

Test Report

Product: Find My & Find Hub Finder Card

Trade Mark: FONVOI

Model Number: MergeCard

Prepared for

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Prepared by

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TEST RESULT CERTIFICATION

Applicant's Name..... : Shenzhen Jintongtai Plastic Electronics Co., Ltd.
2nd Floor, Building 5, Tongfuyu Xufa Science and Technology
Address : Park, Shangcun, Gongming Street, Guangming District,
Shenzhen, China

Manufacturer's Name..... : Shenzhen Jintongtai Plastic Electronics Co., Ltd.
2nd Floor, Building 5, Tongfuyu Xufa Science and Technology
Address : Park, Shangcun, Gongming Street, Guangming District,
Shenzhen, China

Product description

Product name : Find My & Find Hub Finder Card
Model Number : MergeCard

Standards : Article 2 paragraph 1 item (19)
MIC Notice No.88 Appendix No.43

Test procedure..... : N/A

This device described above has been tested by Shenzhen HongBiao Certification& Testing Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the EMC requirements. And it is applicable only to the tested sample identified in the report.

Date of Test

Date (s) of performance of tests..... : July 01, 2026~July 07, 2026

Test Result..... : **Pass**

Testing Engineer :

Zoe Su

(Z o e S u)

Technical Manager :

Ming Liu

(Ming Liu)

Authorized Signatory :

Leo Su

(L e o S u)

Add:Room 102, 201, Building 2, Yuanwanggu RFID Industrial Park, Tongguan Road, Tianliao Community, Yutang Street, Guangming District, Shenzhen,China
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1 General Description

1.1 Description of EUT

Product name:	Find My & Find Hub Finder Card
Model name:	MergeCard
Series model:	FONVOI MergeCard, FO01-CARDBK, FO-01CARDWH, FO-01ACARDBK, FO-O1ACARDWH
Different of series model:	All the models are the same circuit and module, except the colour and model No..
Operation frequency:	2402-2480MHz
Modulation type:	GFSK
Bit Rate of transmitter:	1 Mbps, 2Mbps
Antenna type:	PCB Antenna
Antenna gain:	-0.81dBi
Max. output power:	3.155mW
Hardware version:	V1.0
Software version:	V1.0
Battery:	DC 3.7V, 155mAh
Power supply:	Input: DC 5V
Adapter information:	N/A
Sample number:	HB20260626003-2O03
Fixed frequency software and Power level setting parameters:	Fixed frequency software: SSCOM V5.13.1 Power level setting parameters: default

1.2 Test Mode

Test Mode	Channel	Frequency (MHz)
BLE 1M	00	2402
BLE 1M	19	2440
BLE 1M	39	2480
BLE 2M	00	2402
BLE 2M	19	2440
BLE 2M	39	2480

1.3 Operation Channel List

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

1.4 Test Conditions

Voltage Fluctuation Test	Normal Voltage	High Voltage +10% of Normal Voltage	Low Voltage -10% of Normal Voltage
DC Power	DC 3.7V	DC 4.07V	DC 3.33V
To RF Circuit	DC 3.3V	DC 3.3V	DC 3.3V

Note:

1. Voltage Variation (%)= (Output high or Low Voltage - Output Normal Voltage)/ Output Normal Voltage* 100.
2. During the input supply voltage to the EUT from the external power source is varied by +/-10%, + / - 10% of the external power change, will not affect the voltage of the RF, so only operated in normal voltage to test all regulations.

1.5 Test Setup

See photographs of the test setup in the report for the actual setup and connections between EUT and support equipment.

1.6 Power setting configuration parameters

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.

Test software Version		SSCOM V5.13.1	
Frequency	2402 MHz	2440 MHz	2480 MHz
Parameters	Default	Default	Default
RF cable			
Description	Connector	Length	Supplied by
Antenna Cable	SMA	10cm	Applicant

Note: Disclaimer: the loss of RF cable is too small and can be ignored.

1.7 Ancillary Equipment

Equipment	Model	S/N	Manufacturer
Notebook	BDR-WDH	A3RQPM242000241 1	Honor Terminal Co., Ltd.

2 Summary of Test Result

No.	Test Item	Result	Remark
1	Frequency Tolerance Measurement	Pass	
2	Occupied Bandwidth and Spread-spectrum Bandwidth	Pass	
3	Tx Unwanted Emission Measurement	Pass	
4	Antenna Power Tolerance	Pass	
5	Rx Unwanted Emission Measurement	Pass	
6	Transmission Antenna Gain (EIRP Antenna Power)	N/A	
7	Transmission Radiation Angle Width (3dB Beamwidth)	N/A	
8	Radio Interference Prevention Capability	Pass	
9	Carrier Sense	N/A	

Note: "N/A" means the test item not applicable.

3 Test Facilities and Accreditations

3.1 Test Laboratory

Test Site	Shenzhen HongBiao Certification& Testing Co., Ltd
Test Site Location	Room 102, 201, Building 2, Yuanwanggu RFID Industrial Park, Tongguan Road, Tianliao Community, Yutang Street, Guangming District, Shenzhen, China
Telephone:	(86-755) 2998 9321
Fax:	(86-755) 2998 5110
CNAS Registration No.:	L12076

3.2 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	25.9°C
Relative Humidity:	58.6%
Air Pressure:	99.5kPa

3.3 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 %.

Measurement Frequency Range	U, (dB)	Note
RF frequency	2×10^{-5}	
RF power, conducted	± 0.57 dB	
Radiated emission(30MHz~1GHz)	± 4.2 dB	
Radiated emission (above 1GHz)	± 4.7 dB	
Occupied Bandwidth	$\pm 3\%$	
Temperature	± 1 degree	
Humidity	± 5 %	

3.4 Test Software

Software name	Manufacturer	Model	Version
RF Test System	MWRF	MTS 8310	V2.0.0.0

4 List of Test Equipment

4.1 List of Test Equipment

RF							
Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	HB-E041	MXG Anaio Signal Generator	Agilent	N5181A	MY47070421	2026-04-27	2027-04-26
2	HB-E042	WIDEBAND RADIO COMMUNICA TION TESTER	R&S	CMW500	132108	2026-04-27	2027-04-26
3	HB-E043	MXG Anaio Signal Generator	Agilent	N5182A	US46240335	2026-04-28	2027-04-27
4	HB-E044	Signal & spectrum Analyzer	R&S	FSV3044	101264	2026-04-28	2027-04-27
5	HB-E045	RF Control Box	Noyetec	NY100-R FCB	N/A	2026-04-28	2027-04-27
6	HB-E058	Thermometer Clock Humidity Monitor	N/A	HTC-1S	N/A	2026-04-30	2027-04-29
7	HB-E067	DC power supply	Hong Kong Longwei	LW-1520 KD	220300153	2026-04-27	2027-04-26
8	HB-E063	Multimeter	FLUKE	15B+	56671653W S	2026-04-27	2027-04-26

Note 1: the calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

Note 2: The instrument RF Control Box, numbered HB-E045, contains power meter.

4.2 Calibration Method

- a) Calibration conducted by the National Institute of Information and Communications Technology NICT or a designated calibration agency under Article 102-18 paragraph.
- b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992).
- c) Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph.
- 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.

The all calibration corresponds to c) described above.

4.3 Calibration Agency information

Test Site	Guangzhou Lisai Metrology & Test Co., Ltd.
Test Site Location	No.8, Nongkesuo South Street, Shiji, Panyu District, Guangzhou, Guangdong, China
Telephone:	(86-020) 31134076
Fax:	(86-020) 31134076
CNAS Registration No.:	L7127

5 Test Item And Results

5.1 Frequency Tolerance

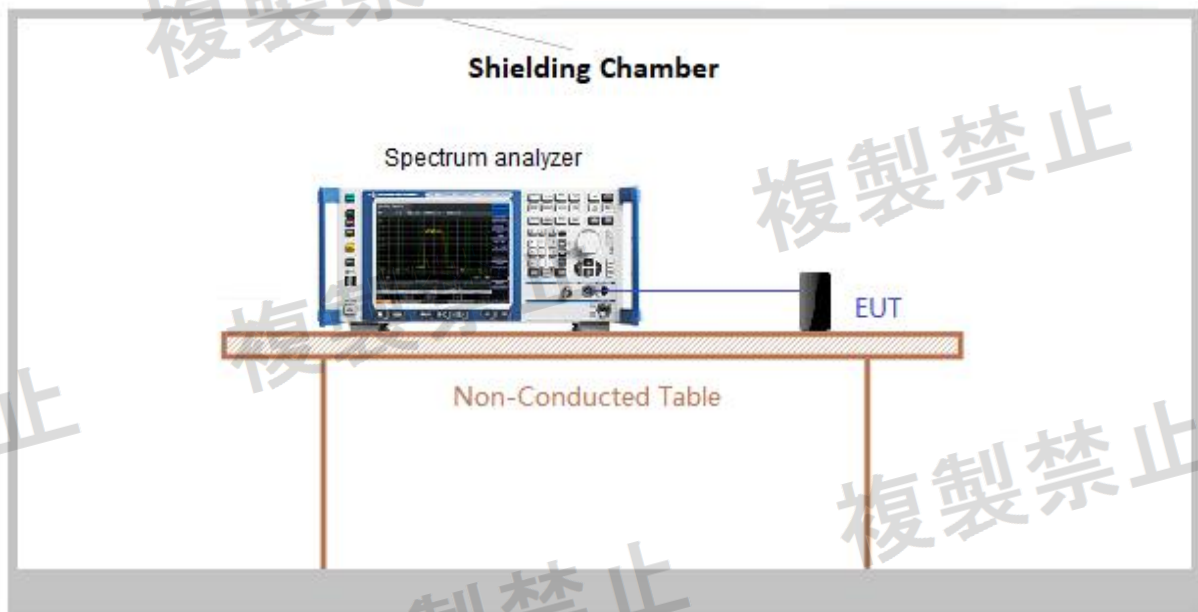
5.1.1 Limits

Item	Limits
Frequency Tolerance	$\pm 50\text{ppm}$

5.1.2 Test Procedures

1. Frequency accuracy of SA shall be less than 10% of limits tolerance (5ppm).
2. Setting of SA is following as: RB: 10kHz / VB: 10kHz / SPAN: 1MHz / Sweep time: Auto / Detect mode: Positive peak / Trace mode: Max hold.
3. The frequency tolerance test case is directly measured using spectrum analyzer. Then the frequency error formula is $(f-f_c)/f_c \times 10^6$ ppm and the limit is less than $\pm 50\text{ppm}$.

5.1.3 Test Setup

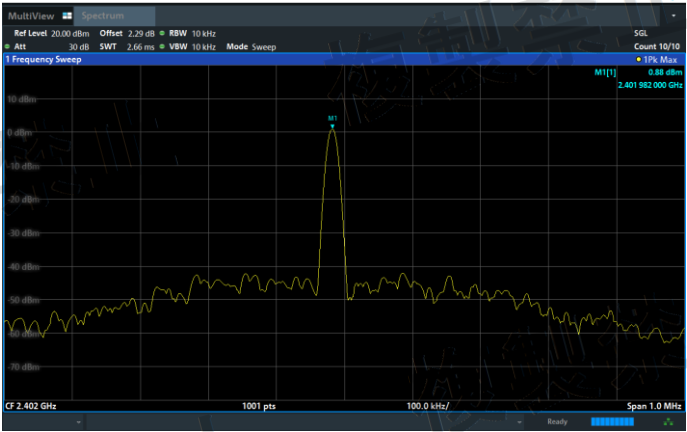


5.1.4 Test Result

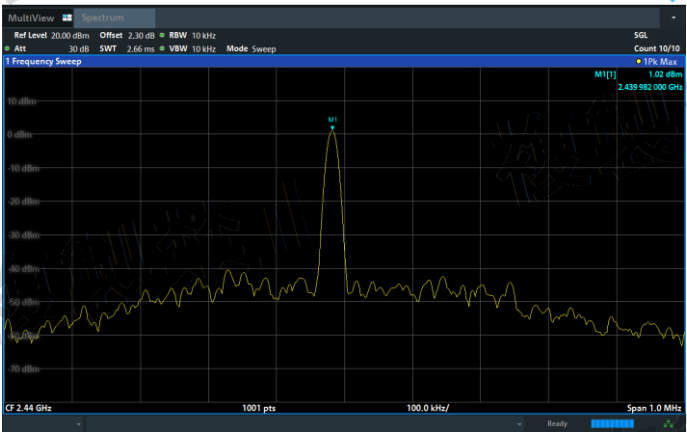
Test Mode	Channel	Frequency (MHz)	Reading (MHz)	Tolerance (ppm)	Limit (ppm)	Voltage (V)
BLE 1M	0	2402	2401.982	-7.49	± 50	DC 3.7V
	19	2440	2439.982	-7.38	± 50	
	39	2480	2479.982	-7.26	± 50	

Test plots of normal input voltage mode as below:

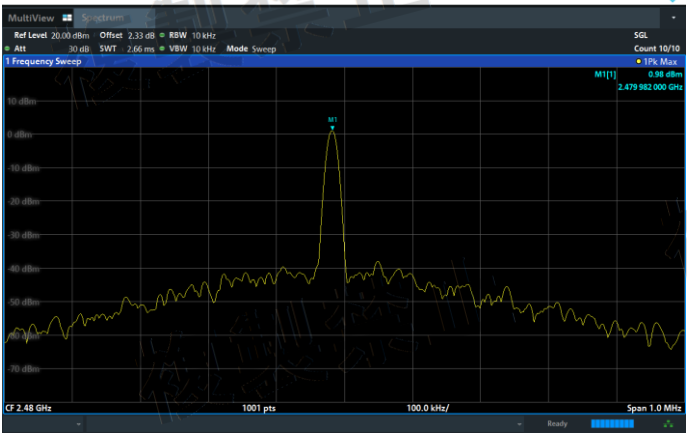
f_c: 2402MHz



f_c: 2440MHz



f_c: 2480MHz



5.2 Occupied Bandwidth And Spread-spectrum Bandwidth

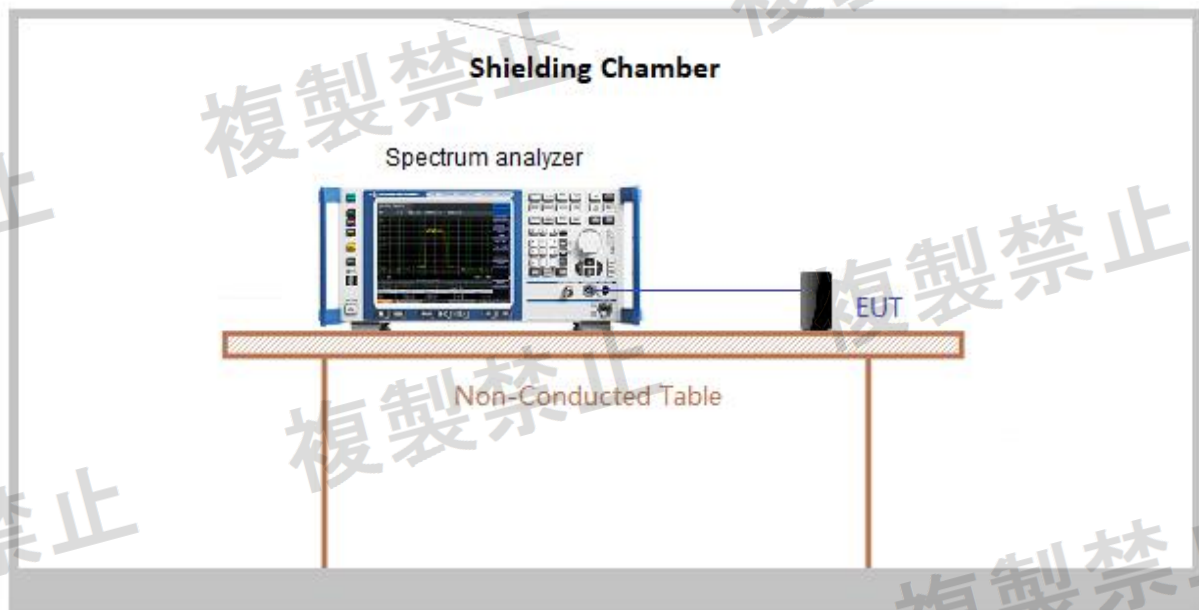
5.2.1 Limits

Item	Limits
Occupied Bandwidth:	FH: 83.5MHz; FH + DS: 83.5MHz; FH + OFDM: 83.5MHz; OFDM: 83.5MHz or less OFDM: 40MHz or less Others: 26MHz or less
Spreading Bandwidth	No requirements
Spread Factor	No requirements

5.2.2 Test Procedures

1. Setting of SA is following as: RB: 300kHz / VB: 300kHz / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold.
2. EUT have transmitted the maximum modulation signal and fixed channelize (For DSSS or OFDM Device). SA set to 99% of occupied bandwidth to measure occupied bandwidth.
3. SA set to 90% of occupied bandwidth to measure Spread Spectrum Bandwidth.
4. Spread Spectrum Factor = Spread Spectrum Bandwidth / modulation rate of EUT.

