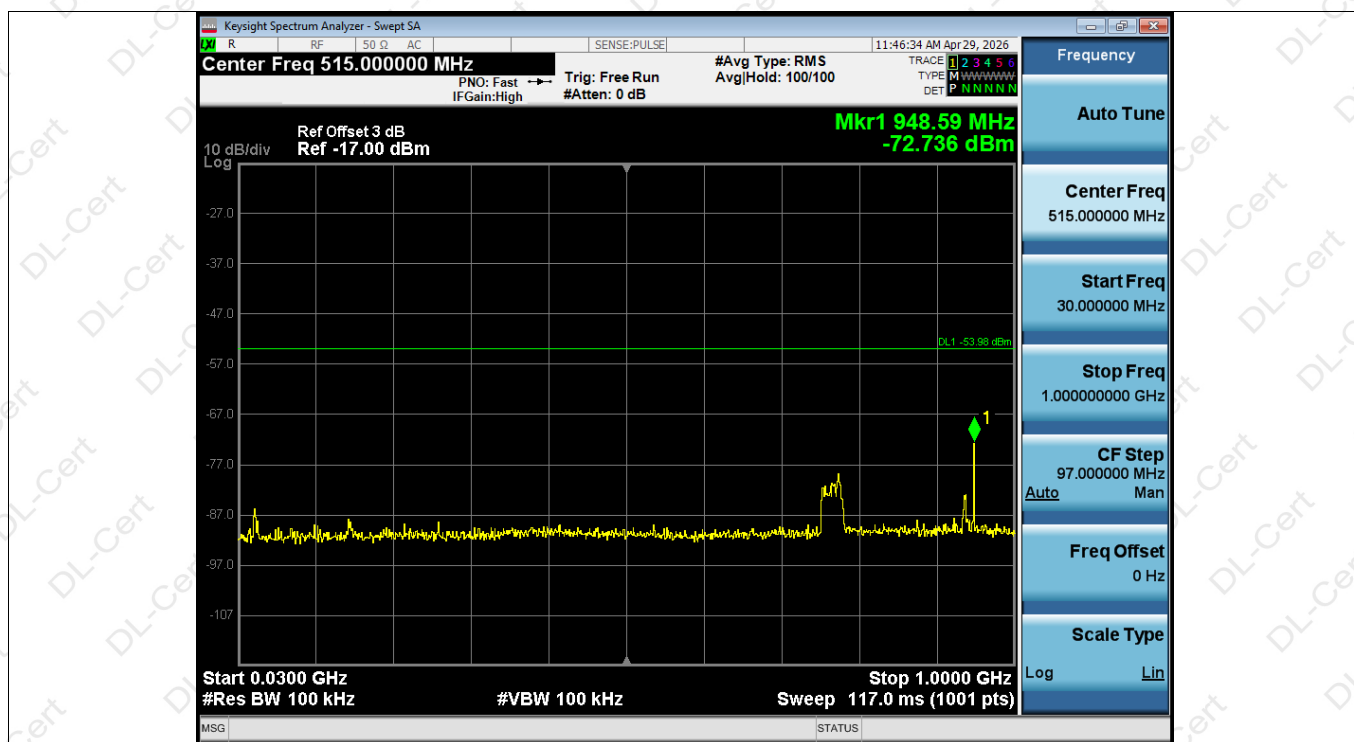
10.3 TEST PROCEDURES

