

JAPAN RADIO TEST REPORT

Client Information:

Applicant: SUN-MECHATRONICS
Applicant add.: Room No.301, Yamato-Bldg., 1-6-16 Kanda-Izumicho, Chiyoda-ku,
Tokyo101-0024, Japan

Product Information:

Product Name: Digital Wireless Transmitter and Receiver
Model No.: TR-240AHD
Series model: Q-TX-240AHD, Q-RX-240AHD, Z-TX-240AHD PCB, Z-RX-240AHD PCB
Brand Name: SUN-MECHATRONICS
Standards: Item 19 of Article 2 Paragraph 1, MIC Notice No.88 Appendix No. 43

Prepared By:

Dongguan Yaxu (AiT) Technology Limited

Add. : No.22, Jinqianling Third Street, Jitigang, Huangjiang,
Dongguan, Guangdong, China

Date of Receipt:	Jun. 10, 2026	Date of Test:	Jun. 10, 2026~Jun. 16, 2026
Date of Issue:	Jun. 17, 2026	Test Result:	Pass

This device has been tested and found to comply with the stated standard(s) above, which is (are) applicable only to the tested sample identified in the report.

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Reviewed by:

Emiya Lin
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Approved by:

Simba Huang
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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Jun. 17, 2026	Valid	Initial release

2 Test Summary

TEST	TEST REQUIREMENT	LIMIT/SEVERITY	RESULT
Antenna Requirement	MIC Notice No.88 Appendix No. 43	Notice 88 Appendix 43,B-1 (1)&(2)	PASS
Test frequency	MIC Notice No.88 Appendix No. 43	Notice 88 Appendix 43, A-3	PASS
Frequency Error	MIC Notice No.88 Appendix No. 43	± 50 PPM or less	PASS
Occupied Bandwidth	MIC Notice No.88 Appendix No. 43	83.5 MHz or less	PASS
Spread-spectrum Bandwidth	MIC Notice No.88 Appendix No. 43	500 kHz or more	PASS
Antenna Power	MIC Notice No.88 Appendix No. 43	3 mW /MHz or less Error +20%; 10mW Error +20%	PASS
Spurious Emission of Tx	MIC Notice No.88 Appendix No. 43	(1) Below 2387 MHz : -26dBm (2) 2387 to 2400 MHz : -16dBm (3) 2483.5 through 2496.5 MHz : -16dBm (4) Over 2496.5 MHz : -26dBm	PASS
Dwell Time	MIC Notice No.88 Appendix No. 43	less than 0.4sec	N/A
Interference prevention capability	MIC Notice No.88 Appendix No. 43	Notice 88 Appendix 43, 44, 45	PASS
RF accessibility	MIC Notice No.88 Appendix No. 43	Notice 88 Appendix 43, 44, 45	PASS
Spurious Emission of Rx	MIC Notice No.88 Appendix No. 43	(1) Below 1 GHz: -54dBm (2) 1GHz or higher: -47dBm	PASS

Remark:

EUT: In this whole report EUT means Equipment Under Test.

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radio Frequency.

2.1 Measurement Uncertainty

The report uncertainty of measurement $y \pm U$, where expanded 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	Frequency Error / 99% & 90% Bandwidth	$\pm 0.85 \times 10^{-7}$
2	Antenna Power	± 0.70 dB
3	Spurious Emissions	± 0.80 dB
4	DC / AC Power Source	$\pm 1.4\%$

3 Test Facility

The test facility is recognized, certified or accredited by the following organizations:

CNAS-Registration No: L6177

Dongguan Yaxu (AiT) technology Limited is accredited to ISO/IEC 17025:2017 general Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the competence of testing and calibration laboratories) on April 18, 2022

FCC-Registration No.: 362653 Designation Number: CN1457

Dongguan Yaxu (AiT) technology Limited has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

IC-Registration No.: 6819A CAB identifier: CN0122

The 3m Semi-anechoic chamber of Dongguan Yaxu (AiT) technology Limited has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 6819A

A2LA-Lab Cert. No.: 6317.01

Dongguan Yaxu (AiT) technology Limited has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

3.1 Deviation from standard

None

3.2 Abnormalities from standard conditions

None

3.3 Test Location

Dongguan Yaxu (AiT) Technology Limited
Address: No.22, Jinqianling 3rd Street, Jitigang, Huangjiang,Dongguan, Guangdong, China
Tel.: +86-769-8202 0499
Fax.: +86-769-8202 0495

3.4 EUT Antenna

Note: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report, reference to the Internal photos for details.

4 General Information

Manufacturer:	LawMate International Co., Ltd.
Manufacturer Address:	3F, No.34, Lane 60, Wenhui St., Taipei, Taiwan
Product Name:	Digital Wireless Transmitter and Receiver
Model No.:	TR-240AHD
Brand Name:	SUN-MECHATRONICS
Series model:	Q-TX-240AHD, Q-RX-240AHD, Z-TX-240AHD PCB, Z-RX-240AHD PCB
Operating Frequency	2408MHz to 2478MHz
Type of Modulation:	GFSK
Number of Channels	19 channels
Antenna Type	External Antenna
Antenna gain:	2.58dBi
Power supply:	DC 3.7V from battery or DC 5.0V from external circuit
Adapter:	Model:GS-552 Input:100-240V~50/60Hz, 0.6A Output:5A=3A or 9V=2A or 12V=1.5A
Normal Test Voltage:	The same as above
Hard Ware Version:	N/A
Soft Ware Version:	N/A
Model difference:	PCB board, structure and internal of these model(s) are the same, So no additional models were tested.

4.1 Test Location

All tests were performed at:

Dongguan Yaxu (AiT) Technology Limited
No.22, Jinqianling Third Street, Jitigang, Huangjiang, Dongguan, Guangdong, China.

Tel.: +86.769.82020499 Fax.: +86.769.82020495

4.2 EUT Peripheral List

No.	Equipment	Manufacturer	Model No.	Serial No.	Power cord	Signal cord
1	Adapter	Shenzhen good-she technology Co., Ltd.	GS-552	N/A	N/A	N/A

4.3 Test Peripheral List

No.	Equipment	Manufacturer	Model No.	Serial No.	Power cord	Signal cord
1	Notebook	UNOWHY	DESKTOP-BA0H4EM	N/A	N/A	N/A

5 Equipment Used during Test

No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date	Cal. Institution
1	SIGNAL Analyzer	R&S	FSV40	101470	2025.09.26	2026.09.25	LISAI
2	EMI Measuring Receiver	R&S	ESPI	100773	2025.09.25	2026.09.24	LISAI
3	Mobile phone	Samsung	GALAXY S4	R33D20 SQYNW	N/A	N/A	LISAI
4	DC Power supply	Manson	HCS-3604	G521100 129	2025.09.25	2026.09.24	LISAI
5	Digital Phosphor Oscilloscope	Tektronix	TDS3012	B021220	2025.09.25	2026.09.24	LISAI
6	Signal Generator	Agilent	N5182A	MY50143 009	2025.09.26	2026.09.25	LISAI
7	RF Automatic Test system(Power meter)	MW	MW100-PSB	21033016	2025.09.25	2026.09.24	LISAI
Note:Calibration by the calibration agencies listed in the table correspond to paragraph 4 (ii) (c) of Article 24-2 in the Radio Law.							

- ☐ (a) Calibration conducted by the National Institute of Information and Communications 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.

6 Test Results

6.1 Radio Technical Requirements Specification

Table 1: Radio Technical Requirements Specification for 2.4 GHz band wide-band low-power data communication system (Item 19-2-2 of Article 2-1)

Items	Technical standard
Assigned frequency or designated frequency	2,400-2,483.5MHz
Communication method	One-way communication, simplex, semi-duplex, or duplex operation of digital signal transmission including spread spectrum
Tolerance of frequency ($\times 10^{-6}$)	± 50 ppm
Tolerance of occupied bandwidth	FH : 83.5MHz or less FH + DS : 83.5MHz or less FH + OFDM : 83.5MHz or less OFDM(802.11n(HT40)) : 26-40MHz Others OFDM: 26MHz or less DSSS: 26MHz or less
Antenna power	Designated value (1) FH, FH+DS , FH+OFDM: 3mW/MHz (used in the range of 2427 - 2470.75 MHz) (2) OFDM , DS other than (1) 10mW/MHz (3) Other than (1) & (2) 10mW (4) OFDM OBW 26 - 40MHz: 5mW/MHz Tolerance:+20%
Antenna gain	1) 12.14 dBi or less in principle 2) In case of directional antenna (1) FH, FH+DS or FH+OFDM using 2427-2470.75 MHz EIRP $\leq$ 16.91 dBm/MHz (2) OFDM or DS other than (1) EIRP $\leq$ 22.14 dBm/MHz (3) Other than (1) and (2): 22.14 dBm or less (4) OFDM OBW 26 - 40MHz: 19.14dBm/MHz (5) Half-power angle of directional antenna (e) in case of the item 2): $e \leq 360/A$ (The A is 10 in maximum.)
Tolerance of spurious emission intensity	(1) Below 2387 MHz : 2.5 μ W (2) 2387 to 2400 MHz : 25 μ W (3) 2483.5 through 2496.5 MHz : 25 μ W (4) Over 2496.5 MHz : 2.5 μ W
Spreading bandwidth	DS,FH,FH+DS,FH+OFDM : 500kHz or more
Spreading rate of spectrum	For DS system;(Spreading bandwidth) / (Frequency corresponding to transmission rate) ≥ 5
Limit of secondary radiated emissions	(1) Below 1 GHz : 4 nW (2) 1 GHz or higher : 20 nW
Interference prevention function	Shall have the function of automatic transmission and reception of identification sign.
Structure	Shall be of the structure that the RF and modulator sections excluding antenna cannot easily be opened.
Note	DS: Direct spread FH: Frequency hopping OFDM: Orthogonal frequency division multiplexing

6.2 E.U.T. Test Conditions

Power supply:

The measurement result of the voltage fluctuation at RF circuit when DC 3.7V +/- 10%.

The EUT has the input voltage to the circuit of RF unit complies with output voltage limitation ($\pm 1\%$) against input voltage fluctuation ($\pm 10\%$).

So, all measurements were conducted at only rated voltage DC 3.7V.

DC INPUT	DC3V3
3.7V	3.3V
4.07V	3.3V
3.33V	3.3V

Pre-test the EUT in all voltage mode at the DC 4.07V, DC 3.7V and DC3.33V and conducted to determine the worst-case mode, only the worst-case results (DC 3.7V) are recorded in this report.

The EUT has the input voltage to the circuit of RF unit complies with output voltage limitation ($\pm 1\%$) against input voltage fluctuation ($\pm 10\%$).

So, all measurements were conducted at only rated voltage DC 3.7V.

Temperature:

23.55 °C

Humidity:

52.36 % RH

Atmospheric Pressure:

1005 mbar

Test frequencies:

If the EUT can be set to 3 of more different (aircraftrier) frequencies in 1 allocated band, testing shall be performed using the Lowest, Middle and the Highest frequency (L, M and H). If there are 2 or fewer frequencies, testing shall be performed with the available frequencies.

Parameters of test software setting

During testing channel & power controlling software provided by the manufacturer was used to control the operating channel as well as the output power level.