5.2.3 Test Setup



5.2.4 Test Result

Test Mode	Channel (MHz)	Occupied bandwidth (MHz)	Spread Bandwidth (MHz)	Limits	Result
BLE 1M	2402	1.289	0.846	OBW <=26MHz	Pass
BLE 1M	2440	1.294	0.847	OBW <=26MHz	Pass
BLE 1M	2480	1.324	0.862	OBW <=26MHz	Pass
BLE 2M	2402	2.215	1.403	OBW <=26MHz	Pass
BLE 2M	2440	2.222	1.408	OBW <=26MHz	Pass
BLE 2M	2480	2.234	1.416	OBW <=26MHz	Pass

Test plots of normal input voltage mode as below:

BLE 1M

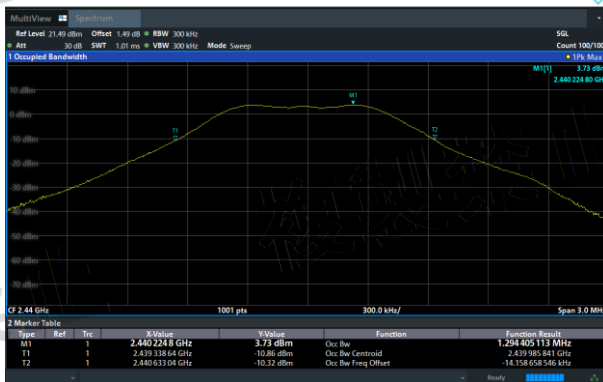
2402MHz Occupied Bandwidth-99%



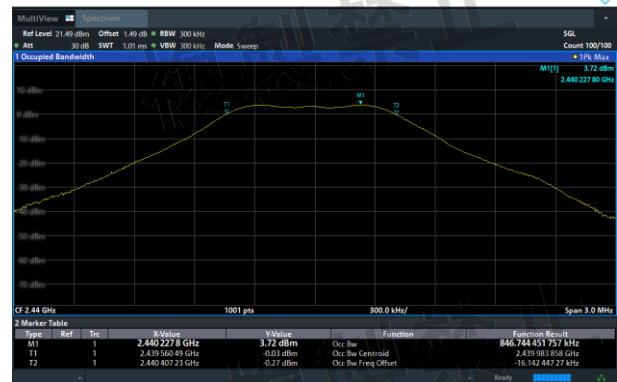
2402MHz Spread Bandwidth-90%



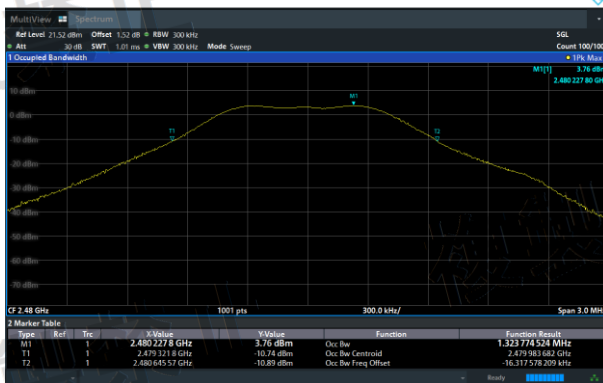
2440MHz Occupied Bandwidth-99%



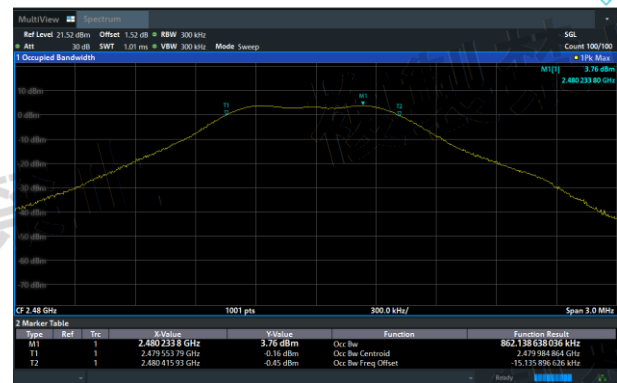
2440MHz Spread Bandwidth-90%



2480MHz Occupied Bandwidth-99%



2480MHz Spread Bandwidth-90%



BLE 2M

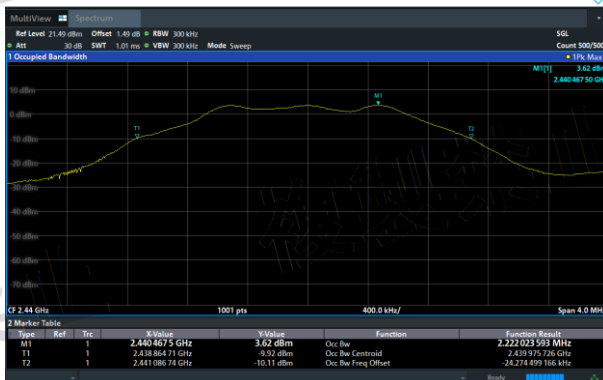
2402MHz Occupied Bandwidth-99%



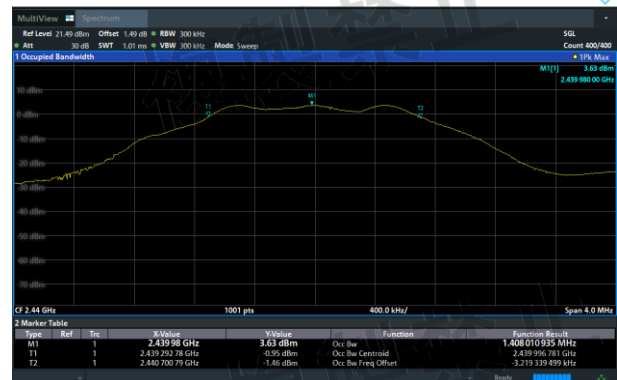
2402MHz Spread Bandwidth-90%



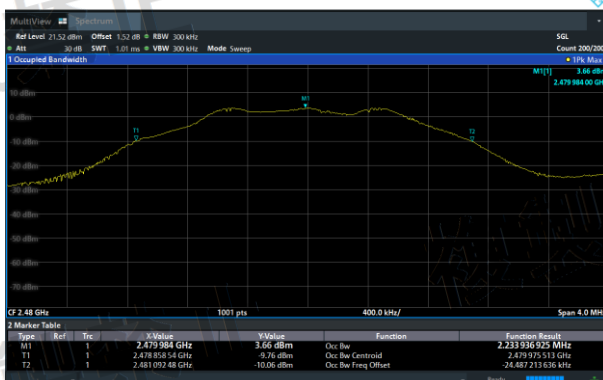
2440MHz Occupied Bandwidth-99%



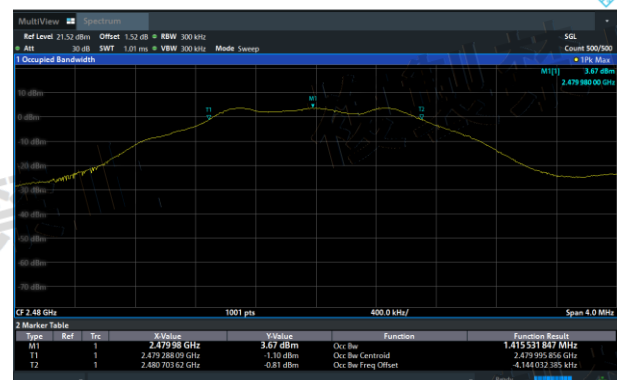
2440MHz Spread Bandwidth-90%



2480MHz Occupied Bandwidth-99%



2480MHz Spread Bandwidth-90%



5.3 Tx Unwanted Emission

5.3.1 Limit

Item	Limits
TX Spurious Emission	30 to 1000 MHz: 0.25 μ W/MHz
	1000 to 2387 MHz: 2.5 μ W/MHz
	2387 to 2400 MHz: 25 μ W/MHz
	2483.5 through 2496.5 MHz: 25 μ W/MHz
	Over 2496.5 MHz: 2.5 μ W/MHz

5.3.2 Test Procedure

Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

Settings 1:

a) Below 1GHz/ Above 1GHz

1. Set RBW= VBW = 100 kHz/ Set RBW = VBW = 1 MHz.

2. Detector = peak.

3. Sweep = auto couple.

4. Trace Mode = max hold.

5. Allow trace to fully stabilize.

6. Use the peak marker function to determine the maximum amplitude level.

7. 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.

Settings 2:

Frequency of spurious emission found using [Settings 1]

1. Set RBW= VBW = 100 kHz/ Set RBW = VBW = 1 MHz.

2. Detector = RMS.

3. Sweep = Minimum time required to make an accurate measurement.

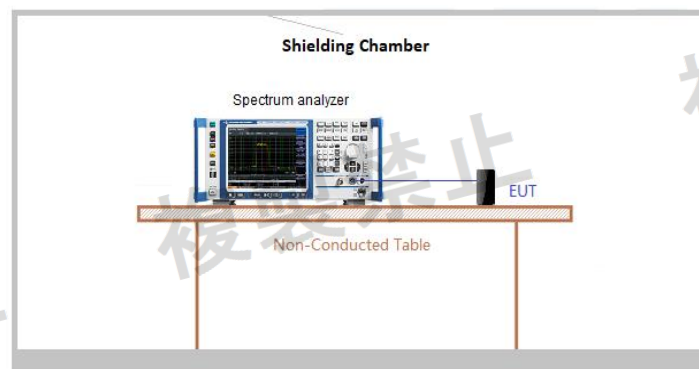
For burst type (intermittent) spurious emissions, sweep time shall be greater than one burst interval

4. Trace Mode = max hold.

5. Allow trace to fully stabilize.

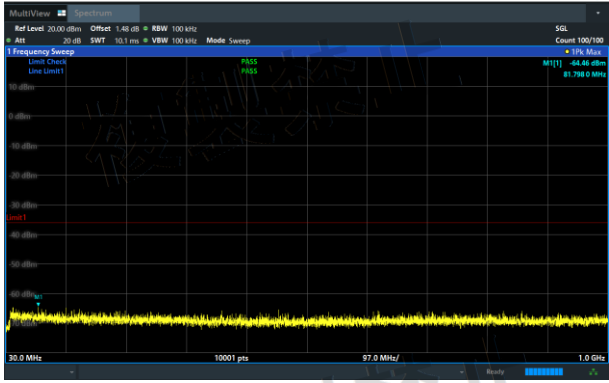
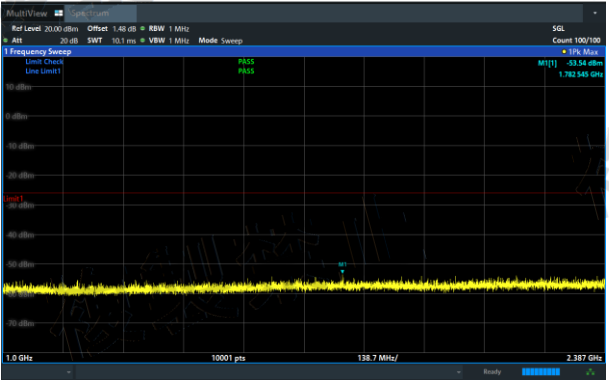
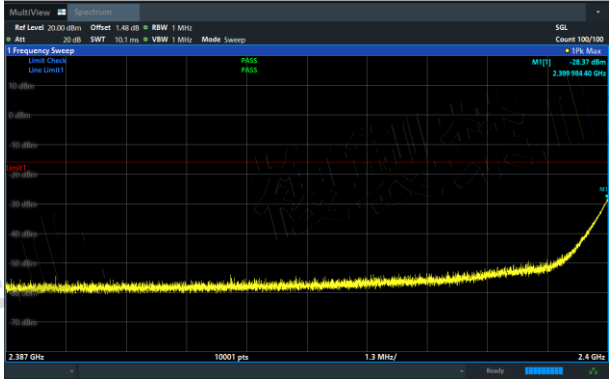
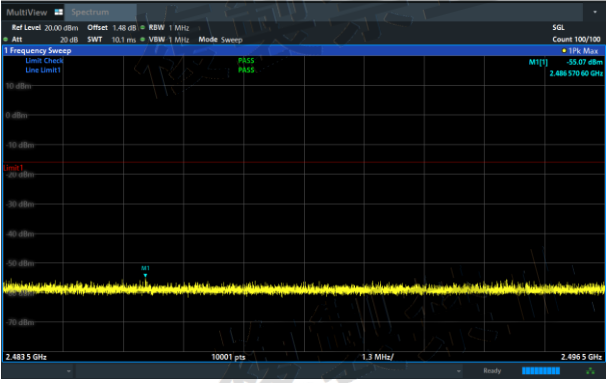
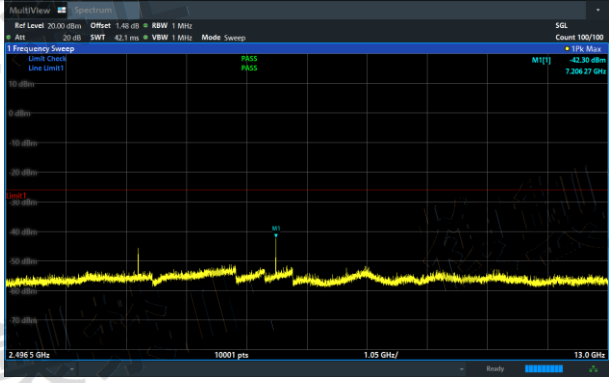
6. Use the peak marker function to determine the maximum amplitude level.