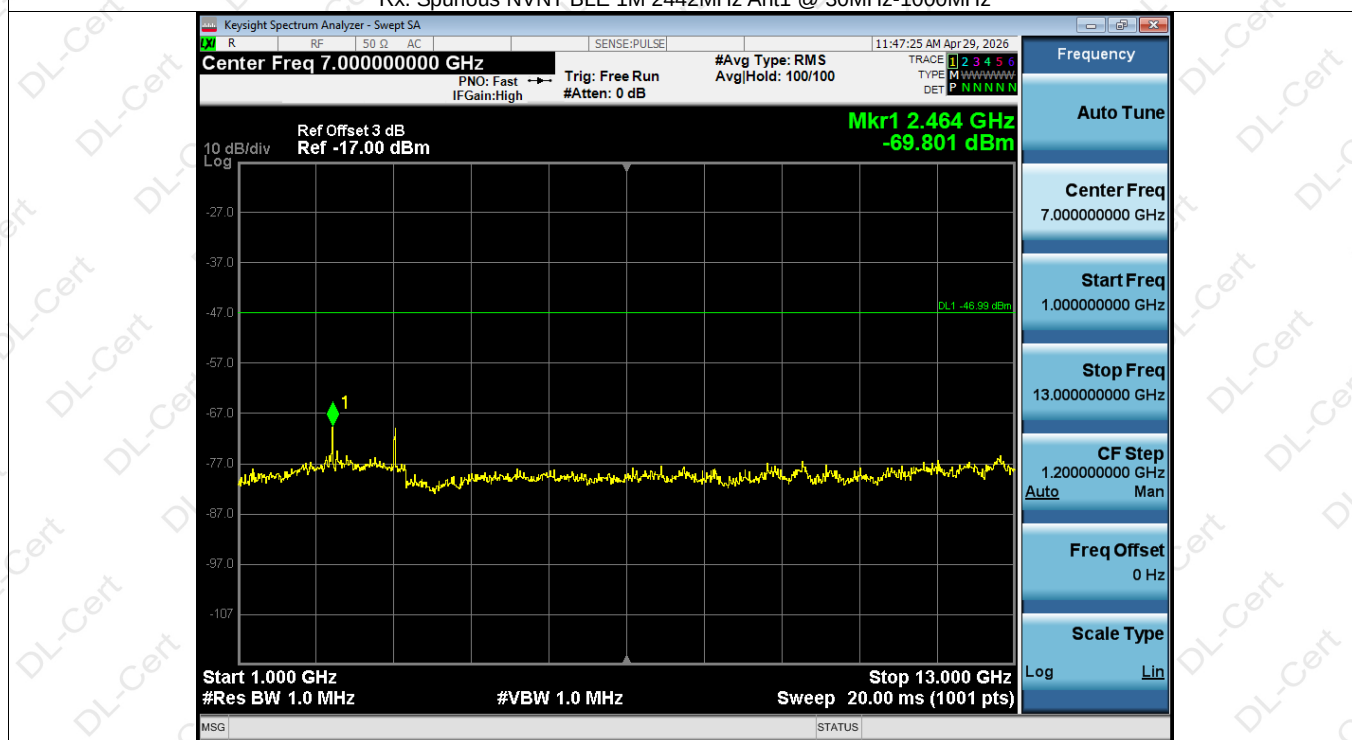
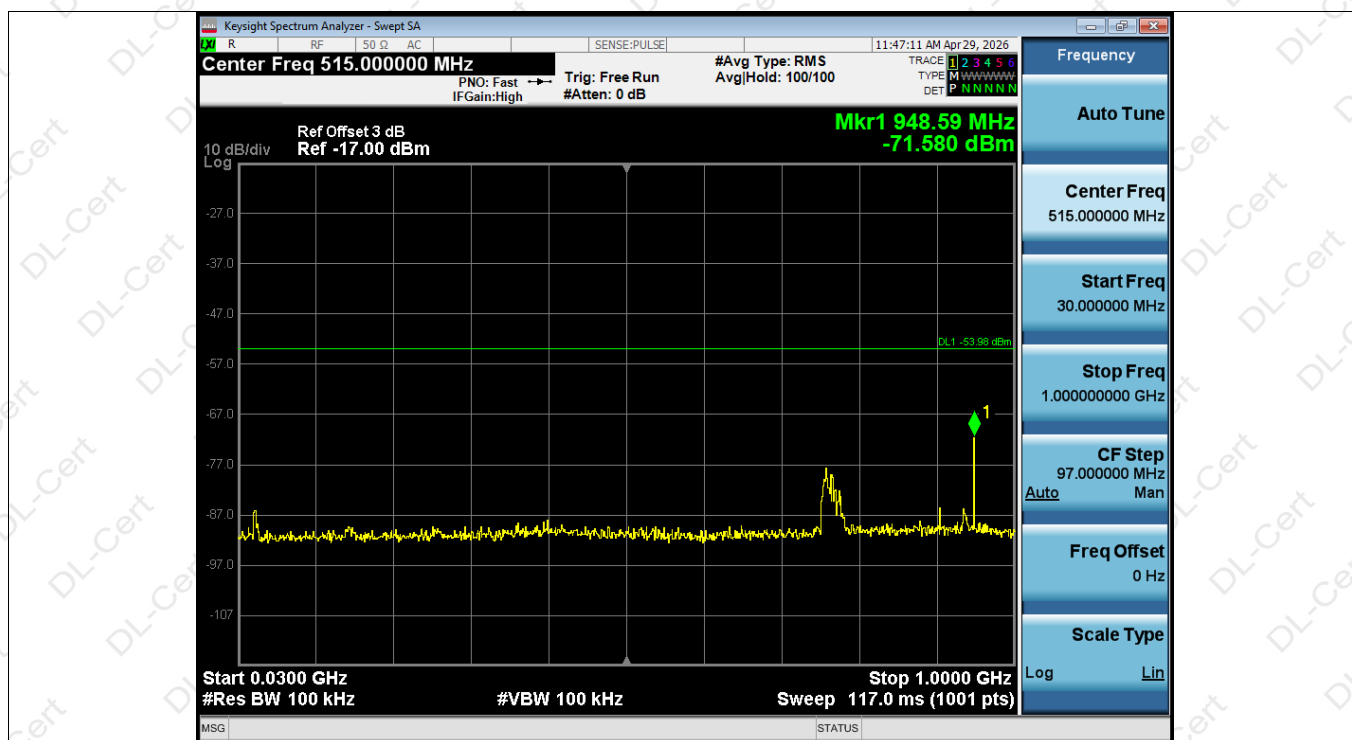
1. EUT have the continuous reception mode and fixed only one channelize.
2. Setting of SA is following as RB / VB: 100 kHz (below 1GHz emissions) / 1 MHz (above 1GHz emissions) /