Test software Version	Test program: sscom5.13.1		
Frequency	2408 MHz	2442 MHz	2478 MHz
Parameters	14	14	14

EUT channels and frequencies list:

For DSSS:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2408	8	2432	15	2465
2	2411	9	2442	16	2468
3	2415	10	2445	17	2472
4	2418	11	2448	18	2475
5	2422	12	2452	19	2478
6	2425	13	2455		
7	2428	14	2458		

Test frequencies are the lowest channel: 1 channel(2408 MHz), middle channel: 9 channel(2442 MHz) and highest channel: 19 channel(2478 MHz)

6.3 Antenna Requirement

Standard requirement

Applicable for equipment with an antenna terminal, including testing terminals) If an antenna connector is available, all relevant tests will be carried out conducted. If not, tests will be carried out in an anechoic room or with a suitable test-fixture.

EUT Antenna

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 2.58dBi.



Result: All relevant tests will be carried out conducted.

6.4 Interference Prevention Function

The device consists of the Integrated antenna and 2.4 GHz module; Component module also can use the protocol function to protect interference come from outside.

Test Procedure:

The measuring method was according to MIC Notice No.88 Appendix No.43.

- A. Transmit the assigned identification code from the radio equipment.
- B. Confirm the identification code received by the demodulator.

Note: Radio interference prevention capability was conformed.

MAC:D2:EB:7E:29:D6:AE

Test result: The unit does meet the requirements.

6.5 Frequency Error

Test Requirement: MIC Notice No.88 Appendix No. 43

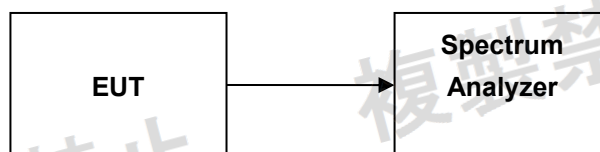
Tolerance of frequency: $\pm 50 \times 10^{-6}$

Temperature: 23.0 °C

Humidity: 55 % RH

Test Status: Test the EUT in transmitting mode without modulation.

Test Configuration:



Test Procedure:

1. Test Conditions:

Frequency Counter or Spectrum Analyzer is used for measurement.

2. EUT conditions:

EUT have transmitted continuous maximum power

3. Spectrum Analyzer conditions:

Frequency: Test Frequency

Span 2MHz

RBW 10 kHz (Modulation OFF for FHSS; Modulation ON for DSSS),

VBW 10 kHz (Modulation OFF for FHSS; Modulation ON for DSSS),

Sweep Time Auto

Detector mode Positive peak

Indication mode Max hold

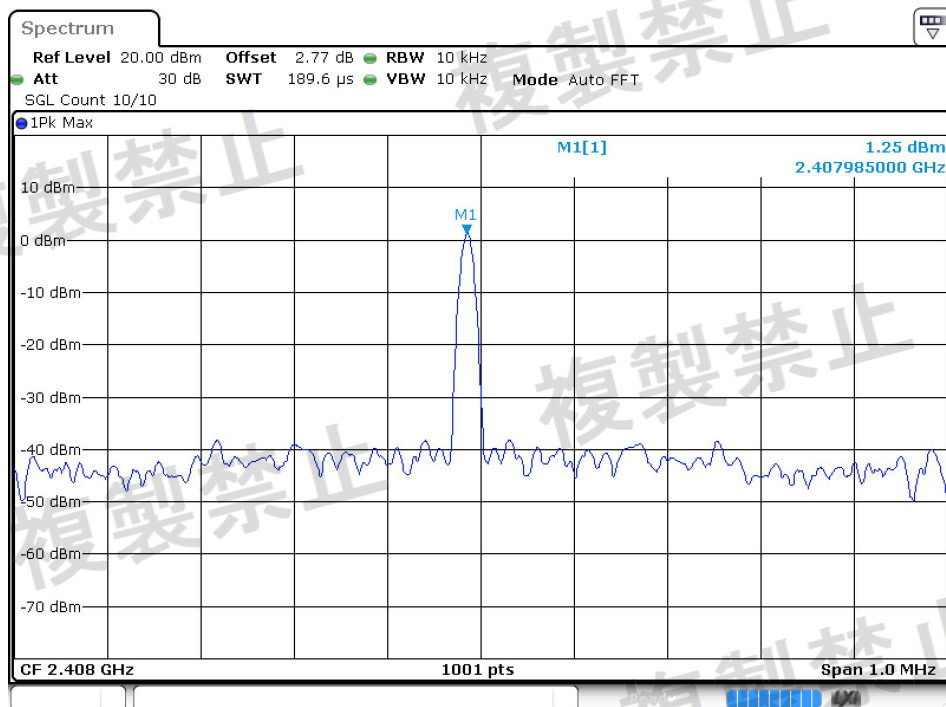
Test result:

Test channel	Test Frequency (MHz)	Test Result			Unit	Limit
		Normal Voltage	High Voltage	Low Voltage		
		3.7V DC	4.07V DC	3.33V DC		
Lowest	2408.0	2407.985	N/A	N/A	MHz	±50 PPM or less
		-6.23	N/A	N/A	PPM	
Middle	2442.0	2441.985	N/A	N/A	MHz	
		-6.14	N/A	N/A	PPM	
Highest	2478.0	2477.985	N/A	N/A	MHz	
		-6.05	N/A	N/A	PPM	

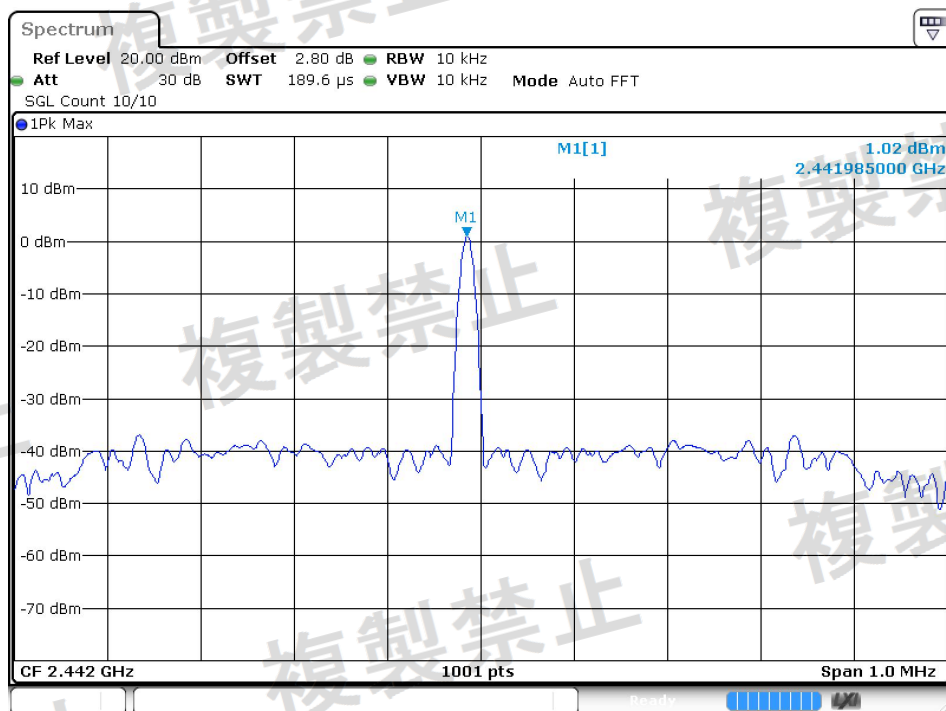
Note: The nominal frequency shall be confirmed by the applicant and test lab.

Result normal condition plot as follows:

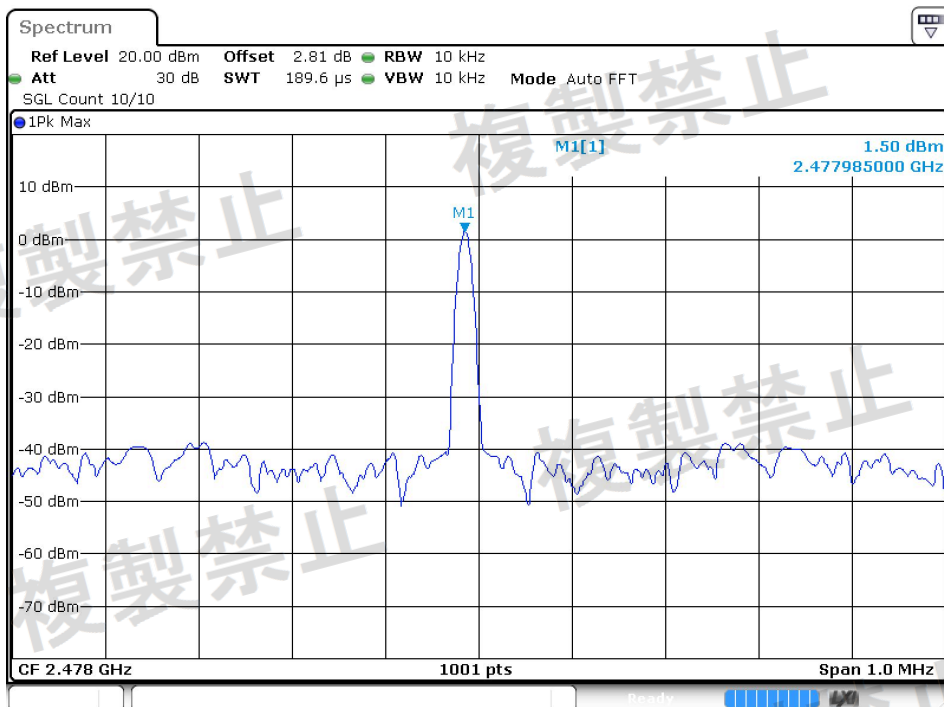
Lowest Channel : 2408MHz:



Middle Channel : 2442MHz:



Highest Channel : 2478MHz



Test result: The unit does meet the requirements.