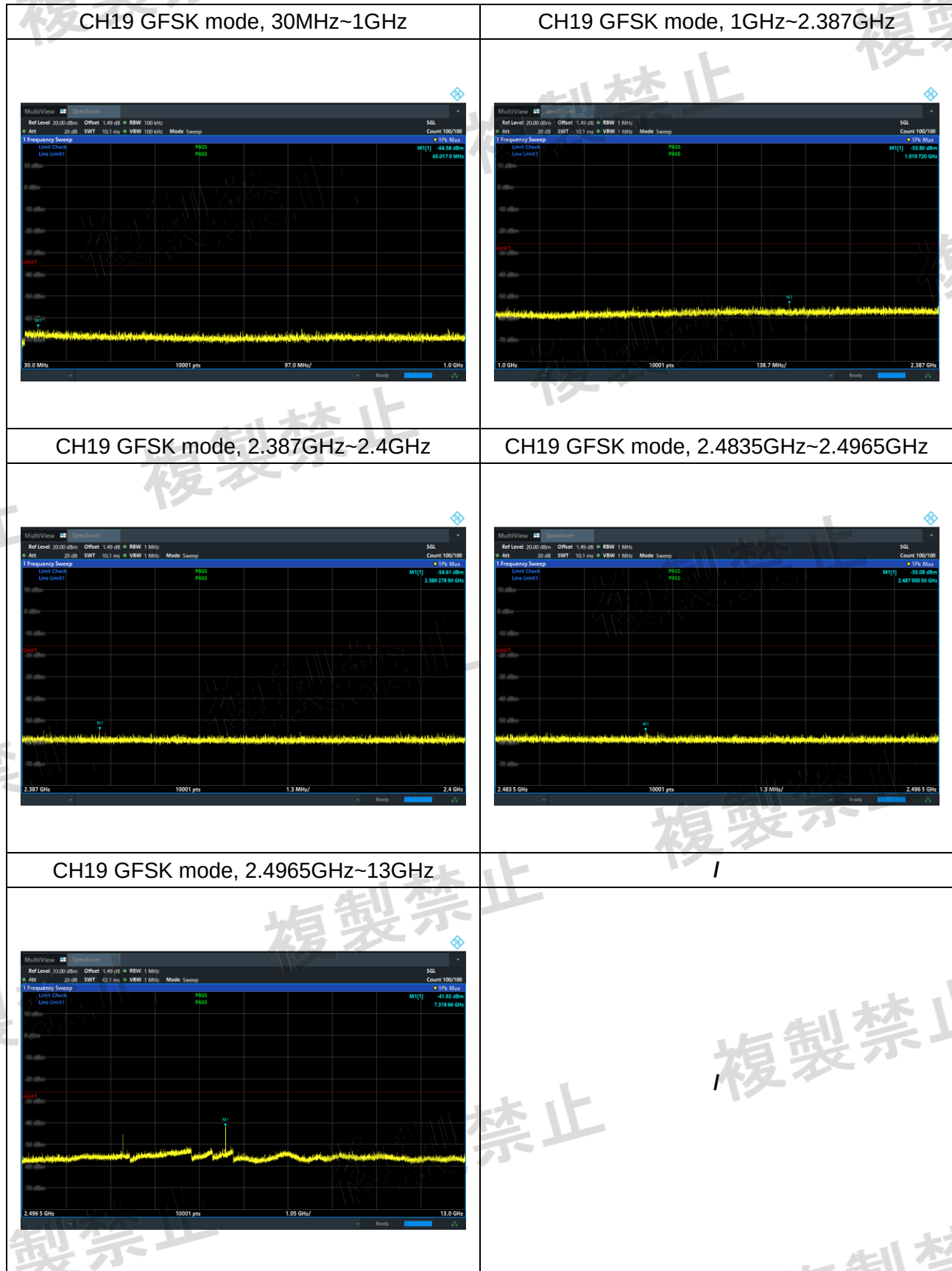
5.3.3 Test Setup

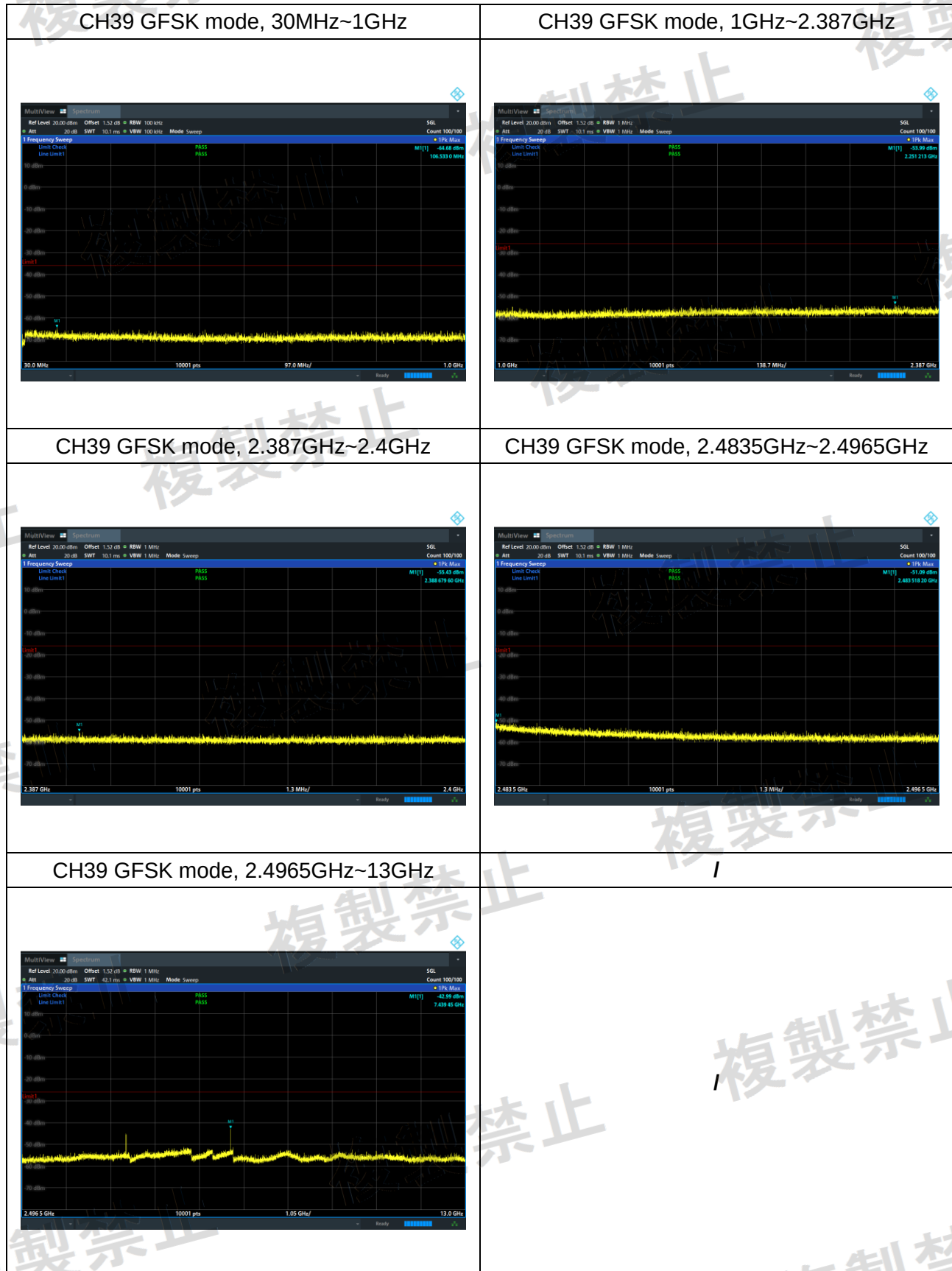


5.3.4 Test Results

Mod e	Frequenc y (MHz)	Antenn a	Range (MHz)	Emission Frequenc y (MHz)	Max Peak Valu e (dBm)	Max RMS Valu e (dBm)	Max Peak Value (uW/MH z)	Max RMS Value (uW/MH z)	Limit Start (uW/MH z)	Limit Stop (uW/MH z)	Verdi ct
BLE 1M	2402	Ant1	30-1000	81.80	-64.4 5	NA	0.0004	NA	0.25	0.25	Pass
BLE 1M	2402	Ant1	1000-2387	1782.55	-53.5 4	NA	0.0044	NA	2.5	2.5	Pass
BLE 1M	2402	Ant1	2387-2400	2399.98	-28.3 7	NA	1.4555	NA	25	25	Pass
BLE 1M	2402	Ant1	2483.5-2496 .5	2486.57	-55.0 7	NA	0.0031	NA	25	25	Pass
BLE 1M	2402	Ant1	2496.5-1300 0	7206.27	-42.2 9	NA	0.059	NA	2.5	2.5	Pass
BLE 1M	2440	Ant1	30-1000	65.02	-64.5 7	NA	0.0003	NA	0.25	0.25	Pass
BLE 1M	2440	Ant1	1000-2387	1919.72	-53.7 9	NA	0.0042	NA	2.5	2.5	Pass
BLE 1M	2440	Ant1	2387-2400	2389.28	-54.6 1	NA	0.0035	NA	25	25	Pass
BLE 1M	2440	Ant1	2483.5-2496 .5	2487.90	-55.0 7	NA	0.0031	NA	25	25	Pass
BLE 1M	2440	Ant1	2496.5-1300 0	7318.66	-41.9 2	NA	0.0643	NA	2.5	2.5	Pass
BLE 1M	2480	Ant1	30-1000	106.53	-64.6 8	NA	0.0003	NA	0.25	0.25	Pass
BLE 1M	2480	Ant1	1000-2387	2251.21	-53.9 8	NA	0.004	NA	2.5	2.5	Pass
BLE 1M	2480	Ant1	2387-2400	2388.68	-55.4 2	NA	0.0029	NA	25	25	Pass
BLE 1M	2480	Ant1	2483.5-2496 .5	2483.52	-51.0 9	NA	0.0078	NA	25	25	Pass
BLE 1M	2480	Ant1	2496.5-1300 0	7439.45	-42.9 9	NA	0.0502	NA	2.5	2.5	Pass
BLE 2M	2402	Ant1	30-1000	107.99	-62.9 9	NA	0.0005	NA	0.25	0.25	Pass
BLE 2M	2402	Ant1	1000-2387	2386.03	-43.9 1	NA	0.0406	NA	2.5	2.5	Pass
BLE 2M	2402	Ant1	2387-2400	2399.99	-15.7 0	-21.6 9	26.9153	6.7764	25	25	Pass
BLE 2M	2402	Ant1	2483.5-2496 .5	2488.04	-49.8 3	NA	0.0104	NA	25	25	Pass
BLE 2M	2402	Ant1	2496.5-1300 0	7205.22	-42.5 7	NA	0.0553	NA	2.5	2.5	Pass
BLE 2M	2440	Ant1	30-1000	767.98	-64.3 5	NA	0.0004	NA	0.25	0.25	Pass
BLE 2M	2440	Ant1	1000-2387	2377.98	-51.0 9	NA	0.0078	NA	2.5	2.5	Pass
BLE 2M	2440	Ant1	2387-2400	2397.81	-49.0 9	NA	0.0123	NA	25	25	Pass
BLE 2M	2440	Ant1	2483.5-2496 .5	2483.88	-49.7 1	NA	0.0107	NA	25	25	Pass
BLE 2M	2440	Ant1	2496.5-1300 0	7319.71	-41.8 9	NA	0.0647	NA	2.5	2.5	Pass
BLE 2M	2480	Ant1	30-1000	51.73	-64.9 8	NA	0.0003	NA	0.25	0.25	Pass
BLE 2M	2480	Ant1	1000-2387	2170.21	-50.4 1	NA	0.0091	NA	2.5	2.5	Pass
BLE 2M	2480	Ant1	2387-2400	2388.29	-50.6 5	NA	0.0086	NA	25	25	Pass
BLE 2M	2480	Ant1	2483.5-2496 .5	2483.97	-30.8 6	NA	0.8204	NA	25	25	Pass
BLE 2M	2480	Ant1	2496.5-1300 0	7441.55	-43.1 9	NA	0.048	NA	2.5	2.5	Pass

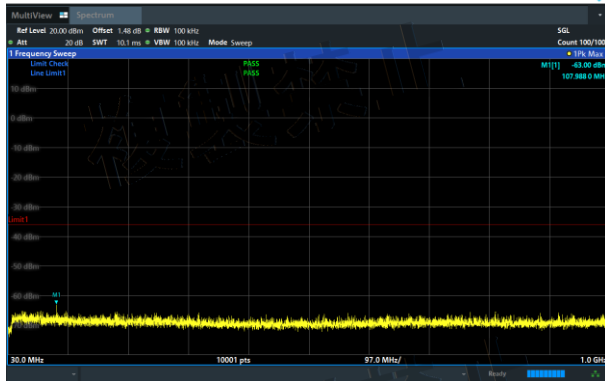
BLE 1M	
CH00 GFSK mode, 30MHz~1GHz	CH00 GFSK mode, 1GHz~2.387GHz
	