AT: 10dB / Ref: 0dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
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/-54dBm
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/-47dBm
5. If power level of lower emissions are more than 1/10 of limit (4nW/-54dBm for $f < 1\text{GHz}$, 20nW/-47dBm 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.

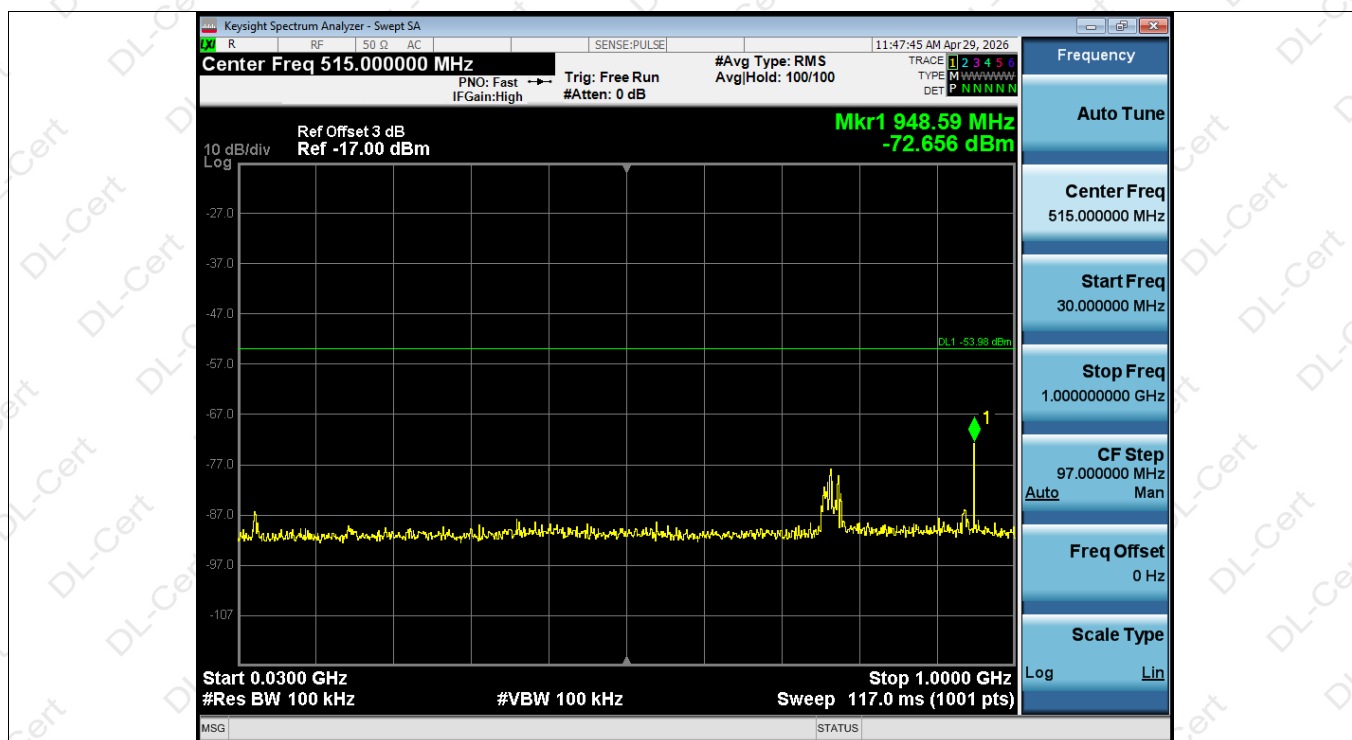
**10.4 TEST RESULT**

Temperature:	25.3 °C	Relative Humidity:	55.5%	Pressure:	1010mbar
--------------	---------	--------------------	-------	-----------	----------