6.6 Occupied Bandwidth (99%)

Test Requirement:

MIC Notice No.88 Appendix No. 43

83.5MHz or less(FHSS)

26 MHz or less(others)

Temperature:

23.0 °C

Humidity:

55 % RH

Test Status:

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



Test Procedure:

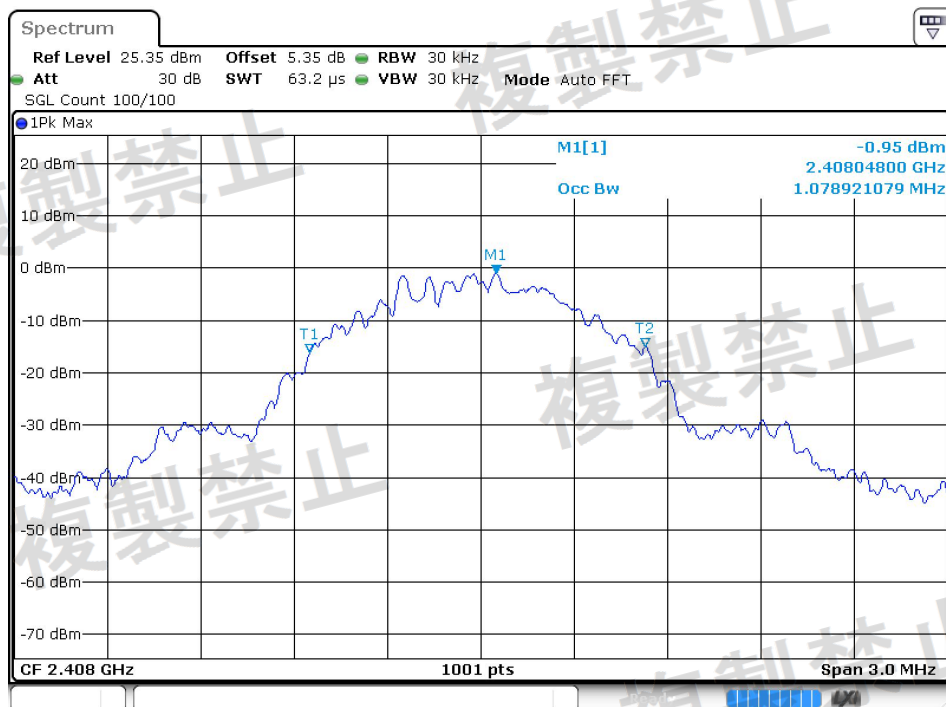
1. Test Conditions:
Spectrum Analyzer is used for measurement.
2. EUT conditions:
EUT have transmitted continuous maximum power
3. Spectrum Analyzer conditions:
Frequency: Test Frequency
Span: 120 MHz(FHSS), 3MHz(DSSS)
RBW: 1 MHz(FHSS), 300 kHz(DSSS)
VBW: 1 MHz(FHSS), 300 kHz(DSSS)
Sweep Time Auto
detector mode Positive peak
Indication mode Max hold
OBW 99%

Test result:

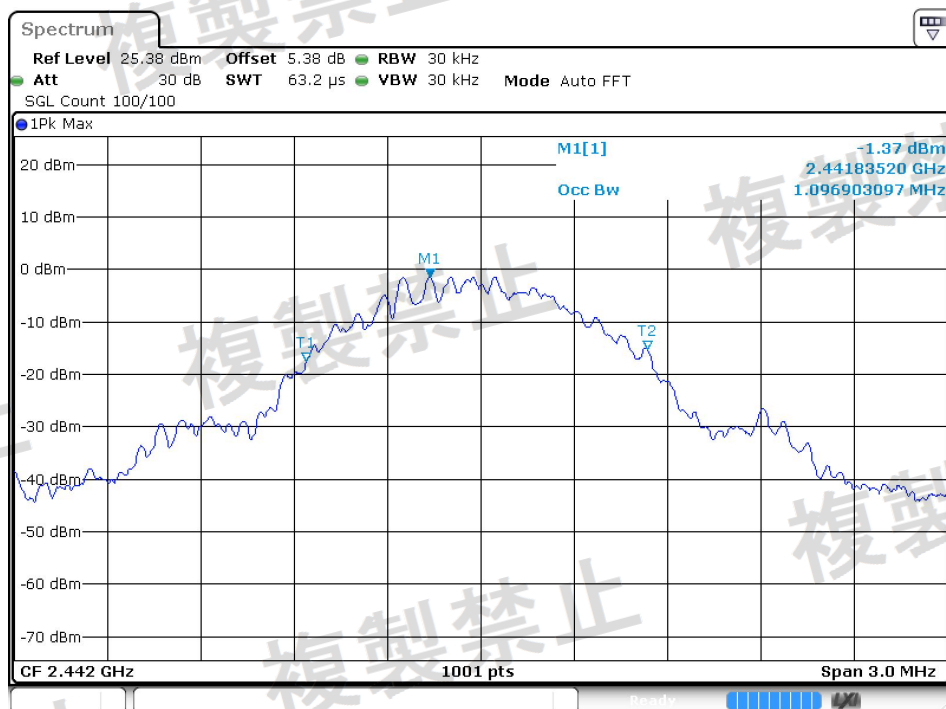
Test channels	Test Result			Unit
	Normal Voltage	High Voltage	Low Voltage	
	3.7V DC	N/A	N/A	
2408	1.079	N/A	N/A	MHz
2442	1.097	N/A	N/A	MHz
2478	1.091	N/A	N/A	MHz

Result normal condition plot as follows:

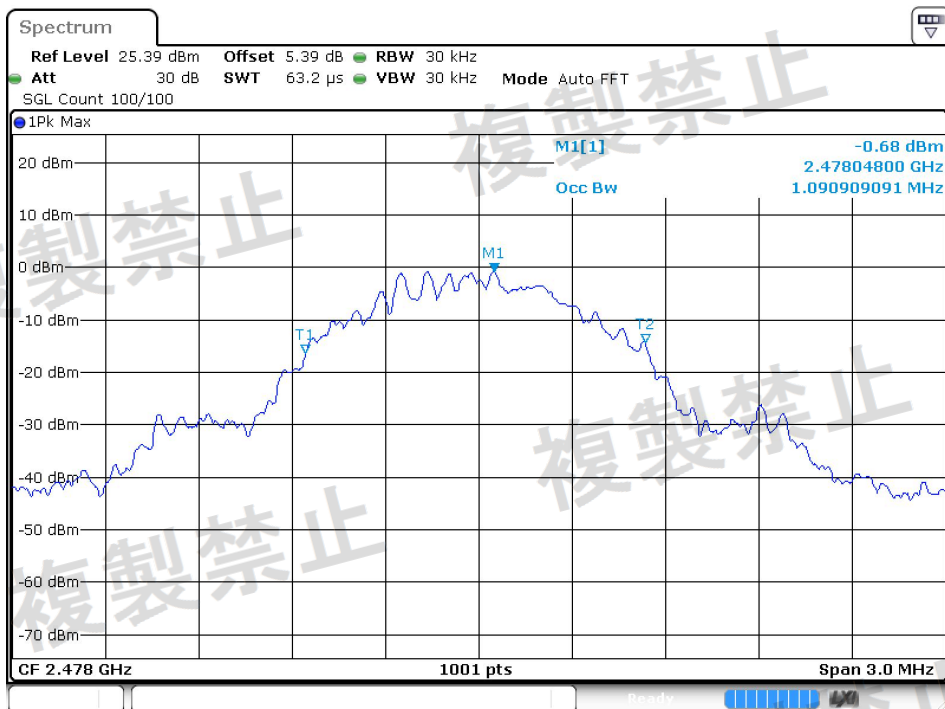
Lowest Channel : 2408MHz:



Middle Channel : 2442MHz:



Highest Channel : 2478MHz

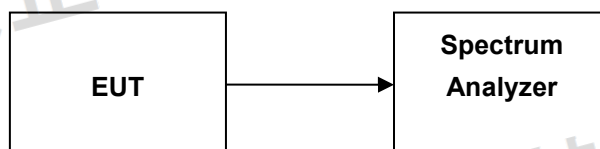


Test result: The unit does meet the requirements.

6.7 Spread Spectrum Bandwidth (90%)

Test Requirement:	MIC Notice No.88 Appendix No. 43 500 kHz or more
Temperature:	23.0 °C
Humidity:	55 % RH
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



Test Procedure:

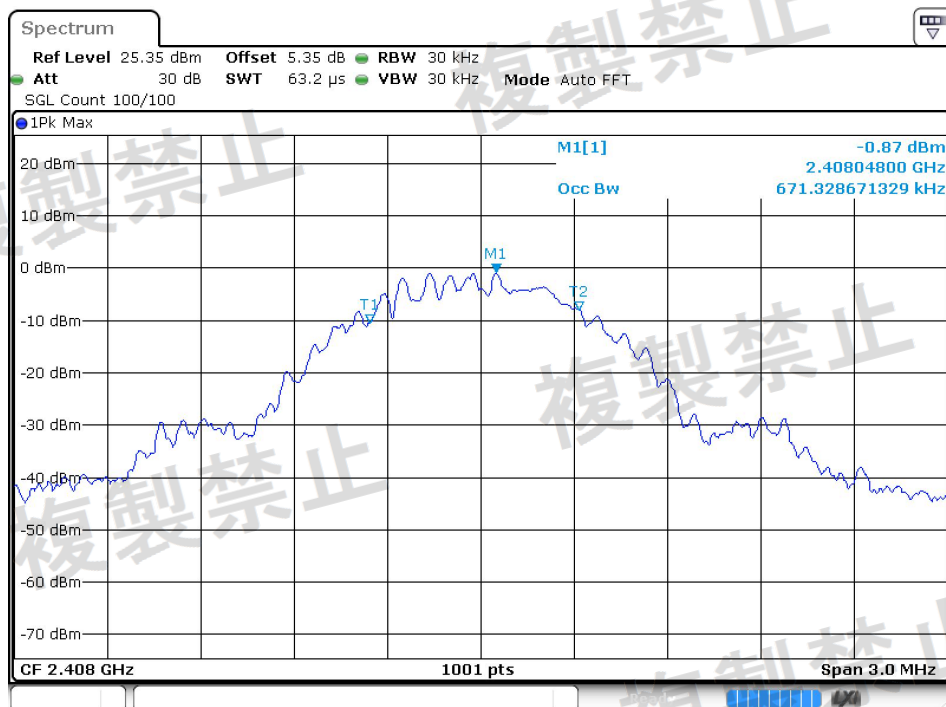
1. Test Conditions:
Spectrum Analyzer is used for measurement.
2. EUT conditions:
EUT have transmitted continuous maximum power
3. Spectrum Analyzer conditions:
Frequency: Test Frequency
Span: 120 MHz(FHSS), 3MHz(DSSS)
RBW: 300 kHz (FHSS), 300 kHz(DSSS)
VBW: 300 kHz (FHSS), 300 kHz(DSSS)
Sweep Time Auto
detector mode Positive peak
Indication mode Max hold
OBW 90%

Test result:

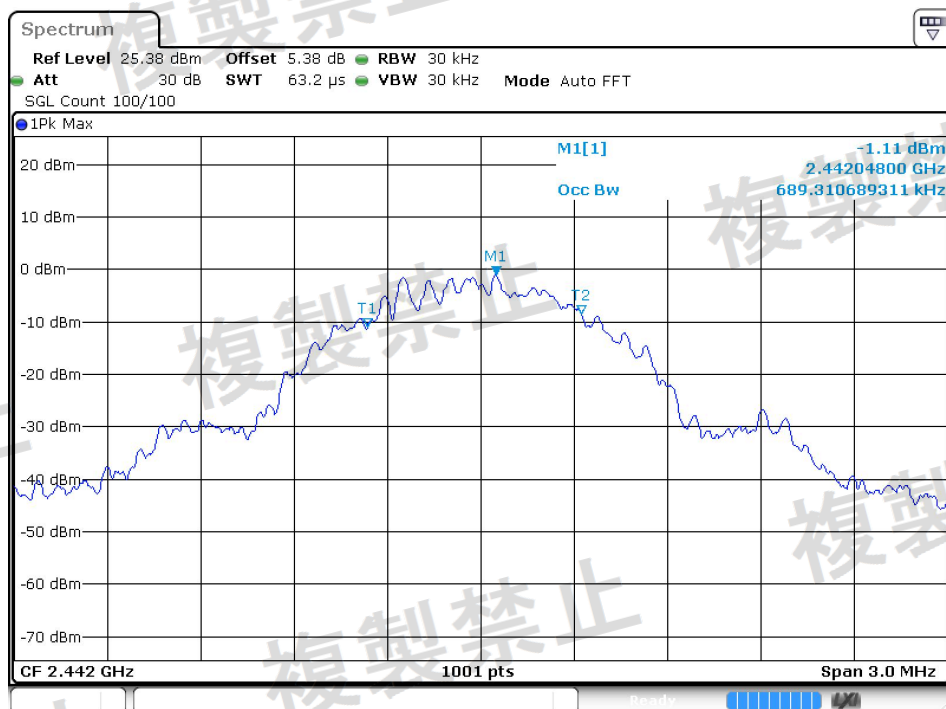
Test channels	Test Result			Unit
	Normal Voltage	High Voltage	Low Voltage	
	3.7V DC	N/A	N/A	
2408	0.671	N/A	N/A	MHz
2442	0.689	N/A	N/A	MHz
2478	0.698	N/A	N/A	MHz