CH00 GFSK mode, 2.387GHz~2.4GHz	CH00 GFSK mode, 2.4835GHz~2.4965GHz
	
CH00 GFSK mode, 2.4965GHz~13GHz	/
	/



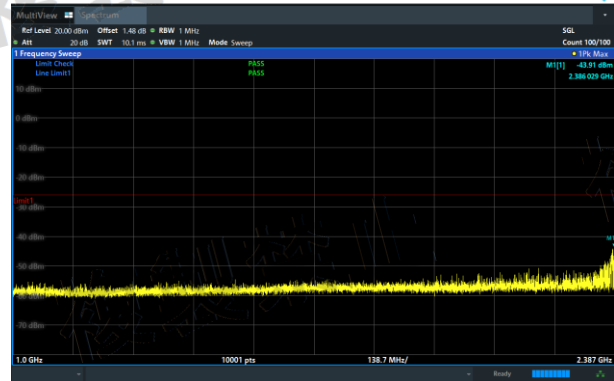


BLE 2M

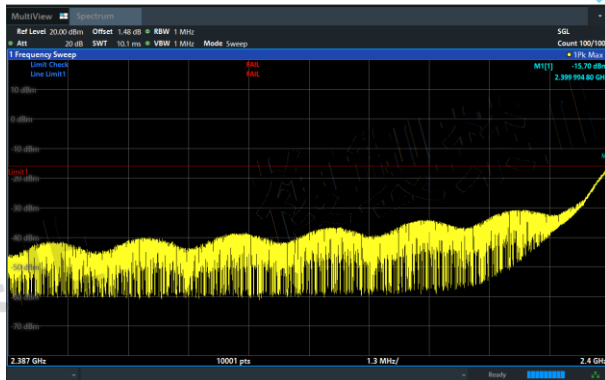
CH00 GFSK mode, 30MHz~1GHz



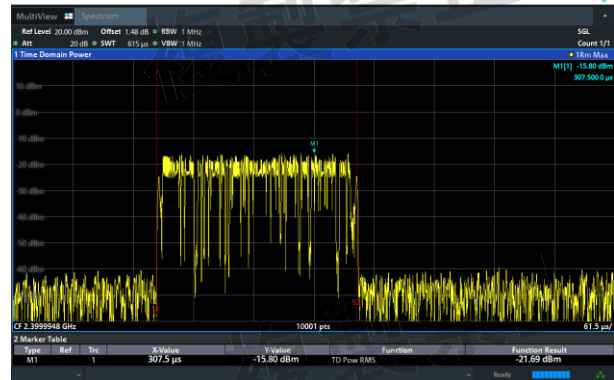
CH00 GFSK mode, 1GHz~2.387GHz



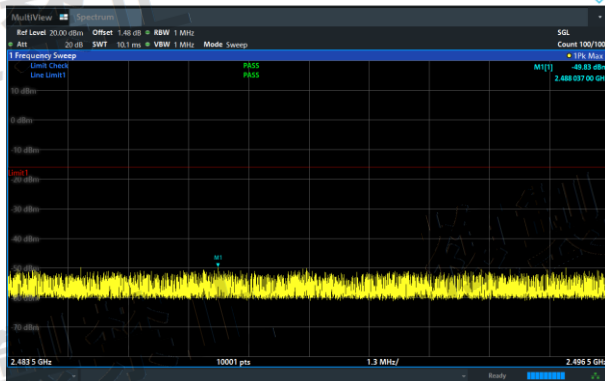
CH00 GFSK mode, 2.387GHz~2.4GHz



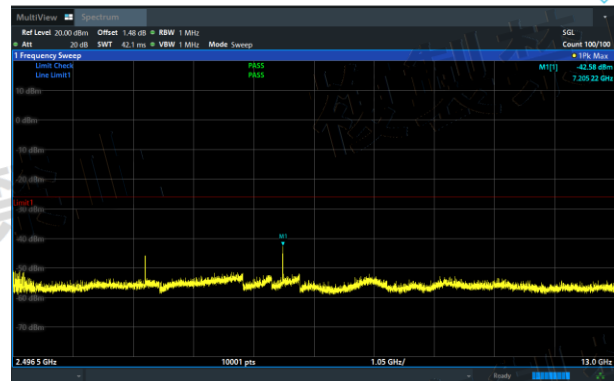
CH00 GFSK mode, 2.387GHz~2.4GHz

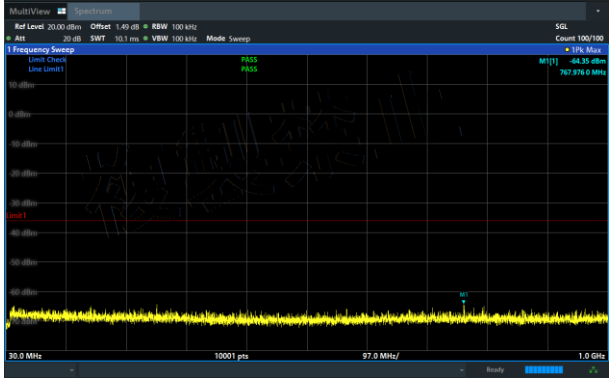
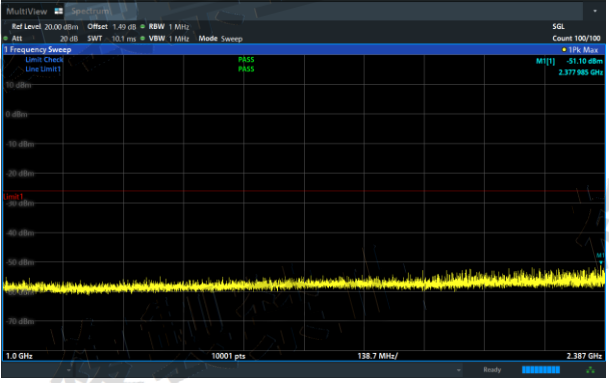
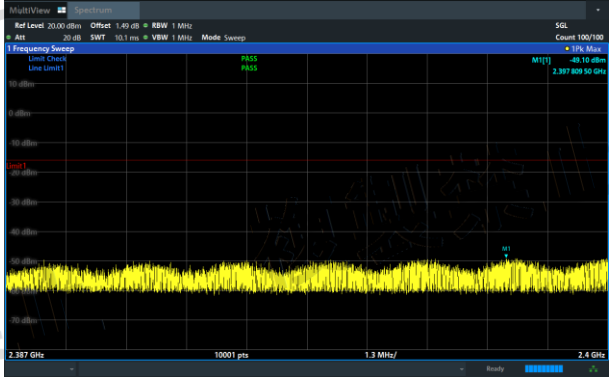
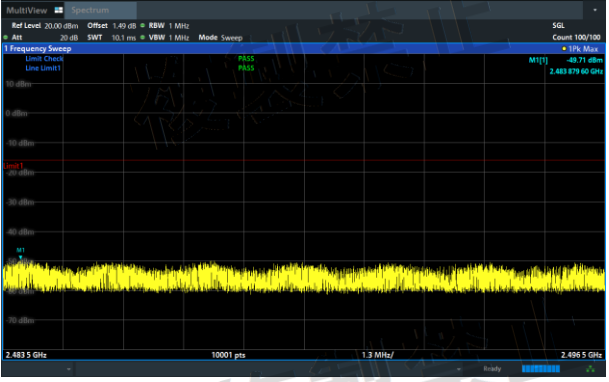
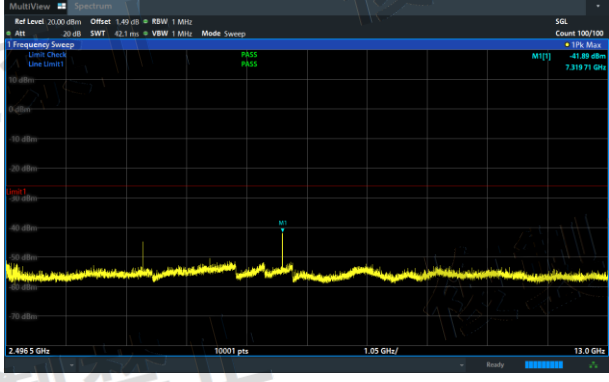


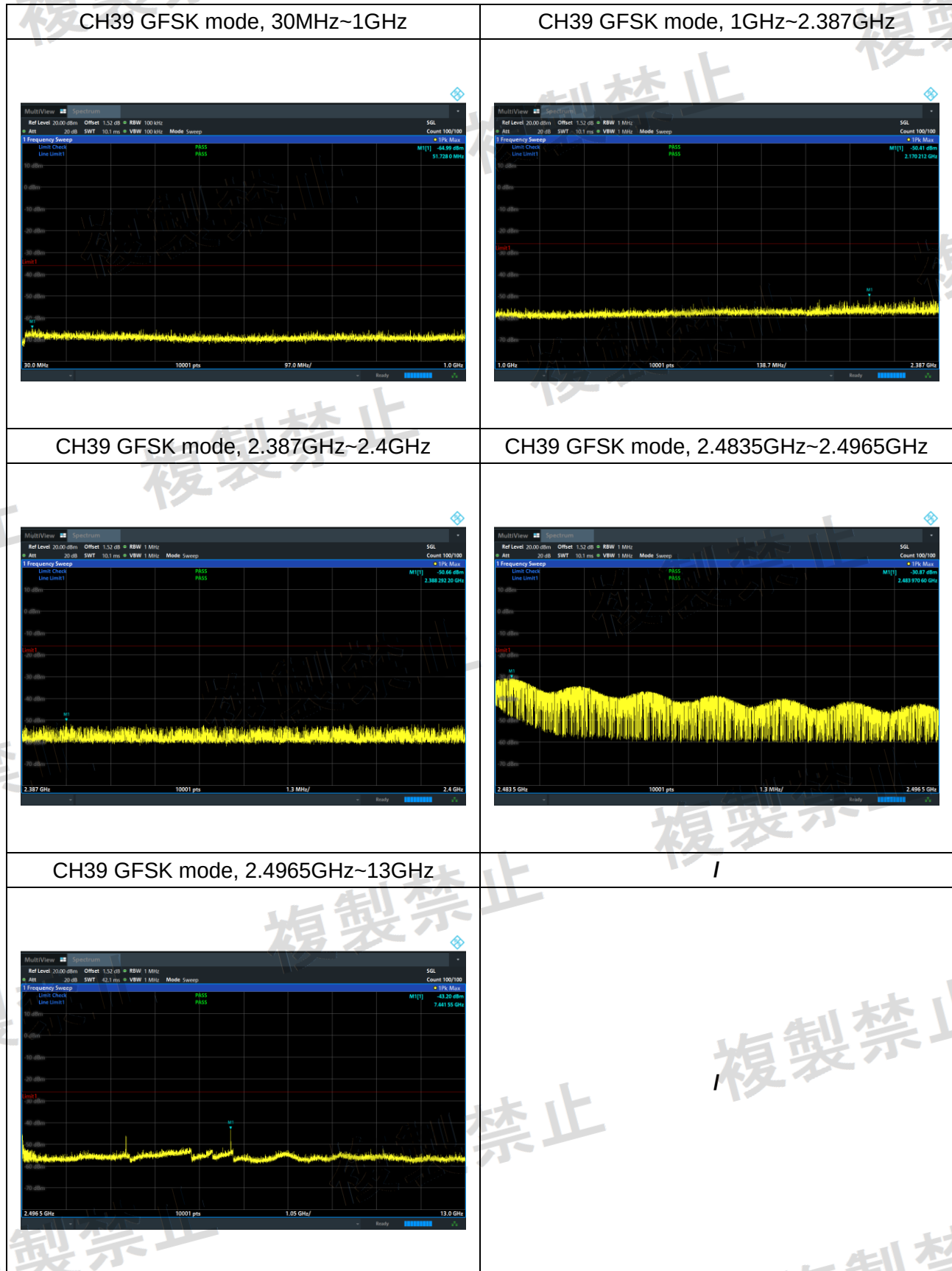
CH00 GFSK mode, 2.4835GHz~2.4965GHz



CH00 GFSK mode, 2.4965GHz~13GHz



CH19 GFSK mode, 30MHz~1GHz 	CH19 GFSK mode, 1GHz~2.387GHz 
CH19 GFSK mode, 2.387GHz~2.4GHz 	CH19 GFSK mode, 2.4835GHz~2.4965GHz 
CH19 GFSK mode, 2.4965GHz~13GHz 	/



5.4 Antenna Power Tolerance

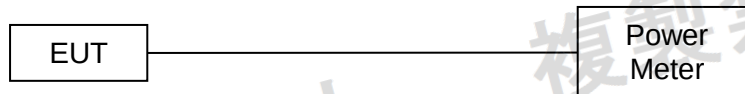
5.4.1 Limit

Item	Limits
Antenna Power Density	(1) FH, FH+DS, FH+OFDM 3mW/MHz (2) OFDM, DS other than (1) 10mW/MHz (3) Other than (1) & (2) 10mW
Antenna Power Tolerance	+20%

5.4.2 Test Procedure

- Connect the high frequency power meter to the attenuator and measure the total power.
- Set the antenna power as follows:
 - Continuous waves: value in a.
 - Burst waves: value in b. and value calculated from the average power within bursts from rates of transmission times.

5.4.3 Test Setup



5.4.4 Test results

Test Mode	Frequency (MHz)	Conducted power (dBm)	Conducted burst power (mW)	Antenna power (mW)	Rated power density (mW)	Limit of antenna power	Antenna power tolerance (%)	Limit of antenna power tolerance (%)
BLE 1M	2402	4.97	3.141	3.141	4	10mW	-21.49%	≤+20%
	2440	4.98	3.148	3.148	4		-21.31%	
	2480	4.99	3.155	3.155	4		-21.12%	
BLE 2M	2402	4.97	3.141	3.141	4		-21.49%	
	2440	4.94	3.119	3.119	4		-22.03%	
	2480	4.97	3.141	3.141	4		-21.49%	

Note: The rated output power is 4mW.

5.5 Rx Unwanted Emission

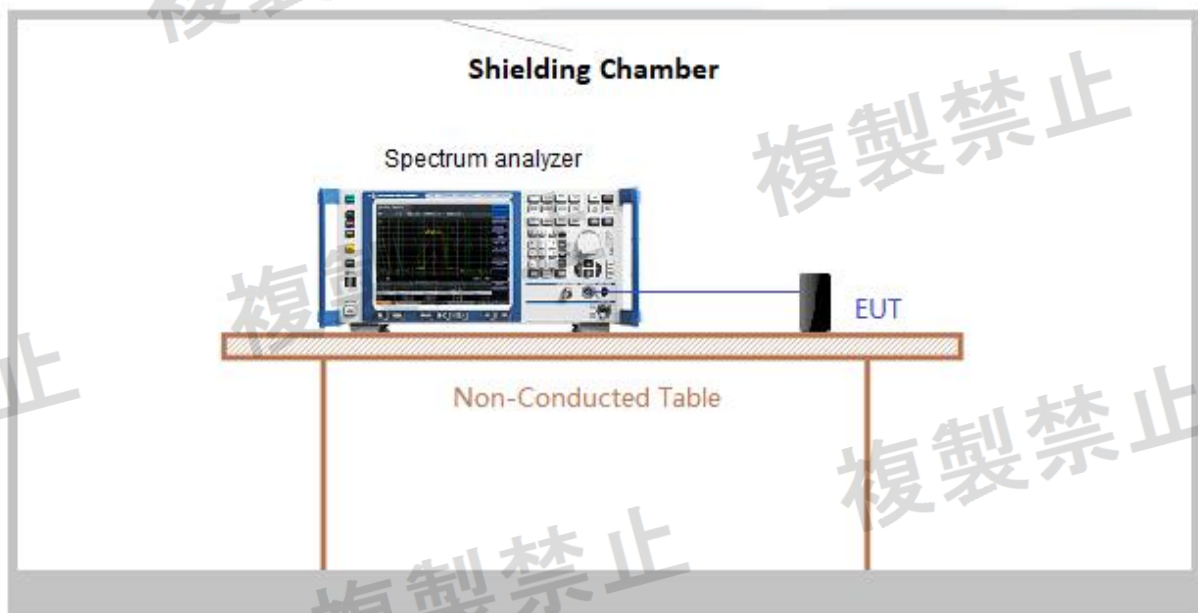
5.5.1 Limit

Item	Limits
RX Spurious Emission	Below 1 GHz: 4 nW
	1 GHz or higher: 20 nW

5.5.2 Test Procedure

1. SA set RBW: 100kHz and VBW: 100kHz (blew 1GHz emissions)
2. RBW and VBW: 1MHz (above 1GHz emission)
3. Sweep time: Auto
4. Detect mode: Positive peak
5. Trace mode: Max hold