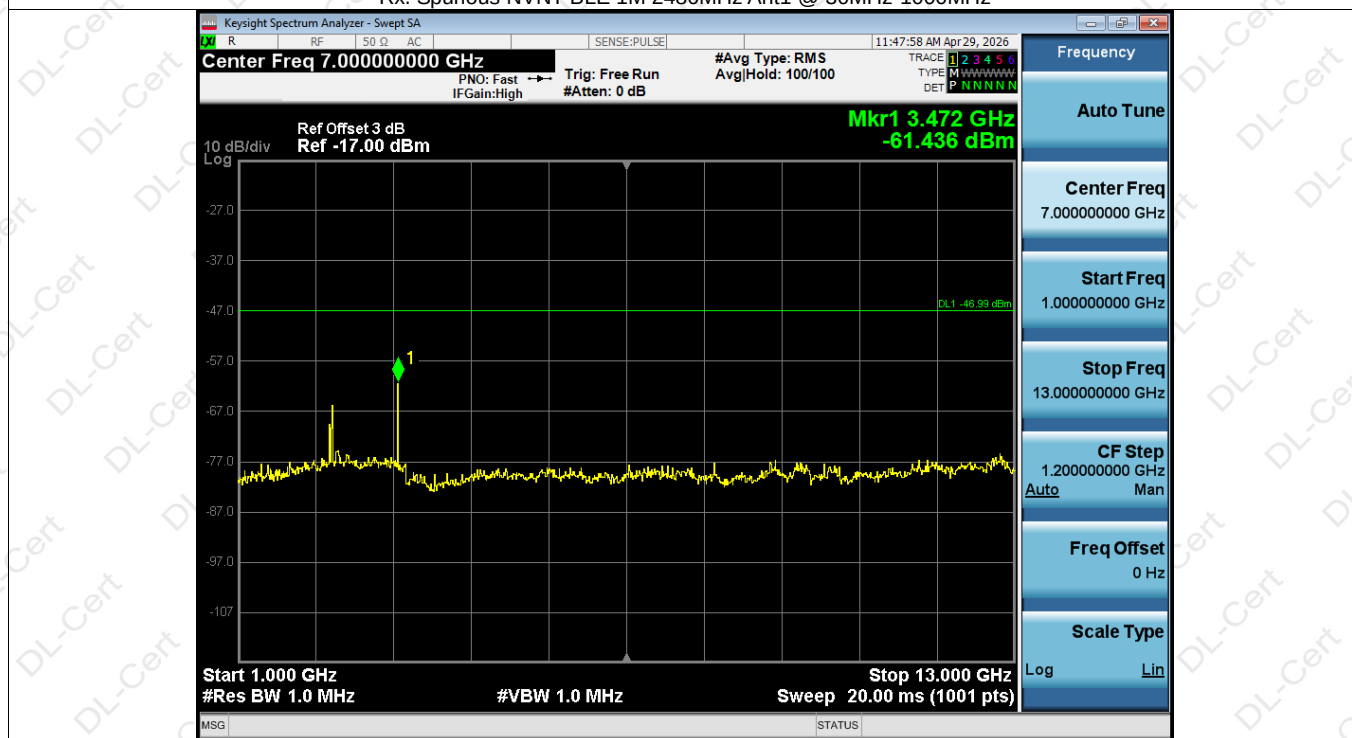
Condition	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Peak Value (dBm)	Max RMS Value (dBm)	Max Peak Value (nW)	Max RMS Value (nW)	Limit (nW)	Verdict
NVNT	2402	30-1000	948.59	-72.74	NA	0.0532	NA	4	Pass