Result normal condition plot as follows:

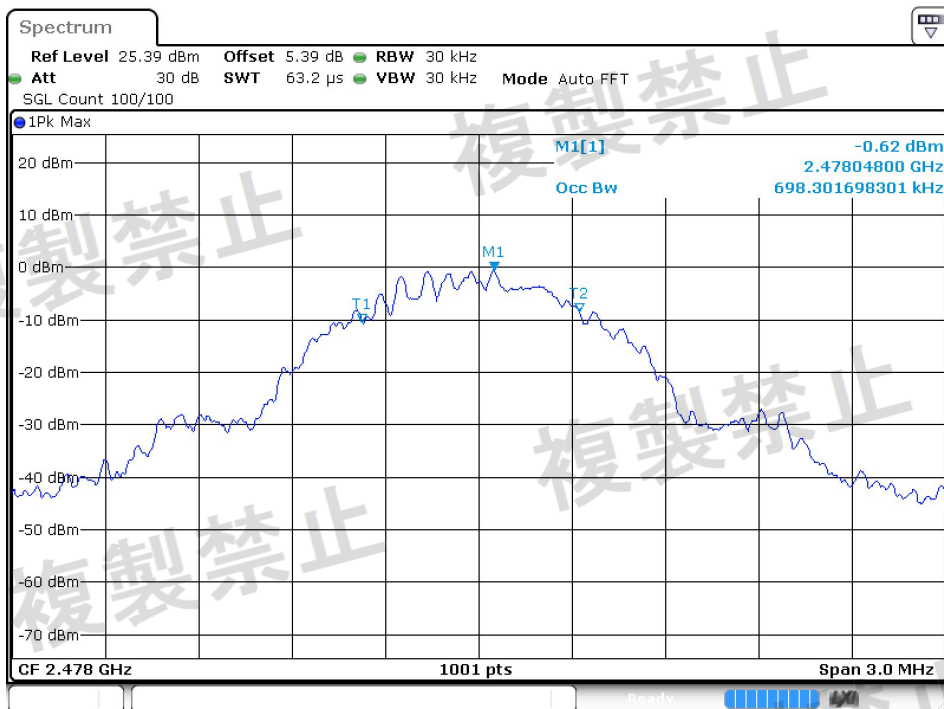
Lowest Channel : 2408MHz:



Middle Channel : 2442MHz:



Highest Channel : 2478MHz



Test result: The unit does meet the requirements.

6.8 Antenna Power

Test Requirement:

MIC Notice No.88 Appendix No. 43

3mW/MHz or less(FHSS)

10mW and less(DSSS)

Temperature:

23.0 °C

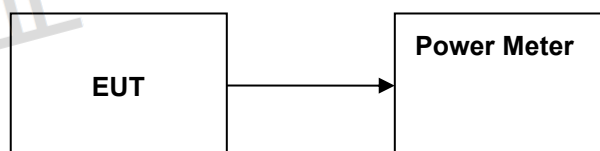
Humidity:

55 % RH

Test Status:

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



Test Procedure:

1. Test Conditions:

Power Meter

2. EUT conditions:

EUT have transmitted continuous maximum power

3. Power Sensor:

The EUT was directly connected to the Power Meter and antenna output port as show in the block diagram. Measure the peak power using the Power Meter.

Test result:

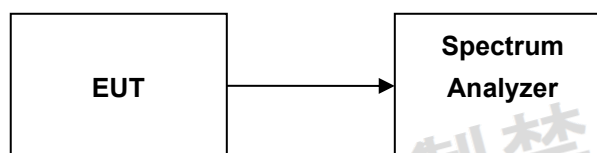
Test channels	Test Result			Unit	Limit
	Normal Voltage	High Voltage	Low Voltage		
	3.7V DC	N/A	N/A		
2408MHz	1.607	N/A	N/A	mW	10 mW or less Error + 20%
	7.13	N/A	N/A	%	
2442 MHz	1.384	N/A	N/A	mW	
	-7.73	N/A	N/A	%	
2478 MHz	1.409	N/A	N/A	mW	
	-6.07	N/A	N/A	%	

Remark: Normal antenna power: F1D:1.50mW

6.9 Spurious Emissions of Tx

Test Requirement:	MIC Notice No.88 Appendix No. 43 (1) Below 2387 MHz : 2.5Mw/MHz (2) 2387 to 2400 MHz : 25Mw/MHz (3) 2483.5 through 2496.5 MHz : 25Mw/MHz (4) Over 2496.5 MHz : 2.5Mw/MHz
Temperature:	23.0 °C
Humidity:	55 % RH
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



Test Procedure:

1. Test Conditions:
Spectrum Analyzer is used for measurement.
2. EUT conditions:
EUT have transmitted continuous maximum power
3. Spectrum Analyzer conditions:
Step 1
All spurious are measured from 30 MHz to 13 GHz by peak mode.
Step 2
IF the value measured by Step1 is 2 Db or less, measure in average mode.
Test setup for Step 1:
Frequency: 30 MHz – 1000 MHz,
RBW 100 kHz (Below 1000 MHz), VBW 100 kHz (Below 1000 MHz)
1000 MHz – 2400 MHz, 2483.5 MHz –13 GHz
RBW 1 MHz (above 1000 MHz), VBW 1 MHz (above 1000 MHz)
Sweep Time Auto
detector mode Positive peak, Indication mode Max hold
Test setup for Step 2:
Frequency: Spurious Frequency
RBW 100 kHz (Below 1000 MHz), VBW 100 kHz (Below 1000 MHz)
RBW 1 MHz (above 1000 MHz), VBW 1 MHz (above 1000 MHz)
Sweep Time Auto,
Detector mode Sample, Indication mode Max hold

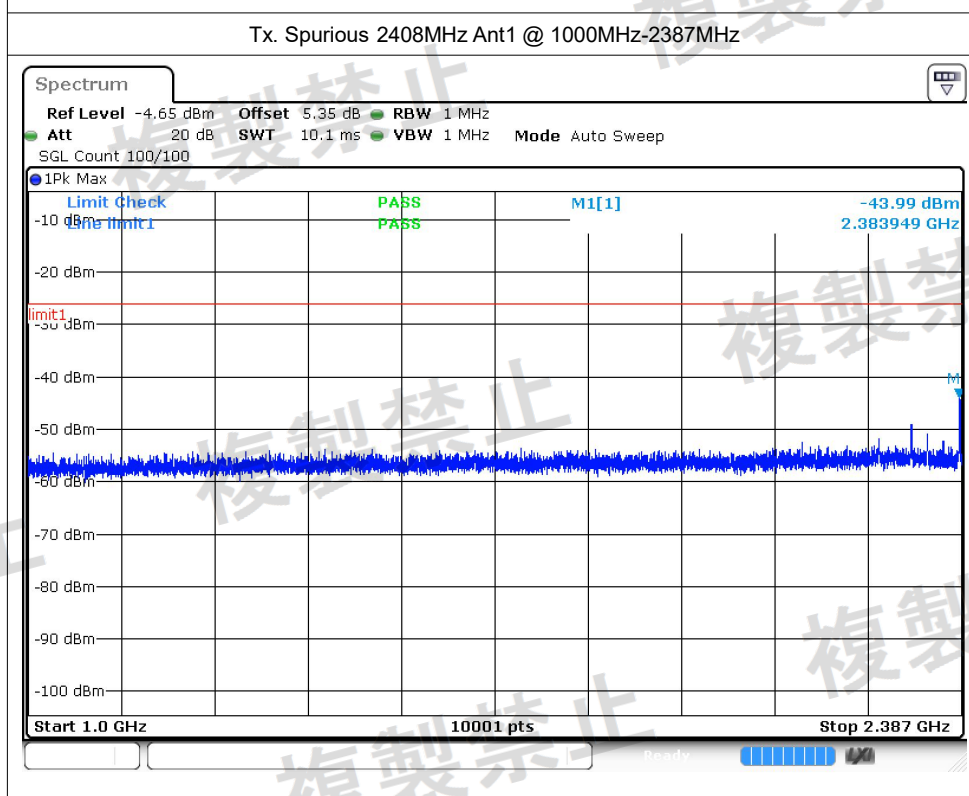
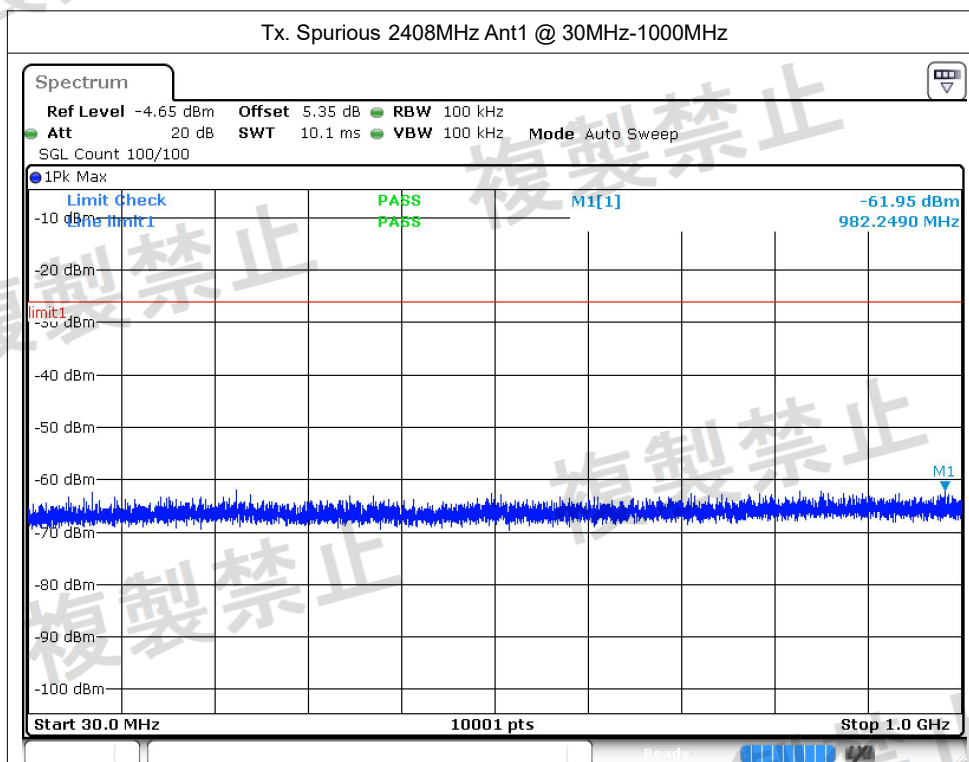
Test result:

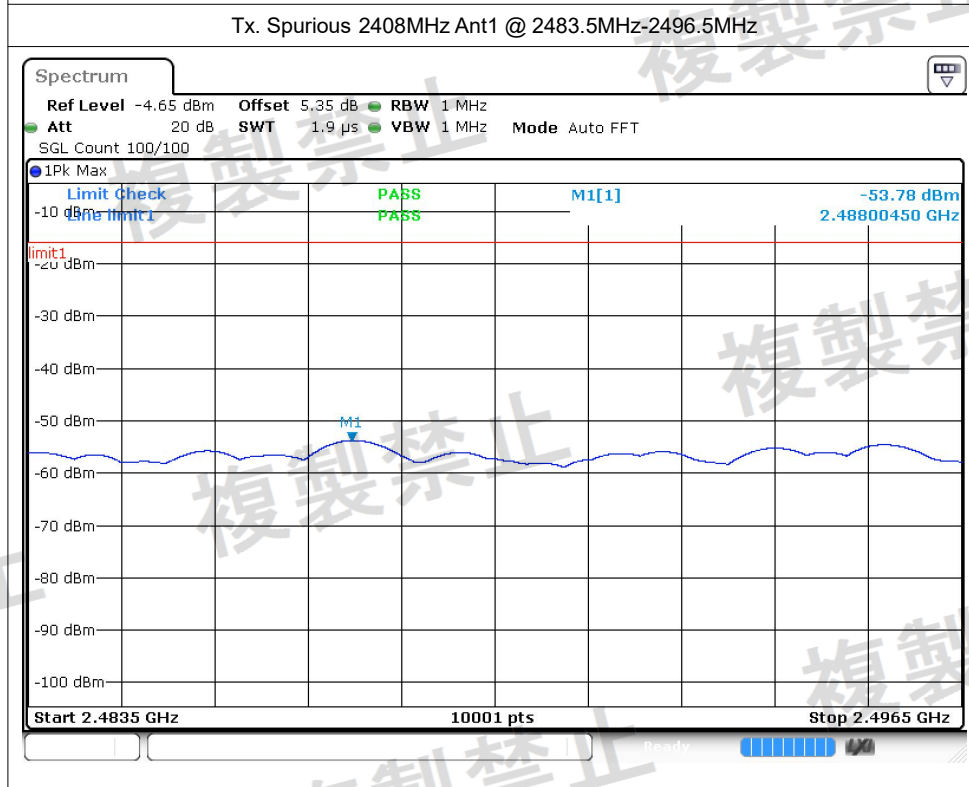
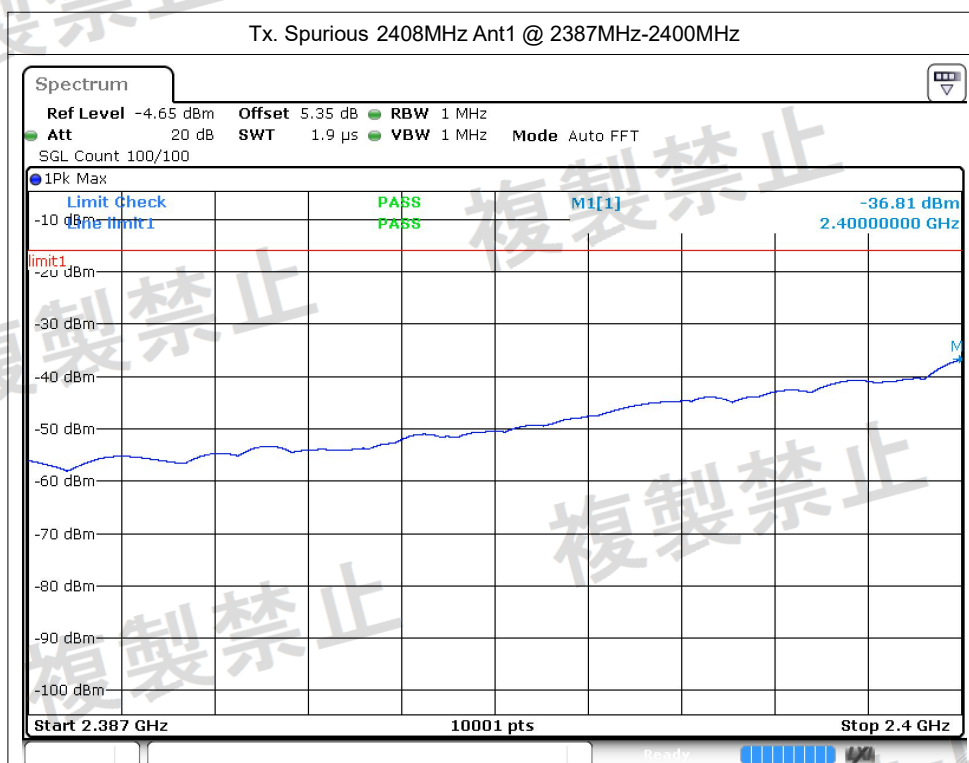
Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Peak Value (dBm)	Max RMS Value (dBm)	Max Peak Value (uW)	Max RMS Value (uW)	Limit Start(uW)	Limit Stop (uW)	Verdict
2.4G	2408	30-1000	982.25	-51.95	NA	0.0064	NA	2.5	2.5	Pass
2.4G	2408	1000-2387	2383.95	-43.98	NA	0.04	NA	2.5	2.5	Pass
2.4G	2408	2387-2400	2400.00	-36.80	NA	0.2089	NA	25	25	Pass
2.4G	2408	2483.5-2496.5	2488.00	-53.77	NA	0.0042	NA	25	25	Pass
2.4G	2408	2496.5-13000	12627.13	-43.37	NA	0.046	NA	2.5	2.5	Pass
2.4G	2442	30-1000	430.61	-51.50	NA	0.0071	NA	2.5	2.5	Pass
2.4G	2442	1000-2387	2346.08	-48.57	NA	0.0139	NA	2.5	2.5	Pass
2.4G	2442	2387-2400	2394.14	-52.94	NA	0.0051	NA	25	25	Pass
2.4G	2442	2483.5-2496.5	2489.94	-52.11	NA	0.0062	NA	25	25	Pass
2.4G	2442	2496.5-13000	12688.05	-44.08	NA	0.0391	NA	2.5	2.5	Pass
2.4G	2478	30-1000	348.94	-51.31	NA	0.0074	NA	2.5	2.5	Pass
2.4G	2478	1000-2387	2382.42	-48.27	NA	0.0149	NA	2.5	2.5	Pass
2.4G	2478	2387-2400	2392.80	-55.03	NA	0.0031	NA	25	25	Pass
2.4G	2478	2483.5-2496.5	2483.50	-32.85	NA	0.5188	NA	25	25	Pass
2.4G	2478	2496.5-13000	2501.75	-43.16	NA	0.0483	NA	2.5	2.5	Pass

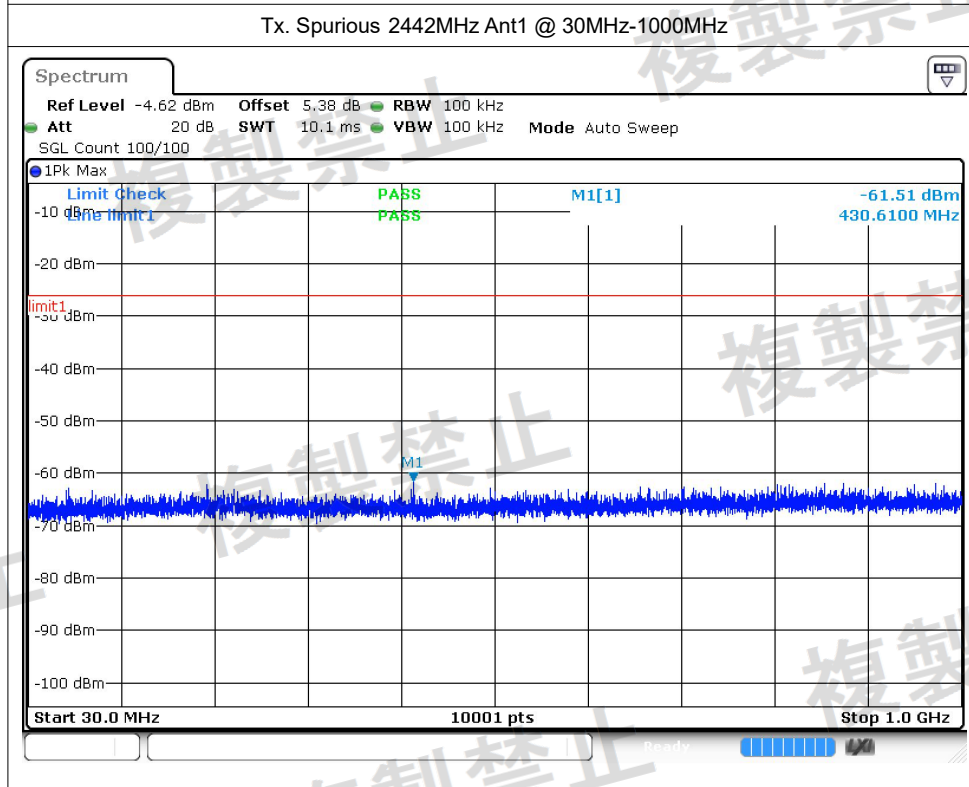
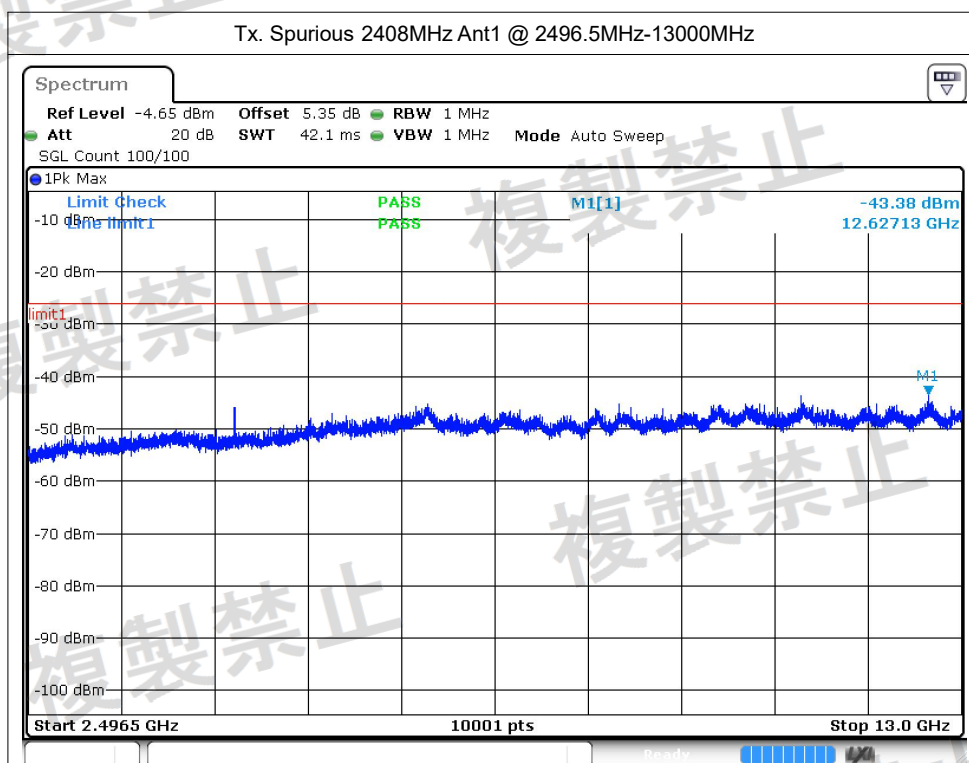
Note: The limit for the frequency range of 30MHz - 1GHz is 2.5uW/1MHz, but test result is dBm/100kHz.