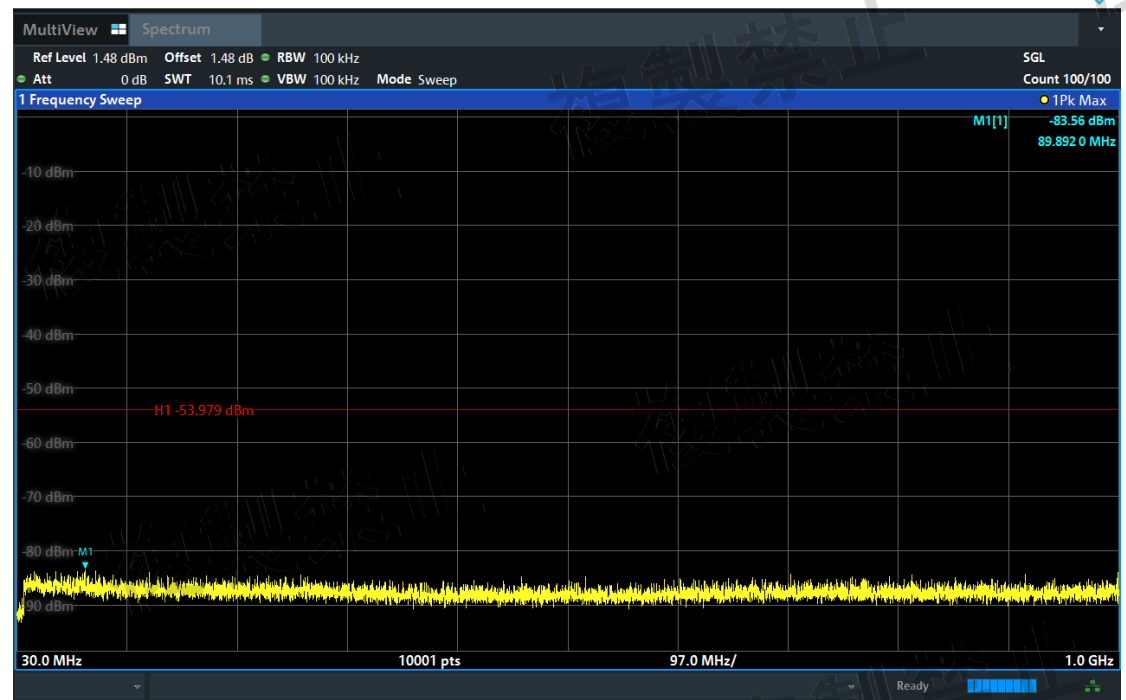
5.5.3 Test Setup



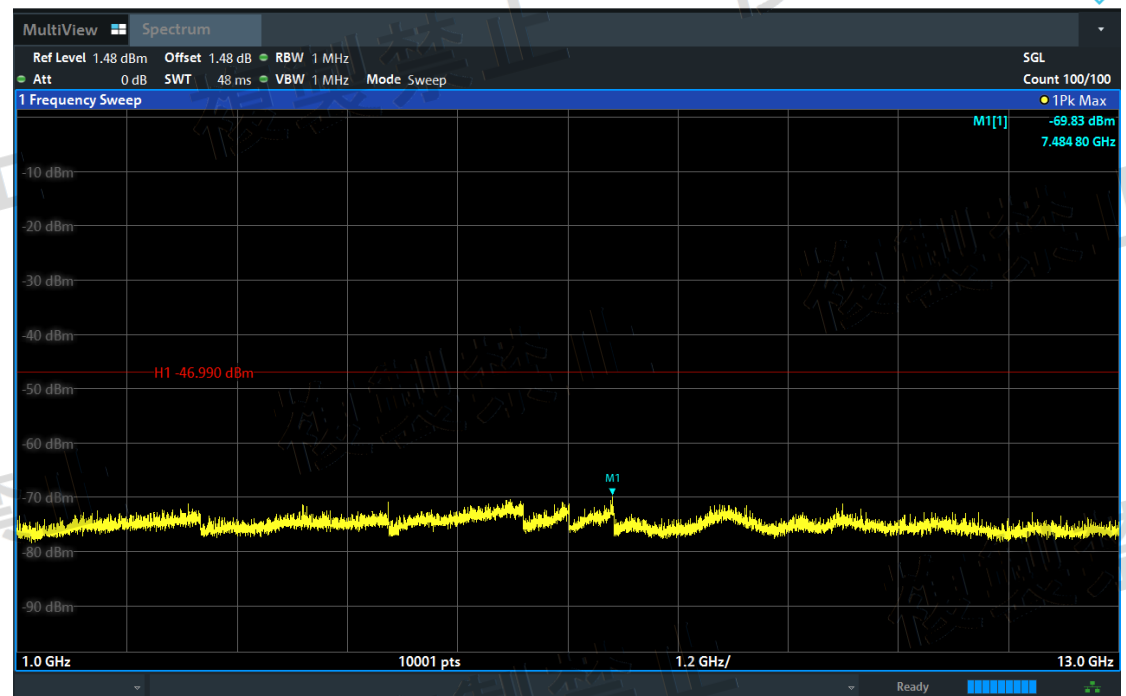
5.5.4 Test Results

Mode	Frequency (MHz)	Antenna	Range (MHz)	Emission Frequency (MHz)	Max Peak Value (dBm)	Max RMS Value (dBm)	Max Peak Value (nW)	Max RMS Value (nW)	Limit (nW)	Verdict
BLE 1M	2402	Ant1	30-1000	89.89	-83.56	NA	0.0044	NA	4	Pass
BLE 1M	2402	Ant1	1000-13000	7484.80	-69.83	NA	0.104	NA	20	Pass
BLE 1M	2440	Ant1	30-1000	66.71	-83.32	NA	0.0047	NA	4	Pass
BLE 1M	2440	Ant1	1000-13000	6486.50	-70.00	NA	0.1	NA	20	Pass
BLE 1M	2480	Ant1	30-1000	45.28	-83.06	NA	0.0049	NA	4	Pass
BLE 1M	2480	Ant1	1000-13000	6163.70	-70.38	NA	0.0916	NA	20	Pass
BLE 2M	2402	Ant1	30-1000	826.82	-77.95	NA	0.016	NA	4	Pass
BLE 2M	2402	Ant1	1000-13000	6962.80	-70.70	NA	0.0851	NA	20	Pass
BLE 2M	2440	Ant1	30-1000	67.97	-83.16	NA	0.0048	NA	4	Pass
BLE 2M	2440	Ant1	1000-13000	7002.40	-69.88	NA	0.1028	NA	20	Pass
BLE 2M	2480	Ant1	30-1000	544.68	-82.65	NA	0.0054	NA	4	Pass
BLE 2M	2480	Ant1	1000-13000	2458.50	-68.67	NA	0.1358	NA	20	Pass

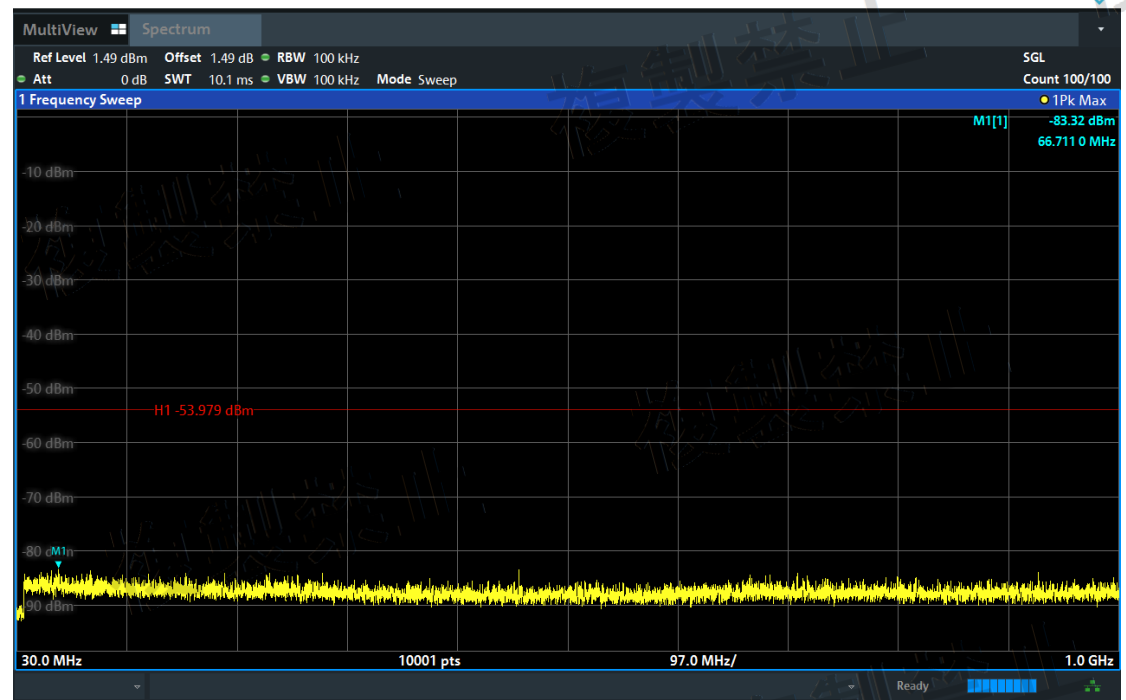
Rx. Spurious NVNT BLE 1M 2402MHz Ant1 @ 30MHz-1000MHz



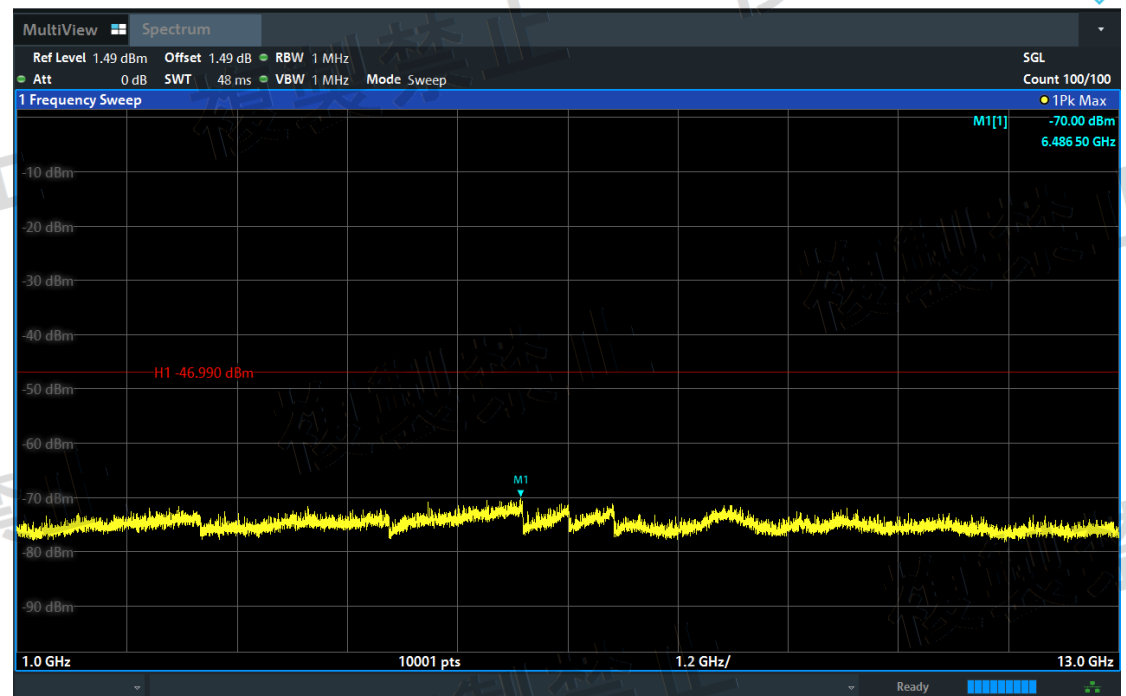
Rx. Spurious NVNT BLE 1M 2402MHz Ant1 @ 1000MHz-13000MHz



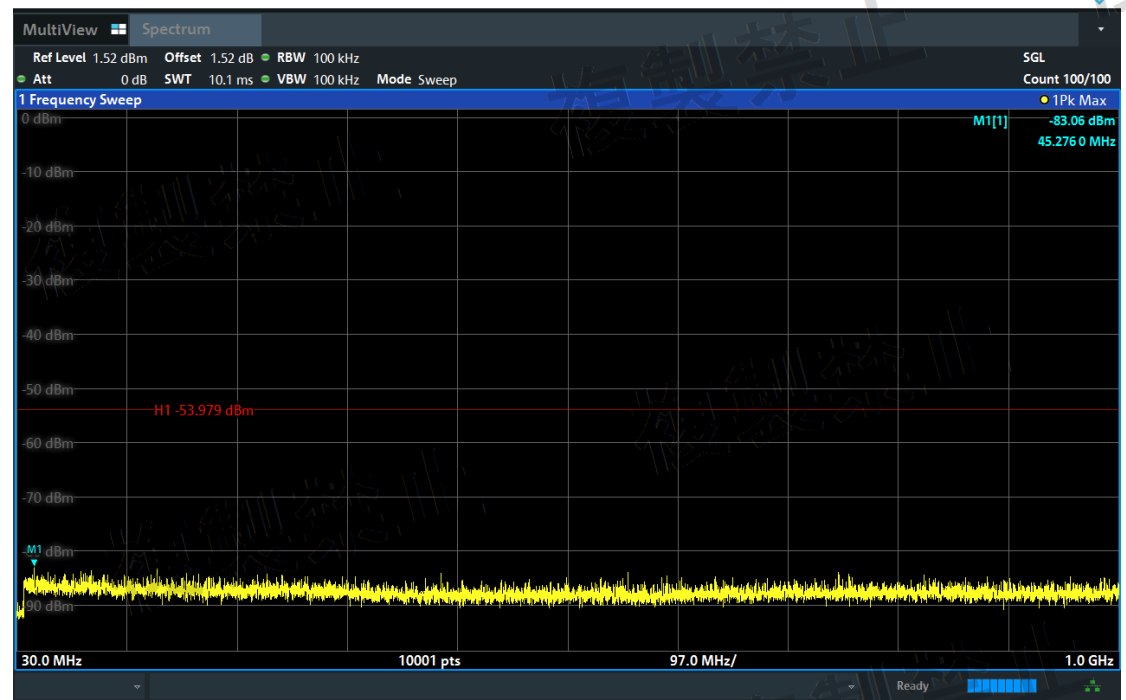
Rx. Spurious NVNT BLE 1M 2440MHz Ant1 @ 30MHz-1000MHz



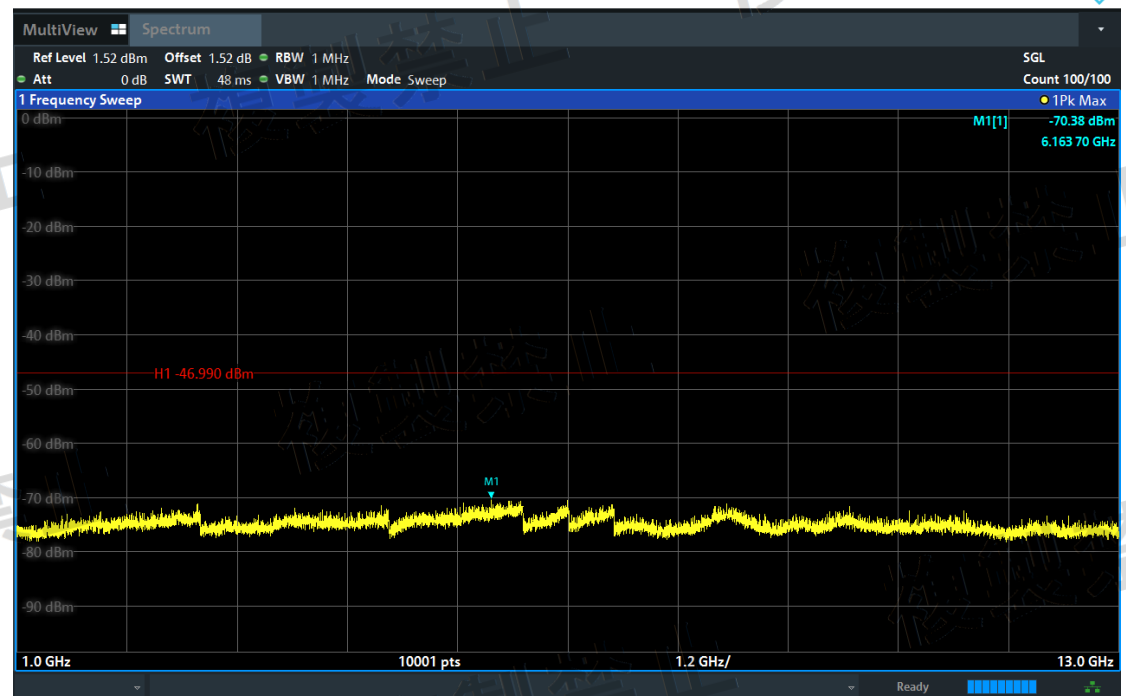
Rx. Spurious NVNT BLE 1M 2440MHz Ant1 @ 1000MHz-13000MHz