NVNT	2402	1000-13000	2452.00	-58.25	NA	1.4962	NA	20	Pass
NVNT	2442	30-1000	948.59	-71.58	NA	0.0695	NA	4	Pass
NVNT	2442	1000-13000	2464.00	-69.80	NA	0.1047	NA	20	Pass
NVNT	2480	30-1000	948.59	-72.66	NA	0.0542	NA	4	Pass
NVNT	2480	1000-13000	3472.00	-61.44	NA	0.7178	NA	20	Pass







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

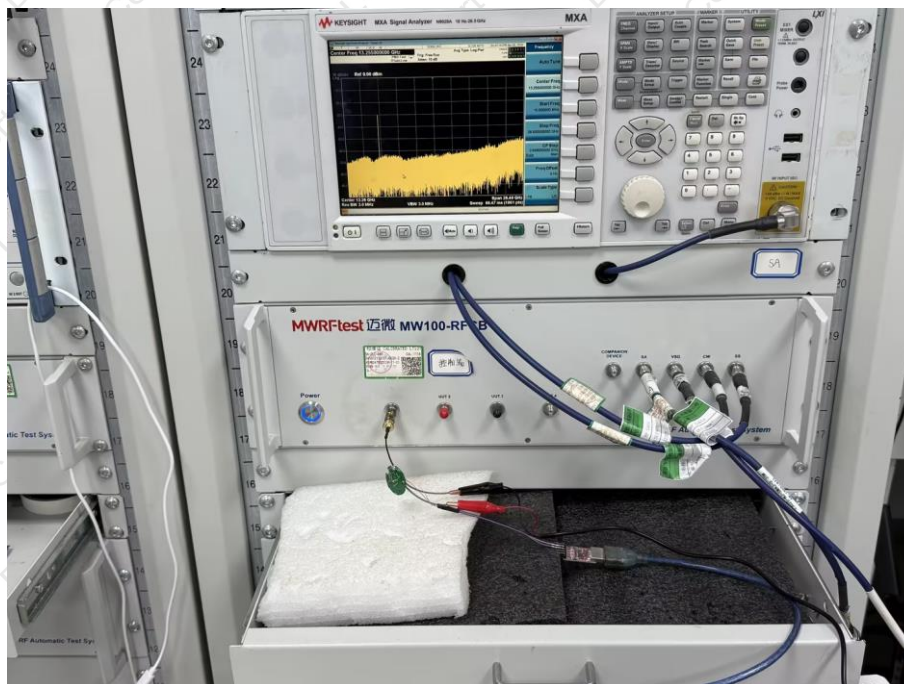


Rx. Spurious NVNT BLE 1M 2480MHz Ant1 @ 1000MHz-13000MHz



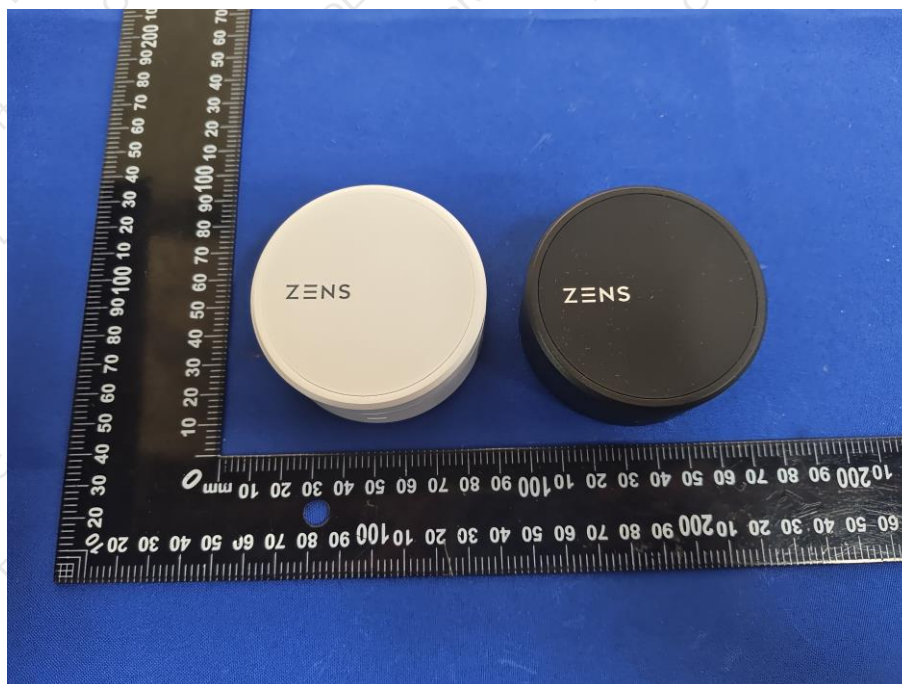
11. EUT TEST PHOTO

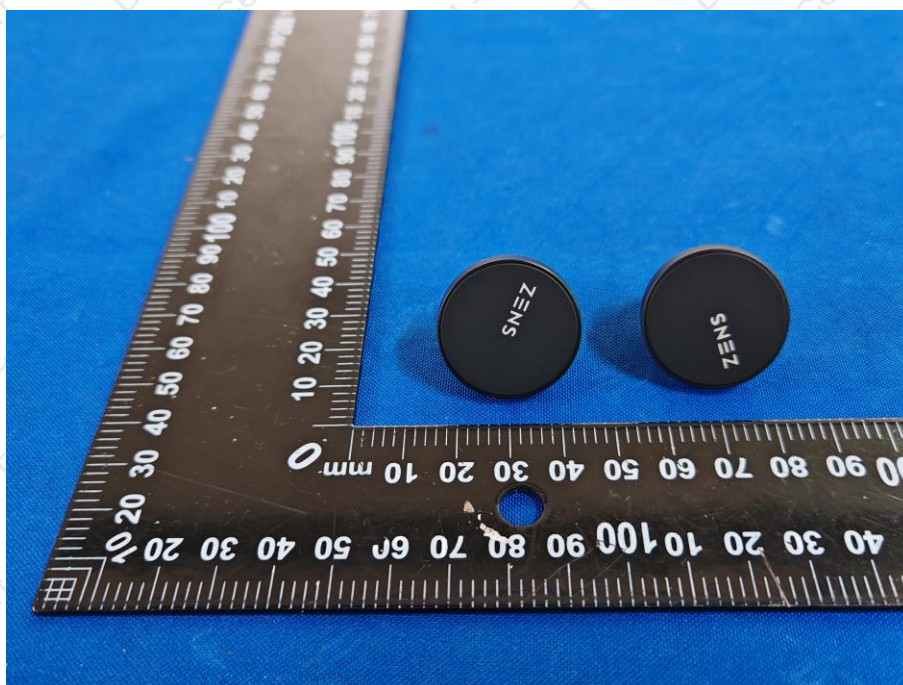
Measurement Photos