Value(dBm/1MHz) = Measurement(dBm/100kHz) + 10*log(1MHz/100KHz)

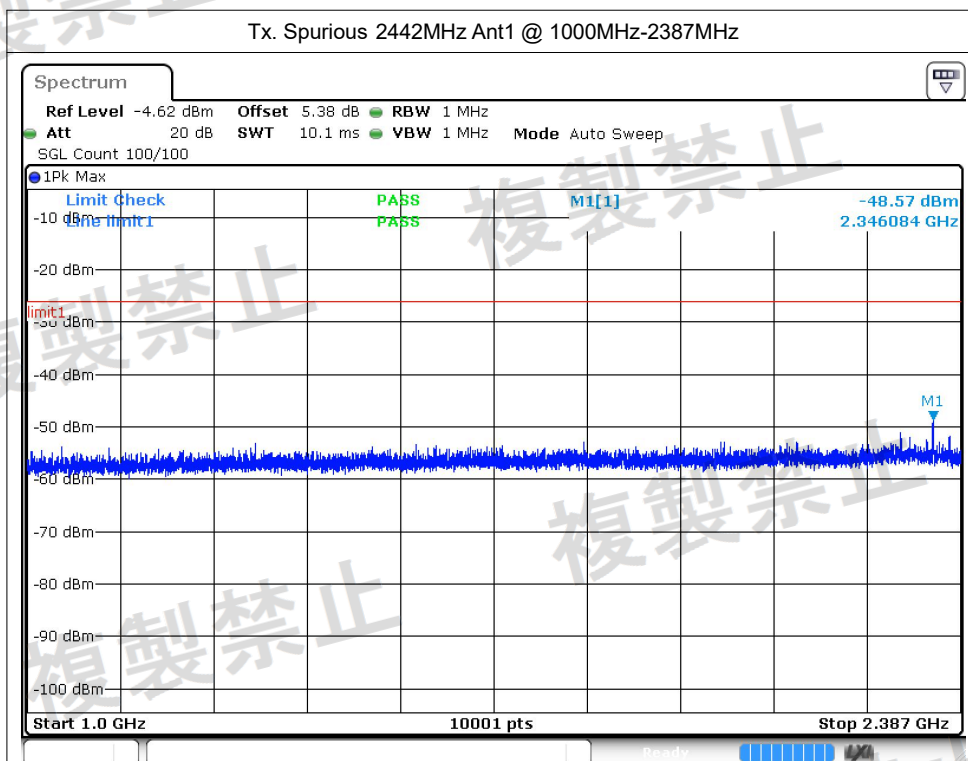
Value(uW) = 10^(Value(dBm) / 10)*1000



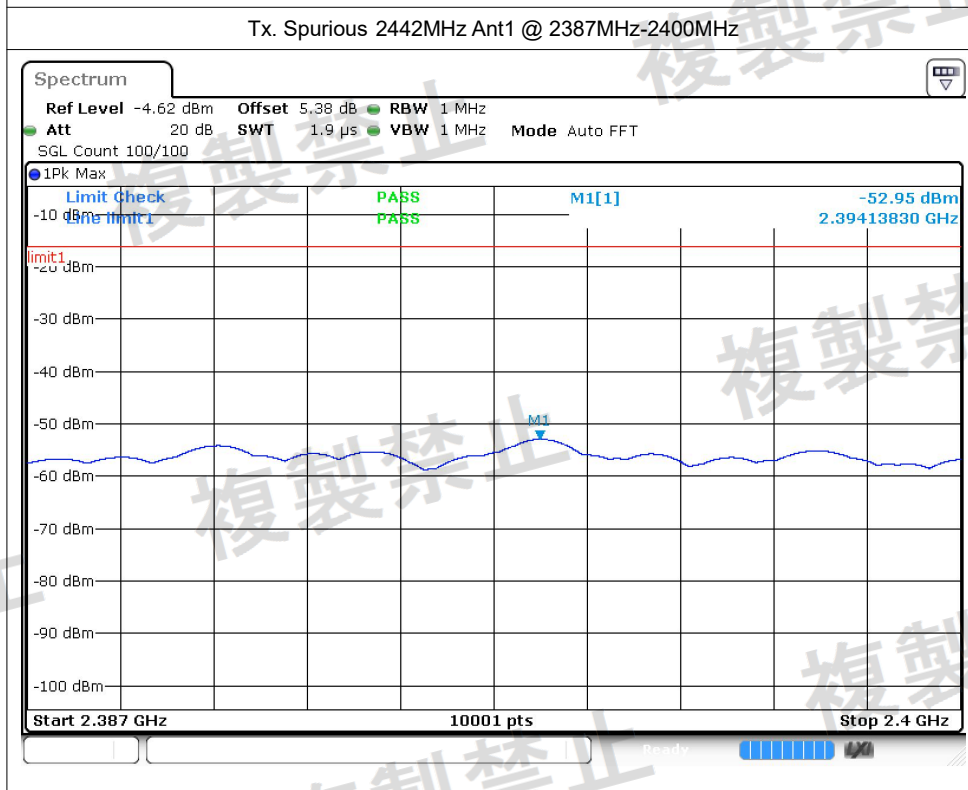




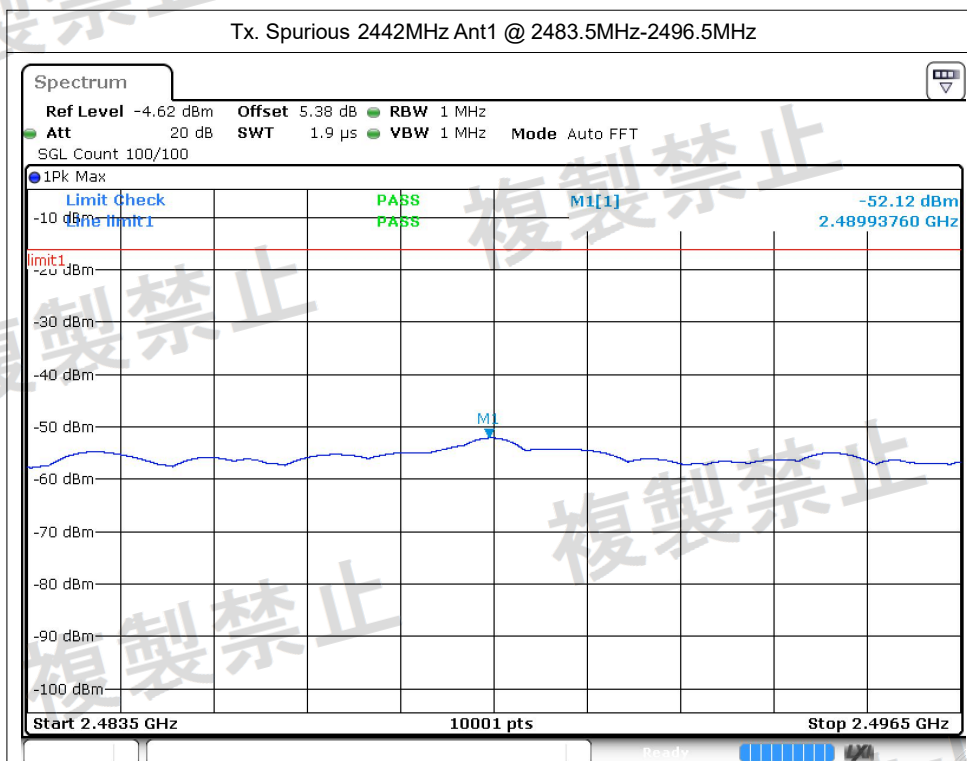
Tx. Spurious 2442MHz Ant1 @ 1000MHz-2387MHz



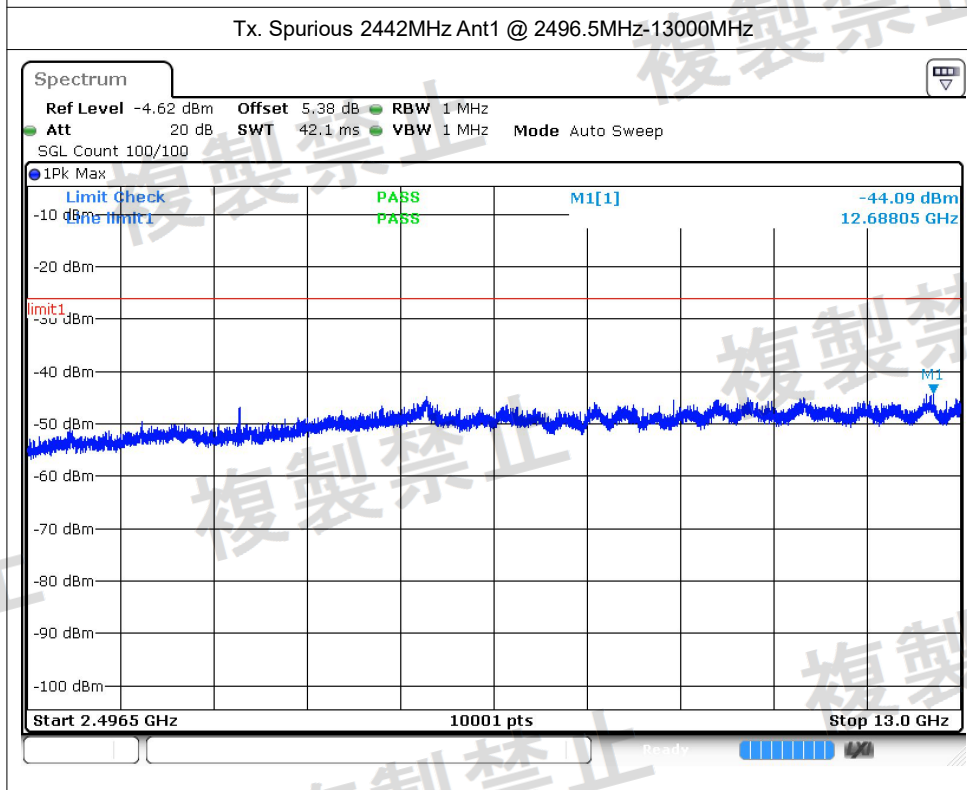
Tx. Spurious 2442MHz Ant1 @ 2387MHz-2400MHz