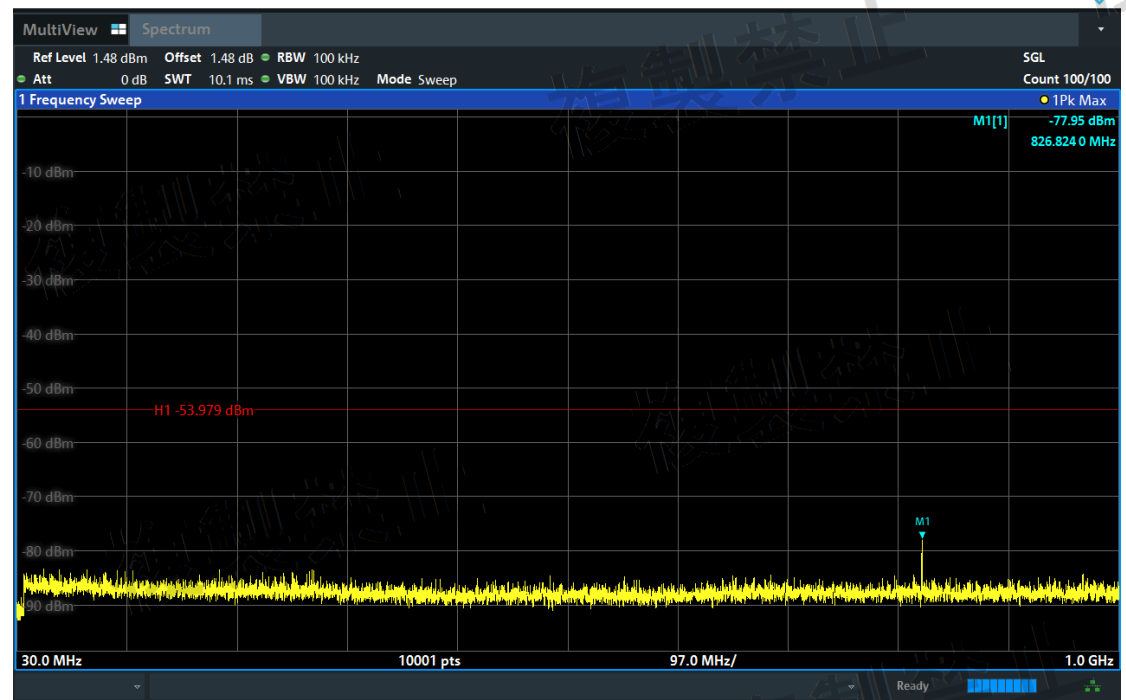
Rx. Spurious NVNT BLE 1M 2480MHz Ant1 @ 30MHz-1000MHz



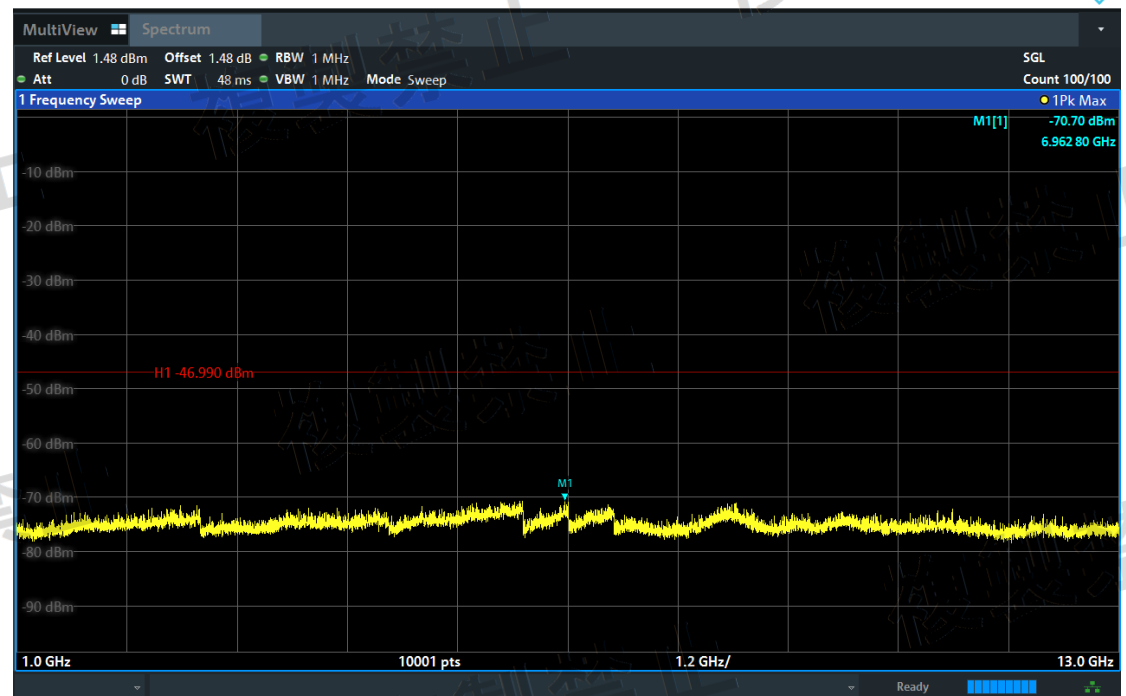
Rx. Spurious NVNT BLE 1M 2480MHz Ant1 @ 1000MHz-13000MHz



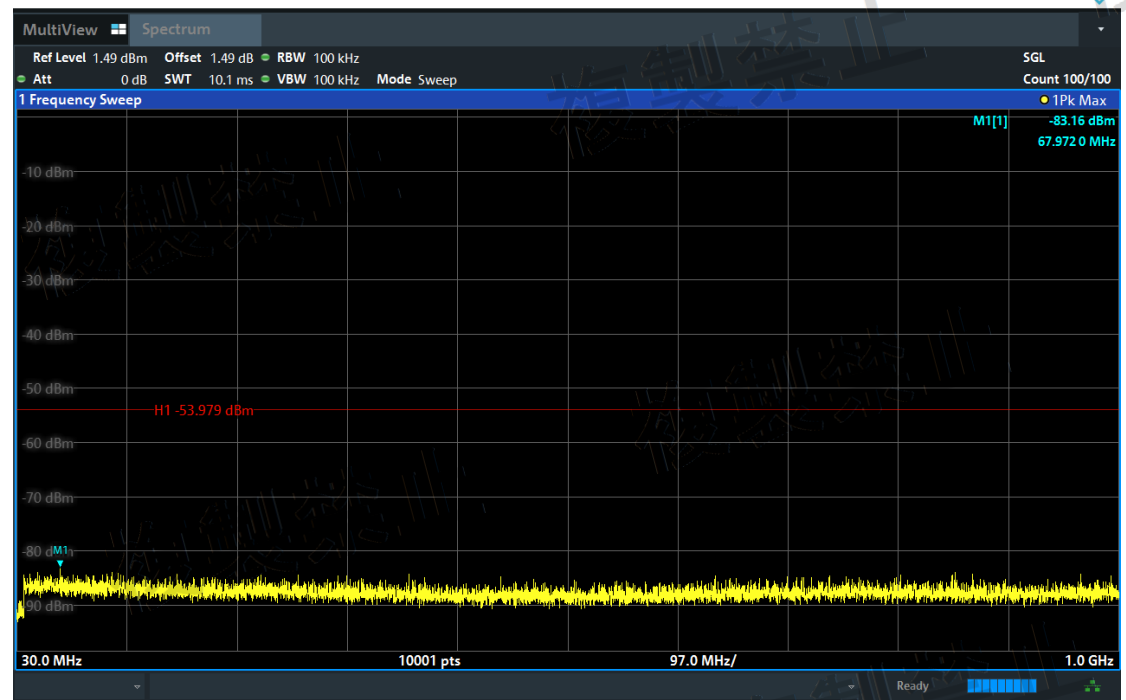
Rx. Spurious NVNT BLE 2M 2402MHz Ant1 @ 30MHz-1000MHz



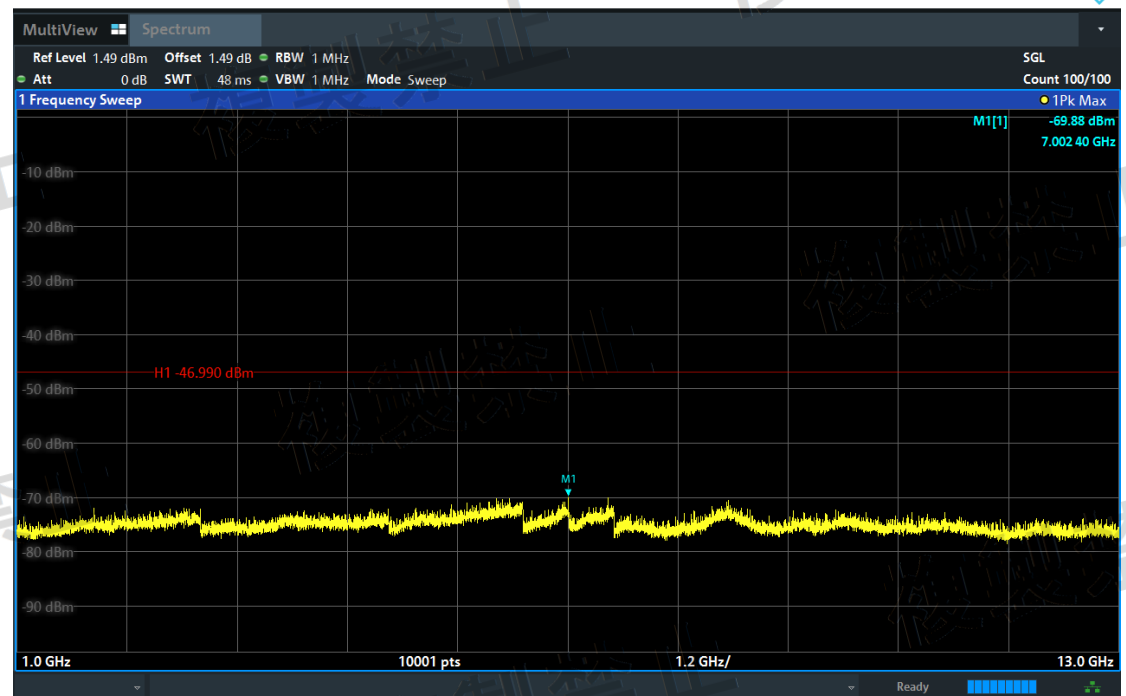
Rx. Spurious NVNT BLE 2M 2402MHz Ant1 @ 1000MHz-13000MHz



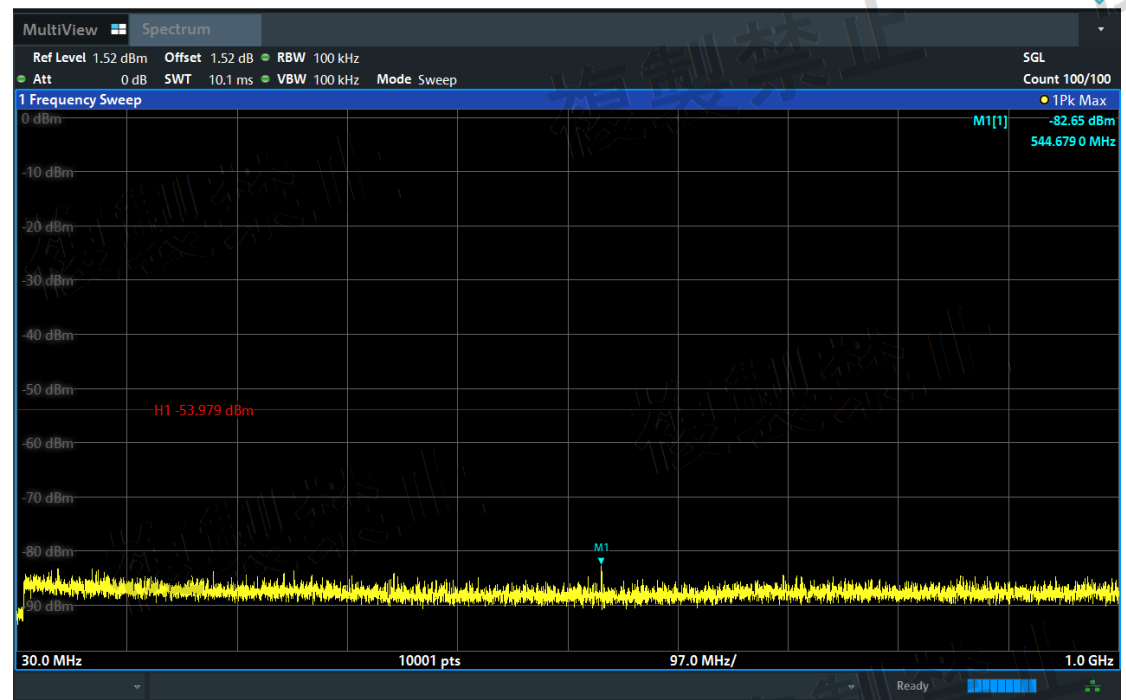
Rx. Spurious NVNT BLE 2M 2440MHz Ant1 @ 30MHz-1000MHz



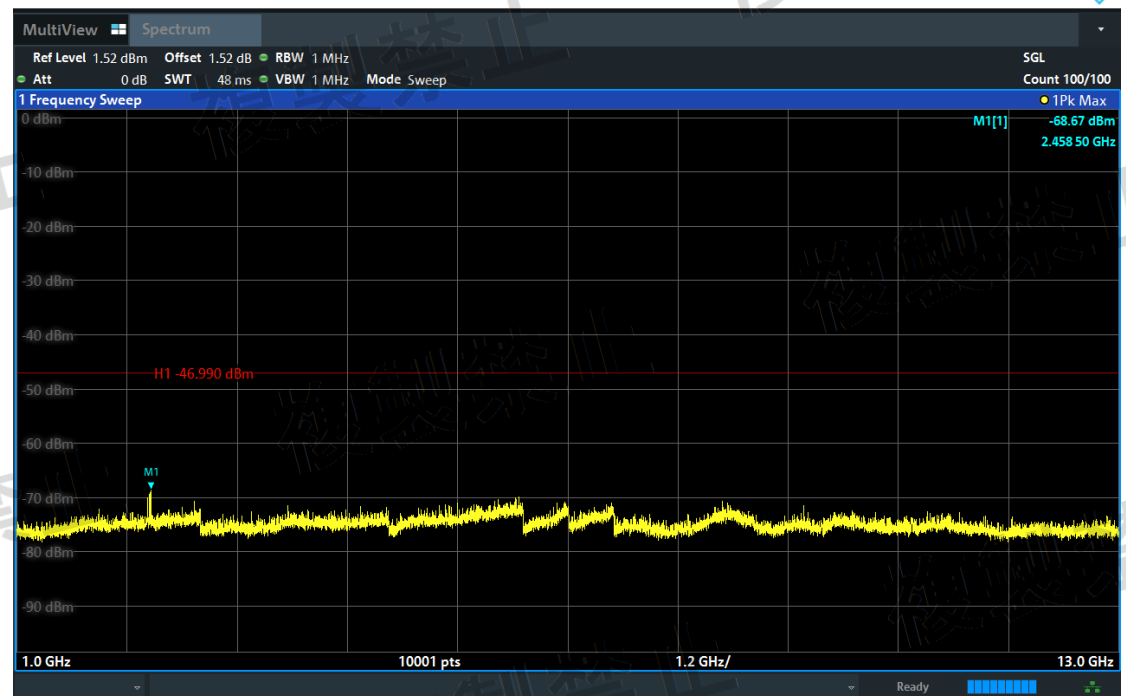
Rx. Spurious NVNT BLE 2M 2440MHz Ant1 @ 1000MHz-13000MHz



Rx. Spurious NVNT BLE 2M 2480MHz Ant1 @ 30MHz-1000MHz



Rx. Spurious NVNT BLE 2M 2480MHz Ant1 @ 1000MHz-13000MHz



5.6 EIRP Antenna Power

5.6.1 Limit

Modulation	Frequency band	Antenna power	Max EIRP	
			Non-directional	Beam directional ^{Note1}
DS	2,400-2,483.5MHz	10mW/MHz	12.14dBm/MHz	22.14dBm/MHz
OFDM1 ^{Note2}	2,400-2,483.5MHz	10mW/MHz	12.14dBm/MHz	22.14dBm/MHz
OFDM2	2,400-2,483.5MHz	5mW/MHz	9.14dBm/MHz	19.14dBm/MHz
FH,DS-FH,FH-OFDM	2,400-2,483.5MHz	3mW/MHz	6.91dBm/MHz	16.91dBm/MHz
	2,427-2,470.75MHz	10mW/MHz	12.14dBm/MHz	22.14dBm/MHz
Other than those above	2,400-2,483.5MHz	10mW	12.14dBm	22.14dBm

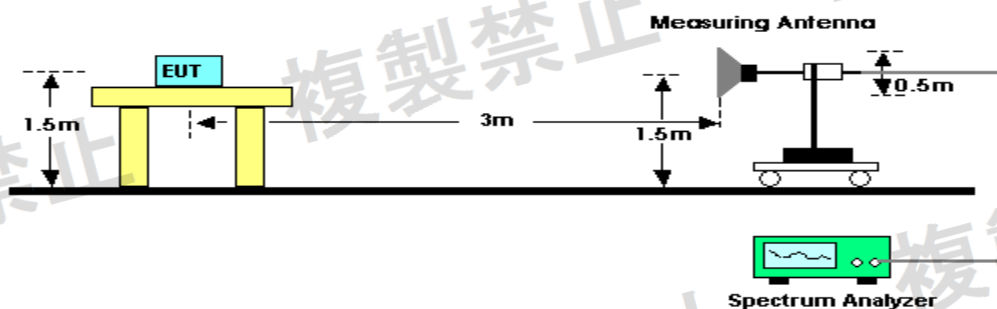
Note: This test item will not be applied to the transmission antenna which has a gain of 2.14dBi or less.