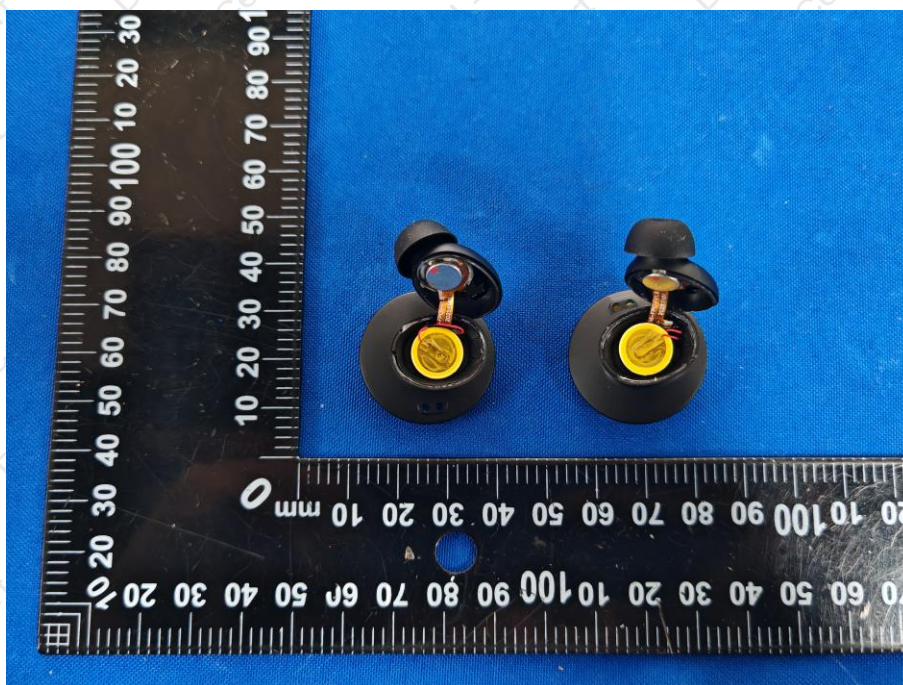
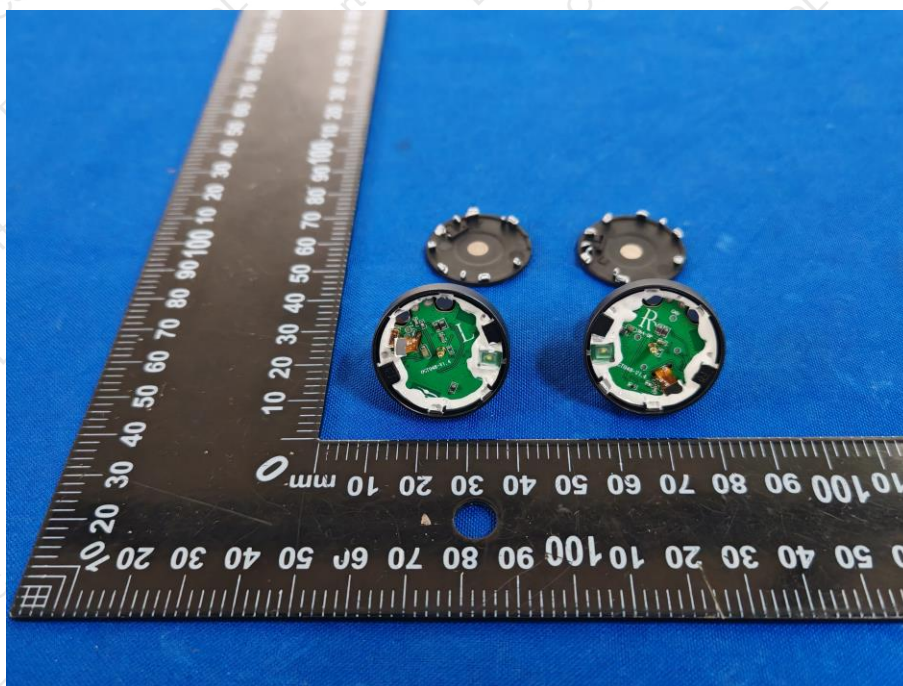


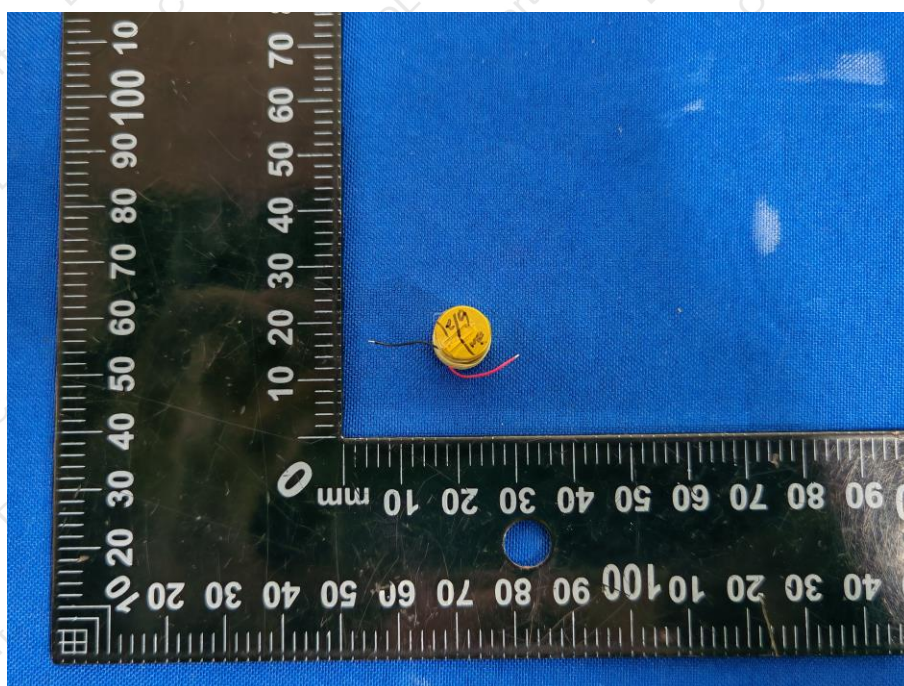
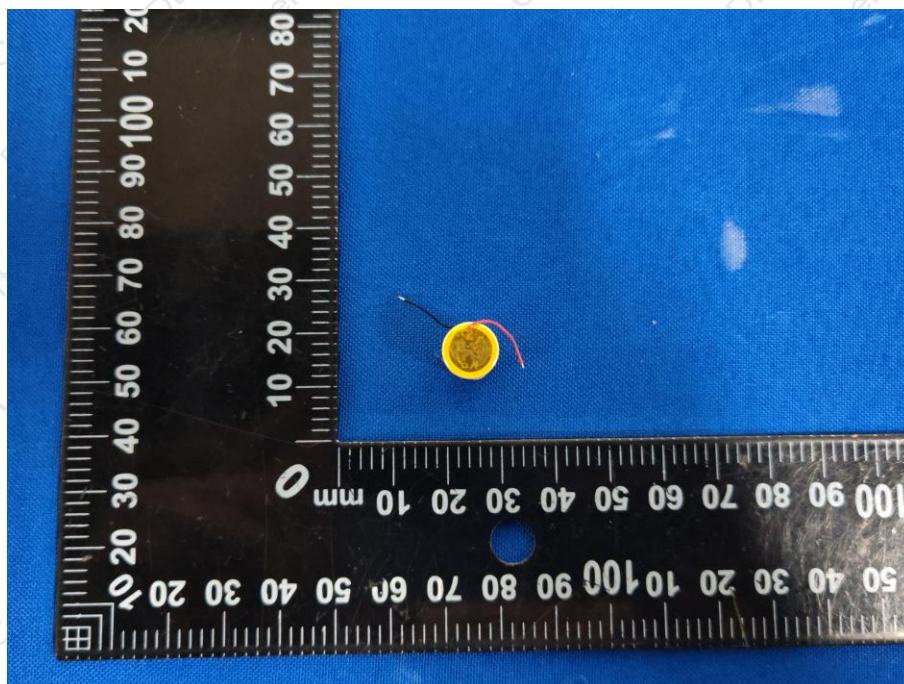
12. EUT PHOTOS

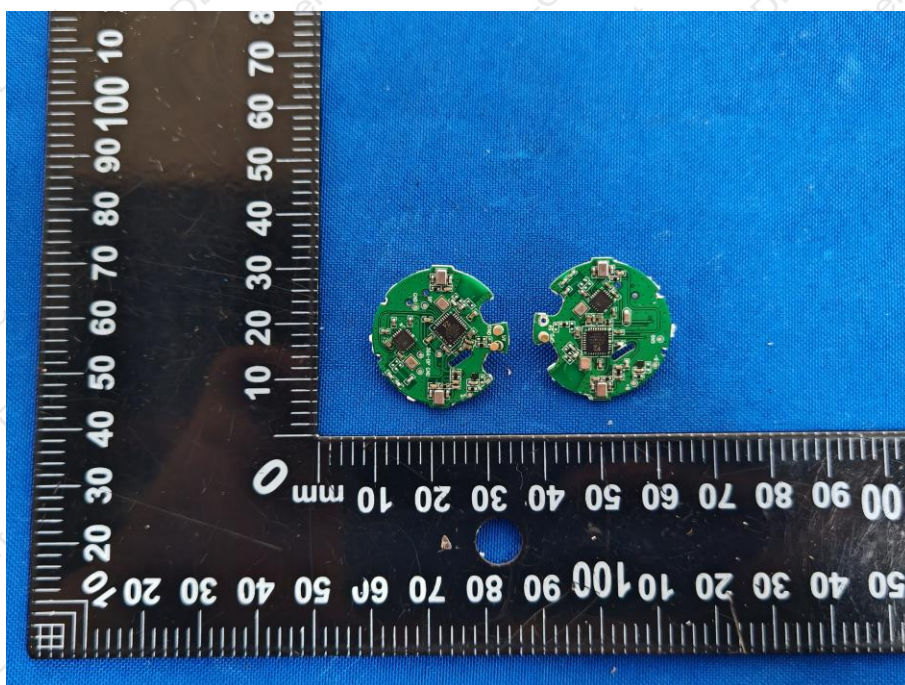
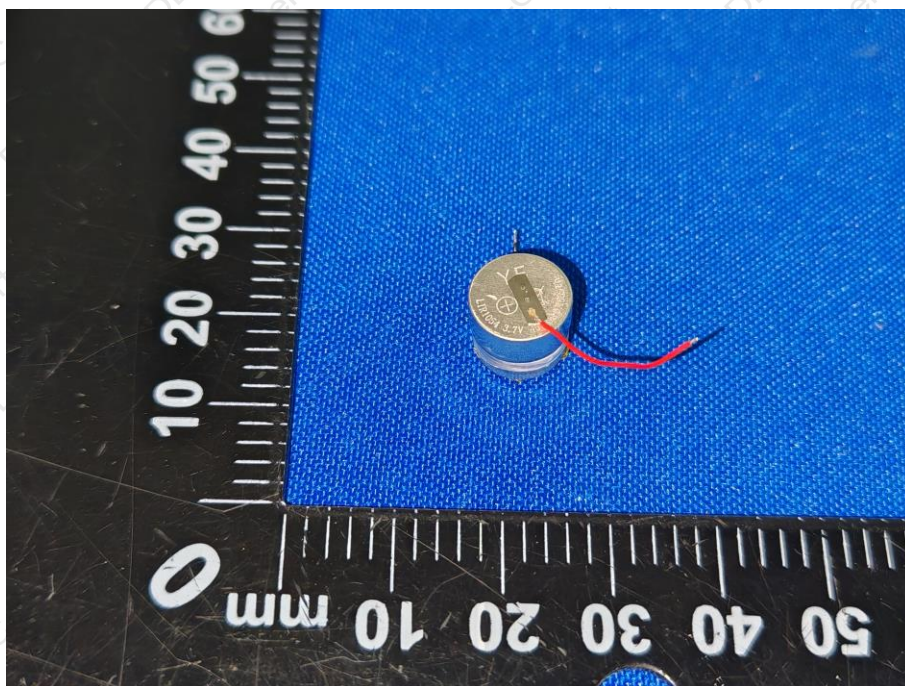














---END---