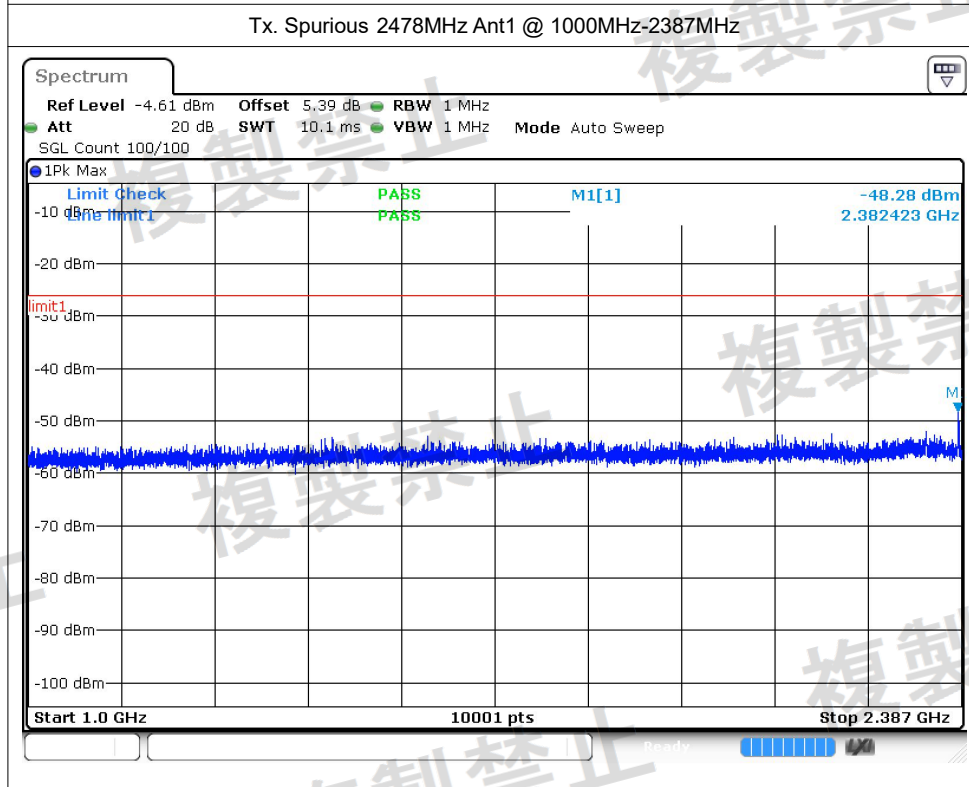
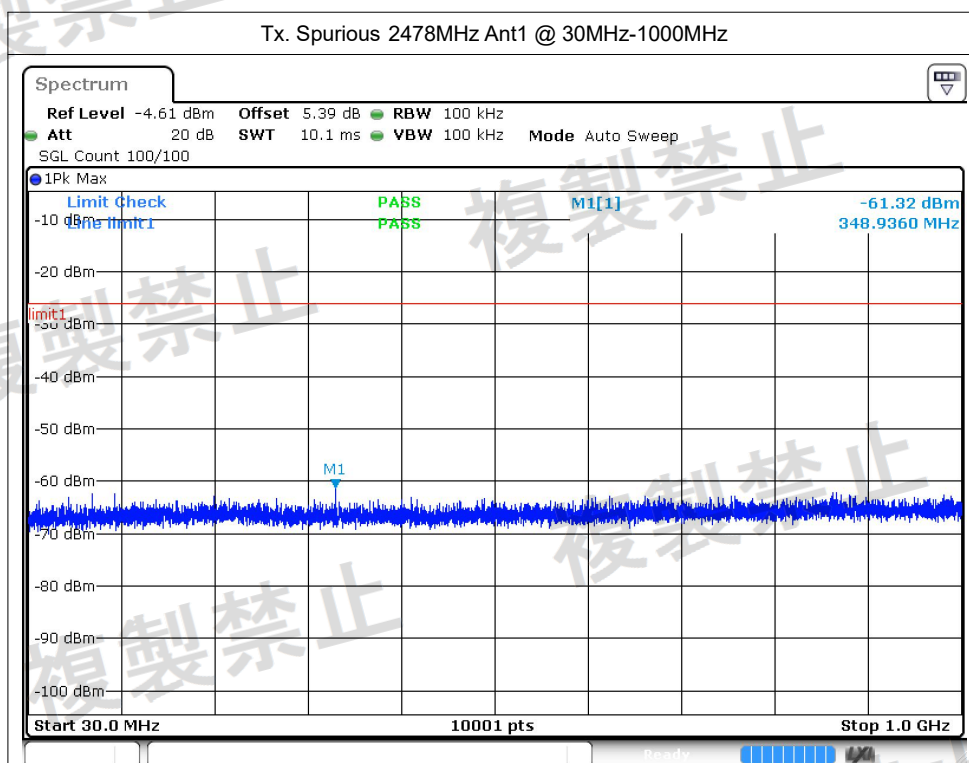


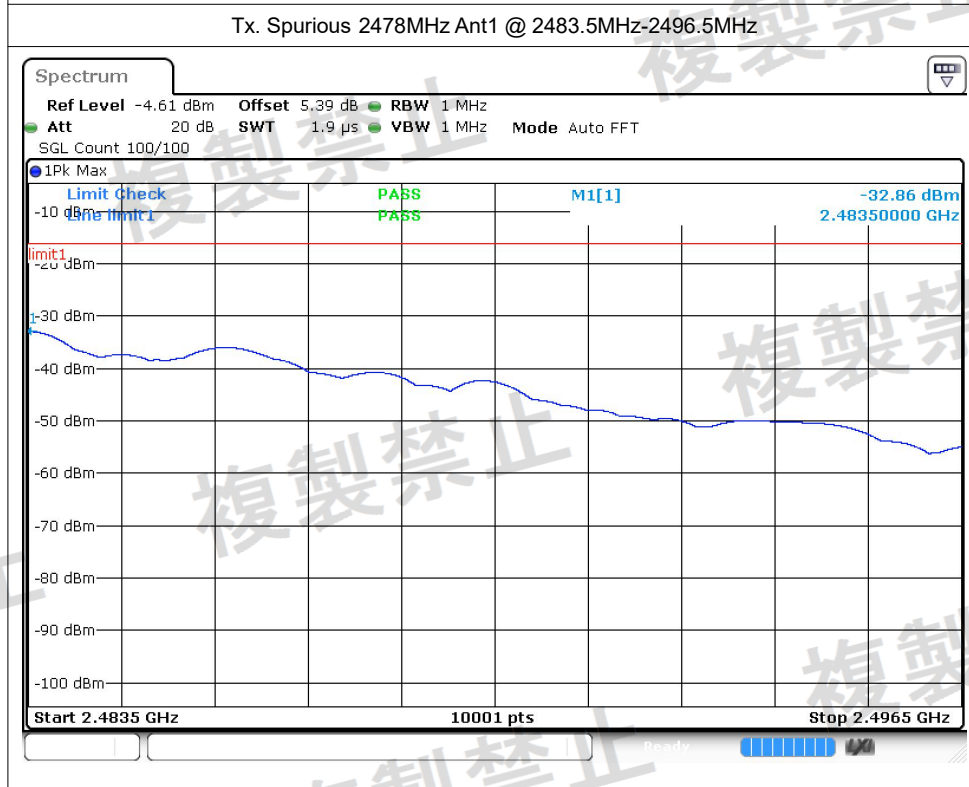
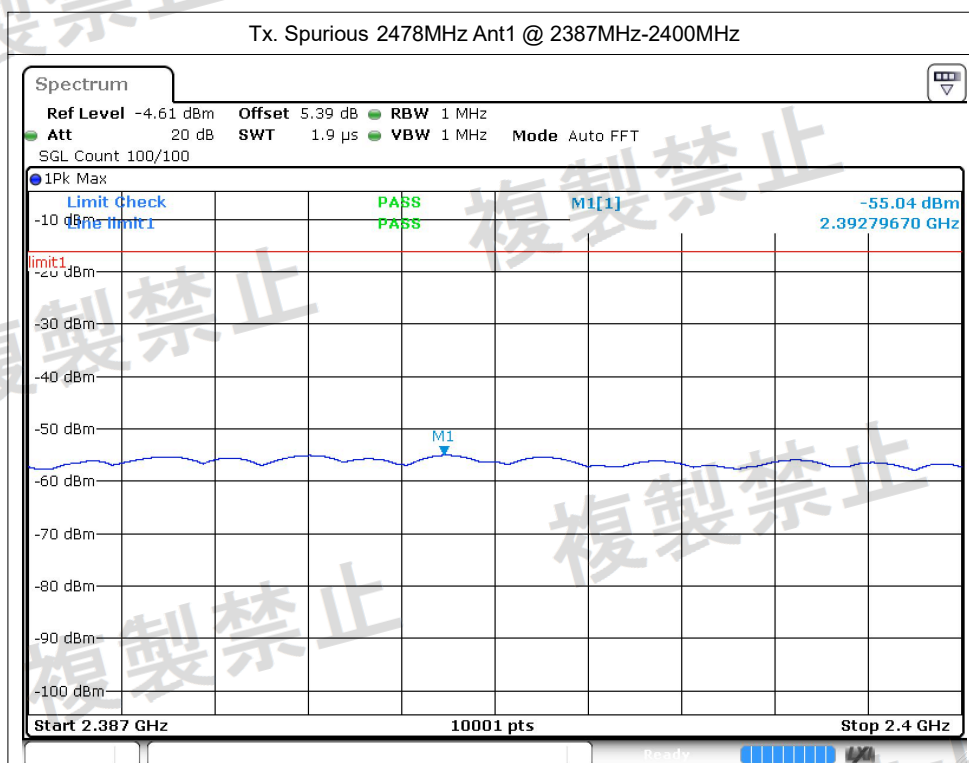
Tx. Spurious 2442MHz Ant1 @ 2483.5MHz-2496.5MHz

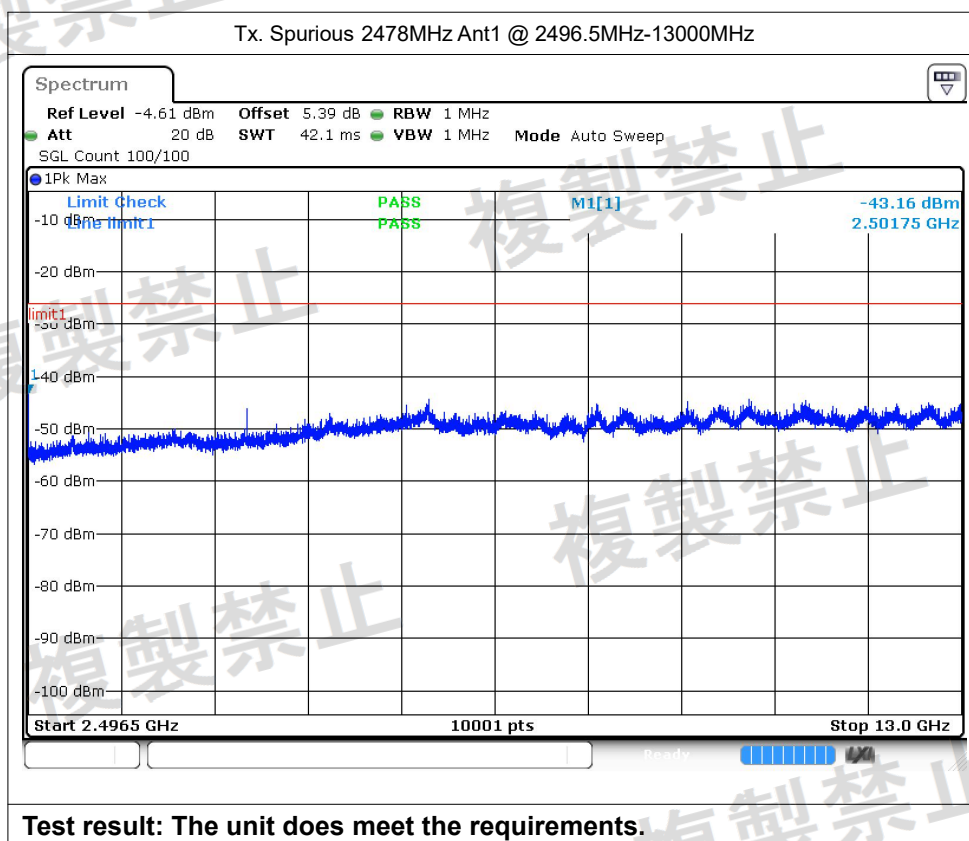


Tx. Spurious 2442MHz Ant1 @ 2496.5MHz-13000MHz





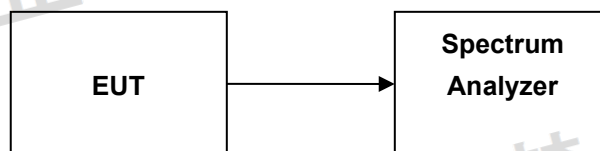




6.10 Dwell Time

Test Requirement:	MIC Notice No.88 Appendix No. 43 less than 0.4sec
Temperature:	23.0 °C
Humidity:	55 % RH
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below. Modulation/Spread/Hopping ON, Hopping frequency is fixed, Bluetooth equipment is setting DH5 mode