5.6.2 Test Procedure

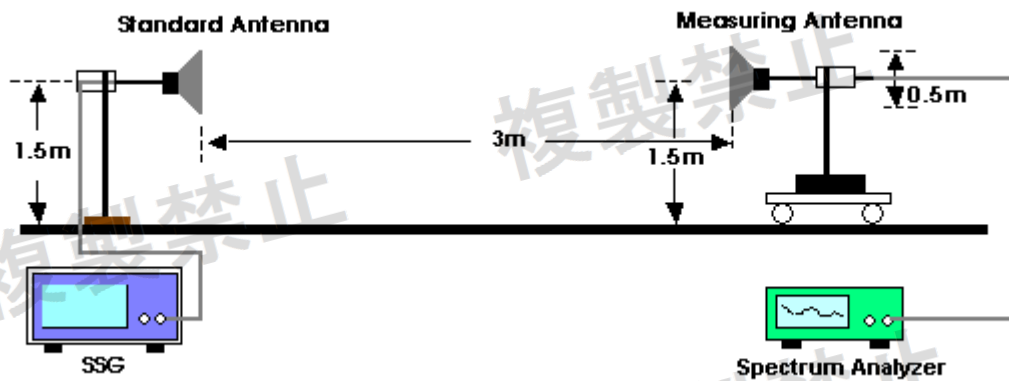
1. Set EUT and measuring antenna at the same height and roughly facing each other.
2. Move the measuring antenna height up and down within $\pm 50\text{cm}$ of EUT height and swing it to find the maximum output of the measuring antenna. The output level at the spectrum analyzer is read as "E".
3. Remove the EUT from the turn table and put the replacing antenna facing to measuring antenna at same height. Set the standard signal generator (SSG) at same frequency and transmit on then receive the signal.
4. Swing the replacing antenna give a maximum receiving level.
5. Move the measuring antenna height up and down within $\pm 50\text{cm}$ of replacing antenna height and swing it to find the maximum receiving level.
6. Set SSG output power at Pt to give the equivalent output level of "E" or calculate Pt with SSG output which gives the nearest of "E" and difference ($\pm 1\text{dB}$). Record the Pt.
7. Calculate EIRP by the formula below $\text{EIRP} = \text{Gt} - \text{L} + \text{Pt}$.
Gt: gain of replacing antenna (dBi)
L: feeder loss between SSG and replacing antenna
Pt: Output power of the SSG
8. If the antenna for the EUT has circular polarization, sum of V-field and H-field will be result if measuring antenna is linear polarization.

5.6.3 Test Setup

For EUT radiation measurement



For standard antenna measurement



5.6.4 Test Results

Note: Not applicable. The peak antenna gain of the EUT which is less than 2.14dBi.

5.7 Transmission Radiation Angle Width (3dB Beam width)

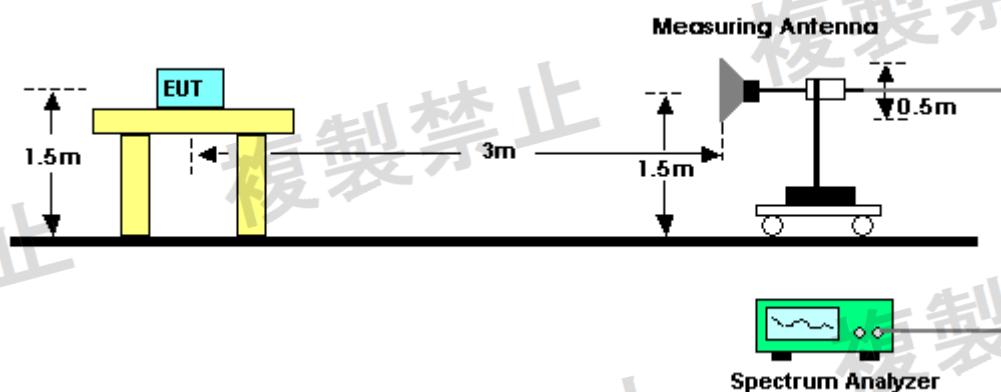
5.7.1 Limit

Item	Limits
3dB antenna beam width	$360/A$ (If $A < 1$; then $A = 1$) $A = \{ \text{EIRP Power [mW]} / 16.36 \text{ for DS, OFDM} \}$ or $A = \{ \text{EIRP Power [mW]} / 4.9 \text{ for FH} \}$
Note: This test item is not applied for radio equipment with equivalent isotropic radiation power lower than 12.14dBm/MHz, but Antenna Power(Conducted) limit is 10 mW/MHz (10 dBm/MHz), So the test item will not be applied to the transmission antenna which has a gain of 2.14dBi or less.	

5.7.2 Test Procedure

1. Set EUT and measuring antenna at the same height and roughly facing each other.
2. Set spectrum analyzer with condition in section 4.7.2 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
 $A = \{ \text{EIRP Power [mW]} / 4.9 \text{ for FH} \}$

5.7.3 Test Setup



5.7.4 Test Results

Note: The EIRP is less than 12.14dBm, so it is not applicable.

5.8 Radio Interference Prevention Capability

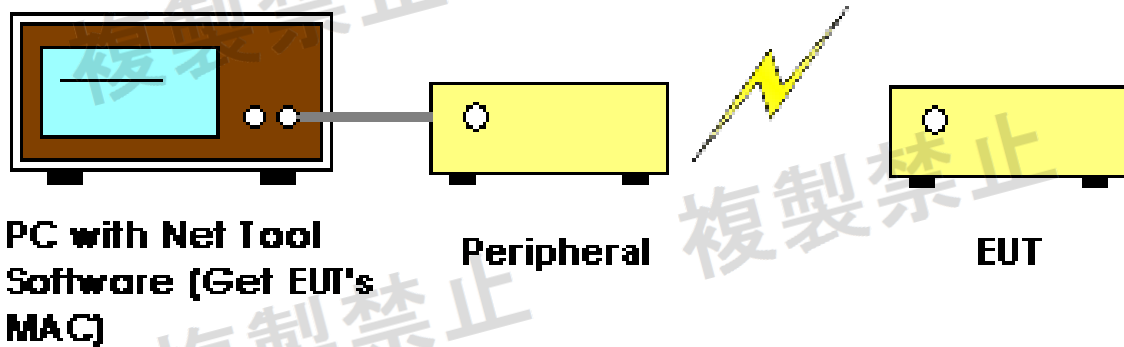
5.8.1 Limit

Product shall have the function of automatic transmission and reception of identification sign.

5.8.2 Test Procedure

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

5.8.3 Test Setup



5.8.4 Test Results

Pass. The interference prevention function of EUT is good.

MAC Address
41:36:23:45:56:17

5.9 Carrier Sense

5.9.1 Limit

Only for radio equipment that uses orthogonal frequency division multiplexing with an occupied frequency bandwidth of more than 26 MHz and 38 MHz or less.

5.9.2 Test Procedure

1. Set the spectrum analyzer as shown in 2 (2).

(1) When testing with only test equipment

A. Set the spectrum analyzer as shown in 2 (2).

B. With the output of the standard signal generator not transmitted, put the test equipment into transmission operation and confirm with a spectrum analyzer that it emits orthogonal frequency division multiplexing radio waves with an occupied frequency bandwidth exceeding 26 MHz.

C. Put the test equipment in the receiving state.

D. With the output of the standard signal generator in the transmitting state, set the test equipment to the transmitting operation, and confirm with a spectrum analyzer that it does not emit orthogonal frequency division multiplexing radio waves whose occupied frequency bandwidth exceeds 26 MHz.

(2) When conducting a test using an external test device (excluding the case of (3))

A. Set the spectrum analyzer as shown in 2 (2).

B. Make the output of the standard signal generator not transmitted.

C. Connect a line between the test equipment and the external test equipment, and confirm with a spectrum analyzer that orthogonal frequency division multiplexing radio waves with an occupied frequency bandwidth exceeding 26 MHz at the test frequency are emitted.

D. Put the test equipment in the receiving state.

E With the output of the standard signal generator in the transmitting state, set the test equipment to the transmitting operation, and confirm with the spectrum analyzer that the orthogonal frequency division multiplexing radio wave whose occupied frequency bandwidth exceeds 26MHz is not emitted.

(3) When conducting a test using an external test device (a test device that has a transmission function in orthogonal frequency division multiplexing or other modulation methods with an occupied frequency bandwidth of 26 MHz or less, and spectrum analysis such as the FFT method) When using a vessel)

A. Set the spectrum analyzer as shown in 2(3).

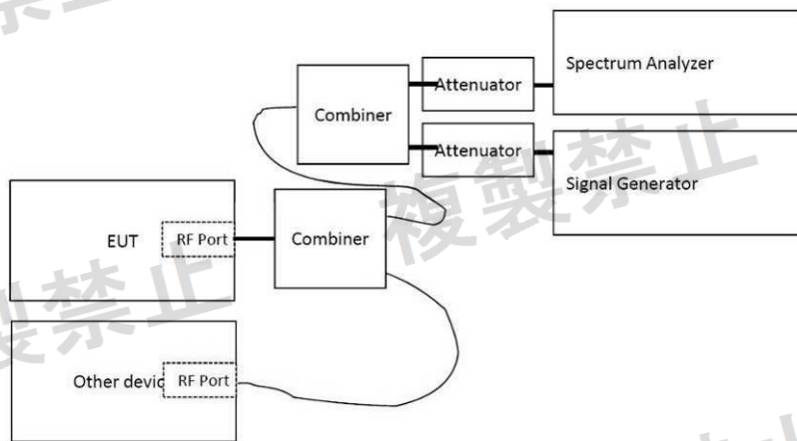
B. Make the output of the standard signal generator not transmitted.

C. Connect a line between the test equipment and the external test equipment, and confirm with a spectrum analyzer that orthogonal frequency division multiplexing radio waves with an occupied frequency bandwidth exceeding 26 MHz at the test frequency are emitted.

D. Put the test equipment in the receiving state.

E With the output of the standard signal generator in the transmitting state, set the test equipment to the transmitting operation, and confirm with the spectrum analyzer that the orthogonal frequency division multiplexing radio wave whose occupied frequency bandwidth exceeds 26MHz is not emitted.

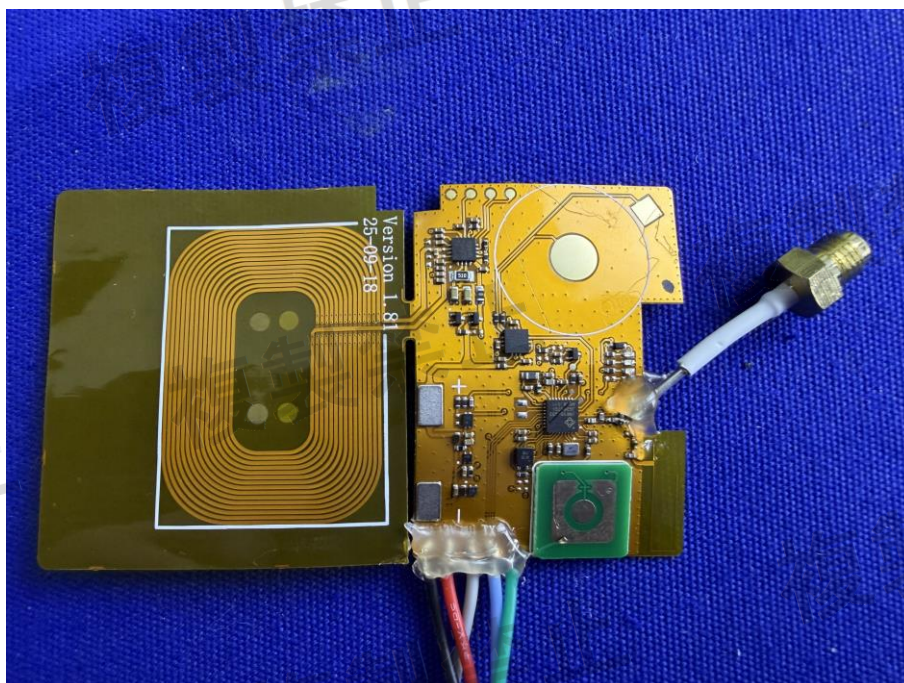
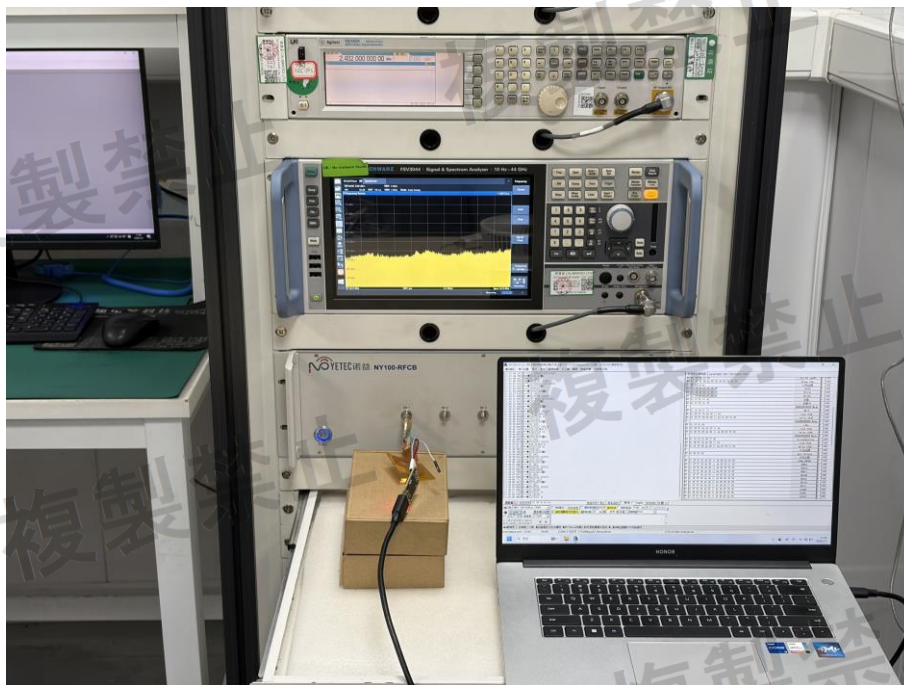
5.9.3 Test Setup



5.9.4 Test Results

Note: not applicable.