Test Configuration:



Test Procedure:

- Test Conditions:
Spectrum Analyzer is used for measurement.
- EUT conditions:
EUT have transmitted continuous maximum power
- Spectrum Analyzer conditions:
Frequency: Test Frequency (fixed hopping frequency)
Span 0 Hz
RBW 1 MHz
VBW 1 MHz
Sweep Time EUT condition
Trigger Video Trigger
Measures the Transmission time of 1 burst (sec)
Measures the Burst cycle (sec)
- Calculation procedure :
Dwell time = (0.4(s) x [spreading rate] x [Transmission time of 1 burst(s)]) / ([burst cycle(s)] x [No. of hopping channel])
Note:
* Spreading rate = [Spread bandwidth (actual measurement value)] / [Transmission rate]

Test result:

N/A

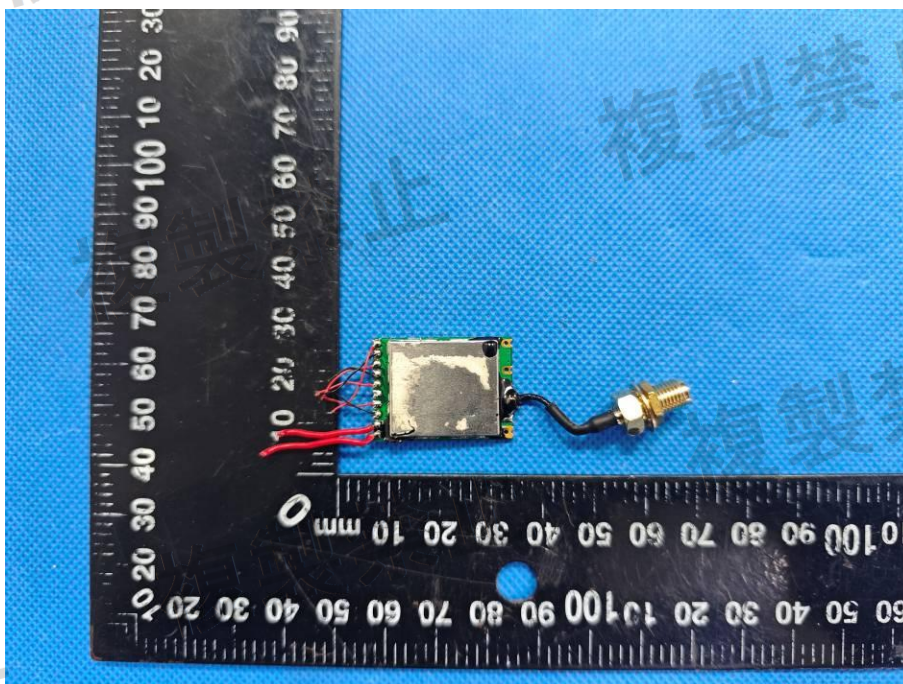
6.11 RF Accessibility

Standard requirement

Article 2, Item (19) Notice 88 Appendix 43, 44, 45

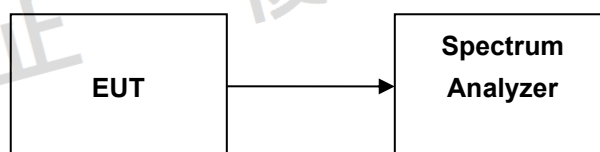
The EUT shall be constructed in such a way that sensitive RF parts, (like modulation and oscillator parts) cannot be reached easily by the user. These parts shall be covered by soldered metal caps or glue or by other mechanical covers. If the covers are fixed with screws, these shall be not the common type(s) like a Phillips, but special versions like Torx, so that the user cannot open the device with common tools.

We apply the product for Japan RF certification. We use shield for preventing end- user to access RF parts easily. The shield can only be opened by forced, which will result in damaging the case. Please refer to following for photo for details.



6.12 Spurious Emissions of Rx

Test Requirement:	MIC Notice No.88 Appendix No. 43 (1) Below 1 GHz : 4 nW or less (2) 1 GHz and over : 20 nW or less
Temperature:	23.0 °C
Humidity:	55 % RH
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.
Test Configuration:	



Test Procedure:

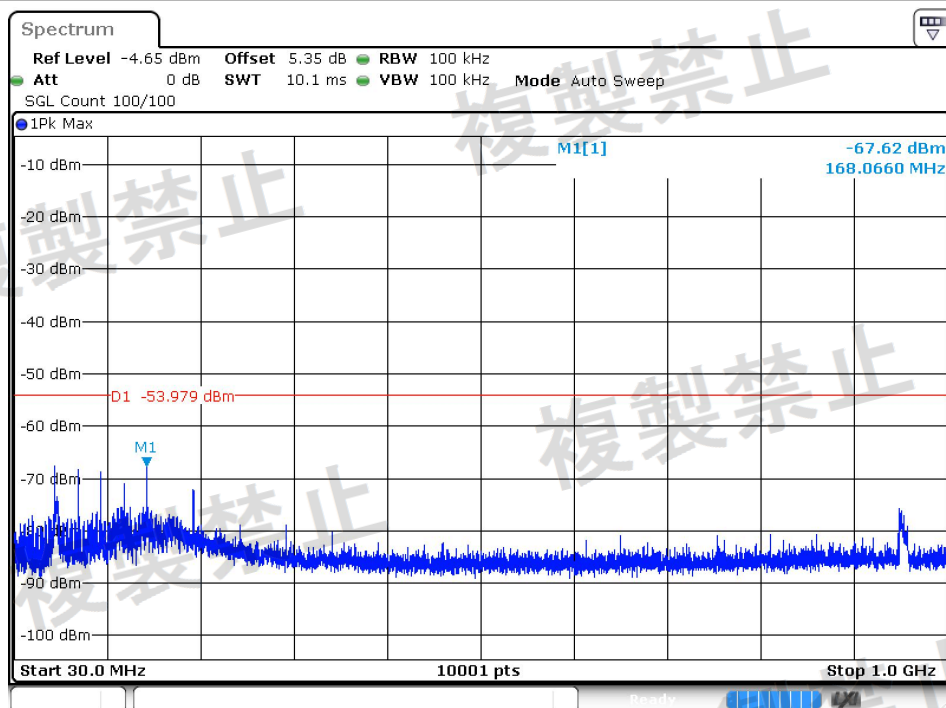
1. Test Conditions: Spectrum Analyzer is used for measurement.
2. EUT conditions:
EUT have transmitted continuous maximum power
3. Spectrum Analyzer conditions:
Step 1
All spurious are measured from 30 MHz to 13 GHz by peak mode.
Step 2
IF the value measured by Step1 is 2 dB or less, measure in average mode.
Test setup for Step 1:
Frequency: 30 MHz – 1000 MHz , 1GHz –13 GHz
RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)
VBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)
Sweep Time Auto
detector mode Positive peak
Indication mode Max hold
Test setup for Step 2:
Frequency: Spurious Frequency
Span 0 Hz
RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)
VBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)
Sweep Time Auto
detector mode Sample
Indication mode Max hold

Test result:

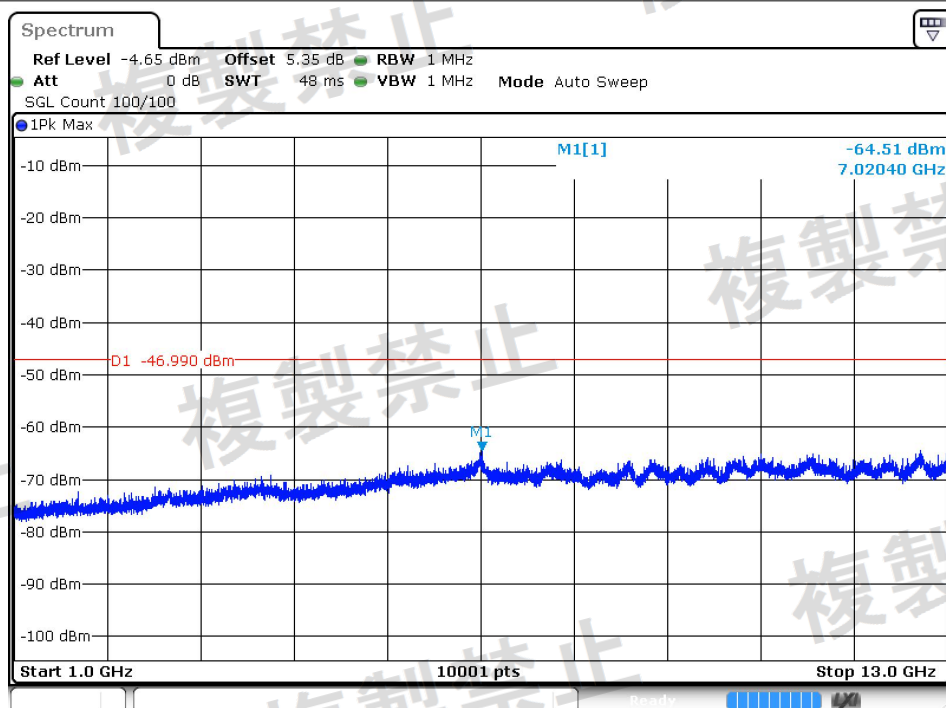
Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Peak Value (dBm)	Max RMS Value (dBm)	Max Peak Value (nW)	Max RMS Value (nW)	Limit (nW)	Verdict
2.4G	2408	30-1000	168.07	-67.62	NA	0.173	NA	4	Pass
2.4G	2408	1000-13000	7020.40	-64.51	NA	0.354	NA	20	Pass

Test Graphs

Rx. Spurious @ 30MHz-1000MHz



Rx. Spurious @ 1000MHz-13000MHz



Test result: The unit does meet the requirements.

7 Photographs

7.1 EUT Constructional Details

Refer to *Appendix EUT Photo*.

****End of report****