6 Photographs of the Test Setup



7 Photographs of the EUT

Photo 1

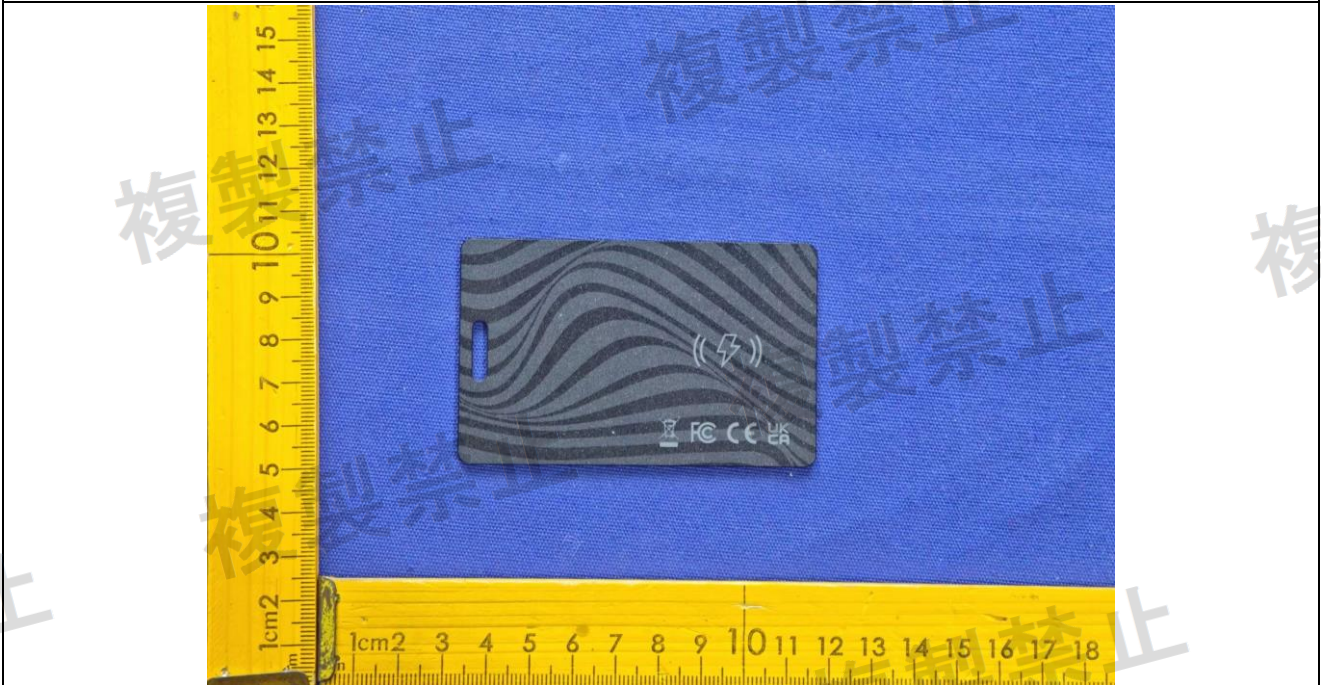


Photo 2



Photo 3

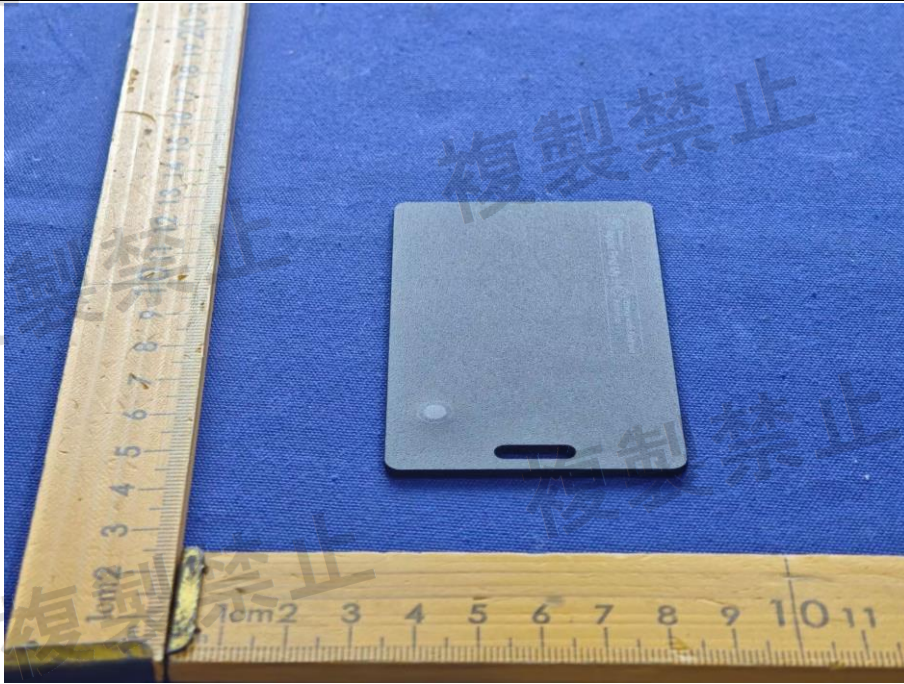


Photo 4



Photo 5

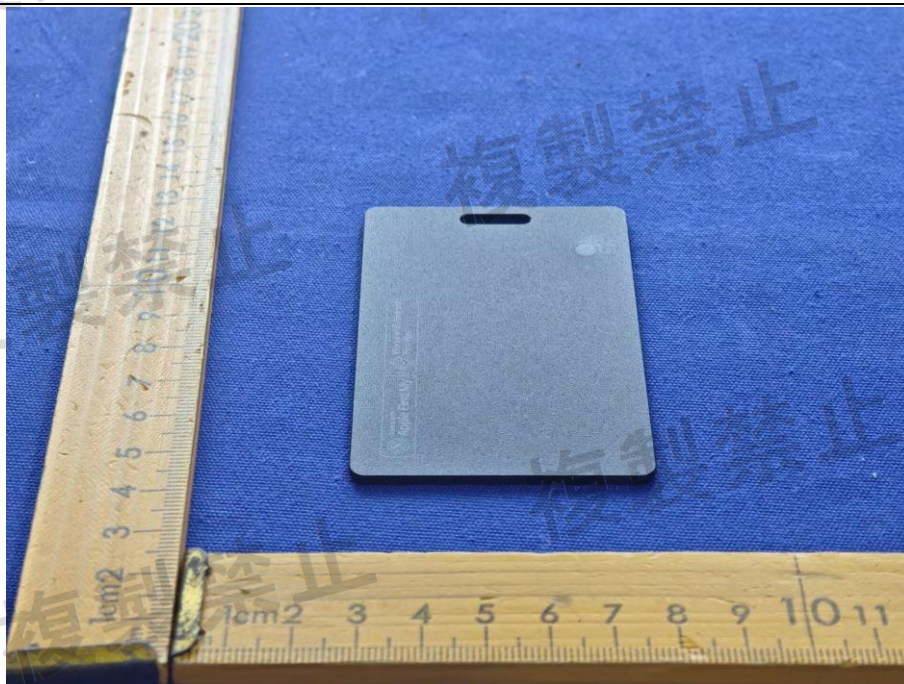


Photo 6

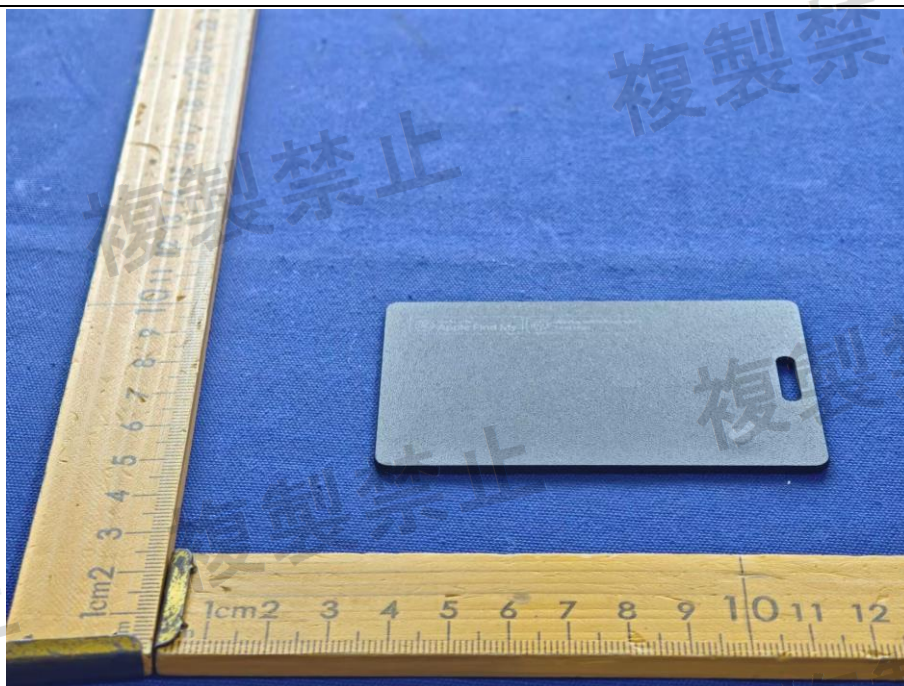


Photo 7

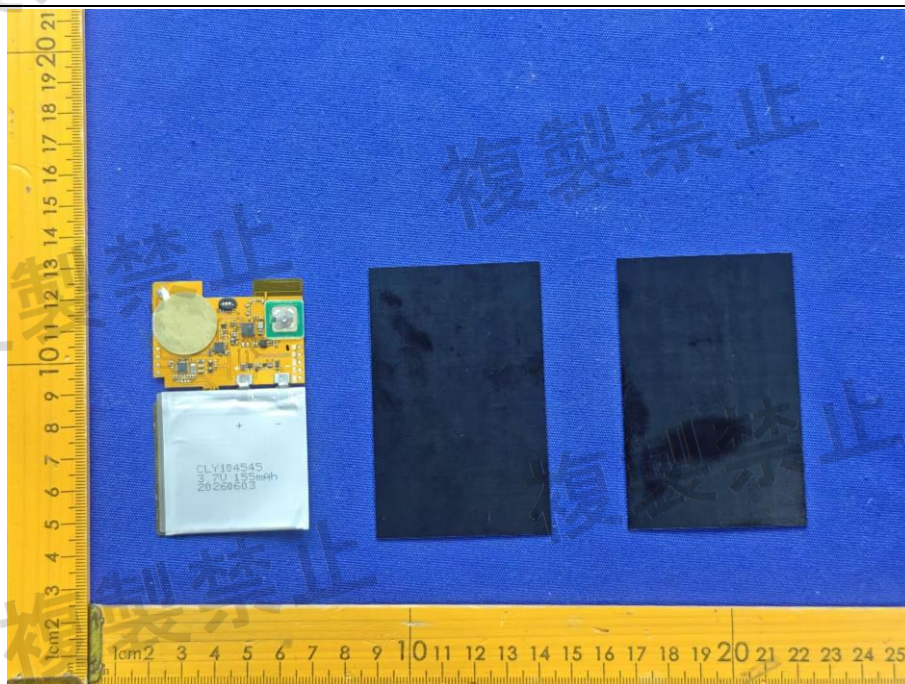


Photo 8

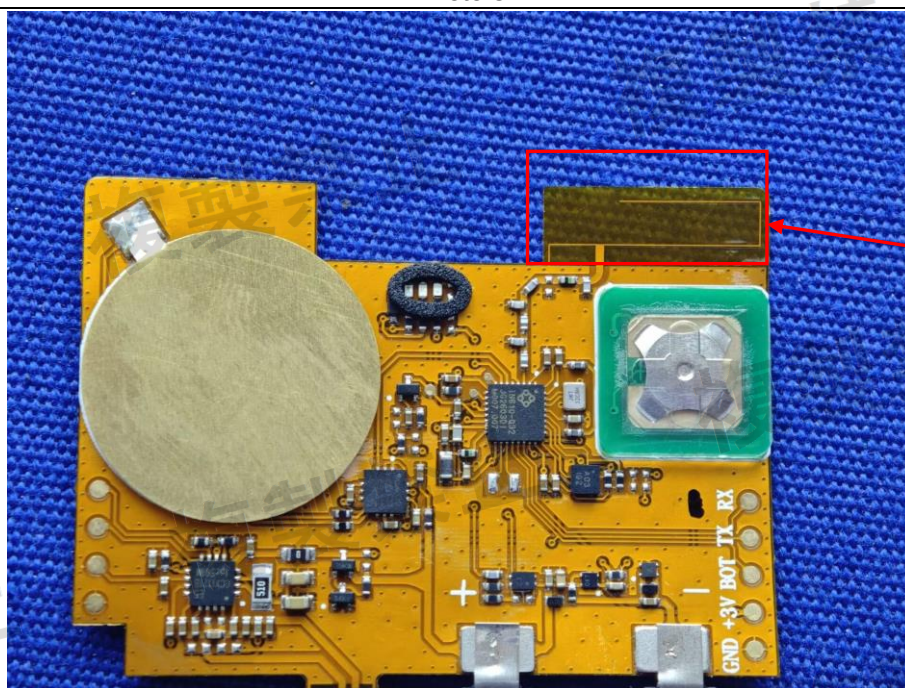


Photo 9

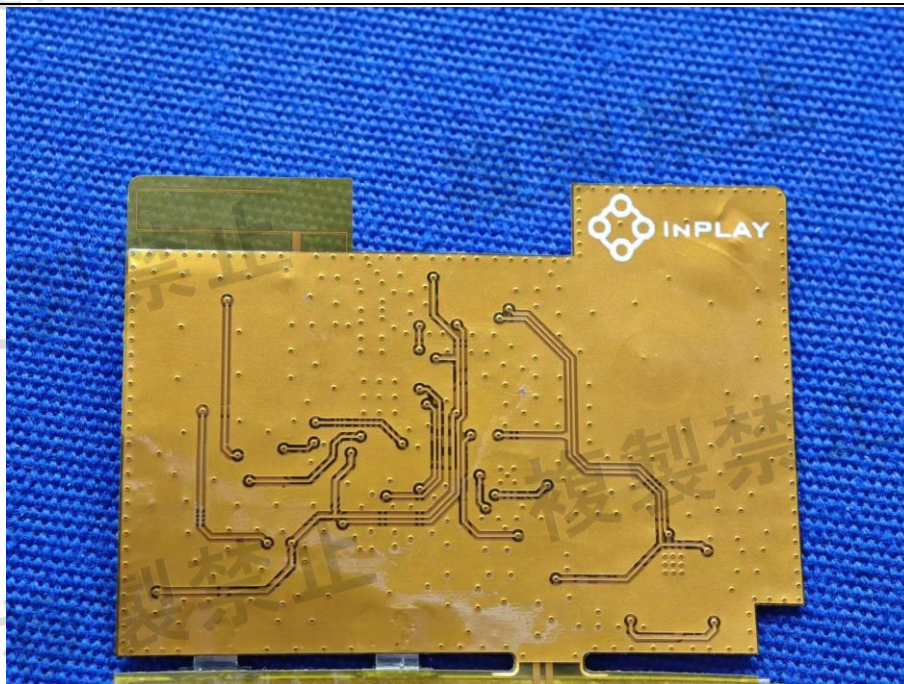
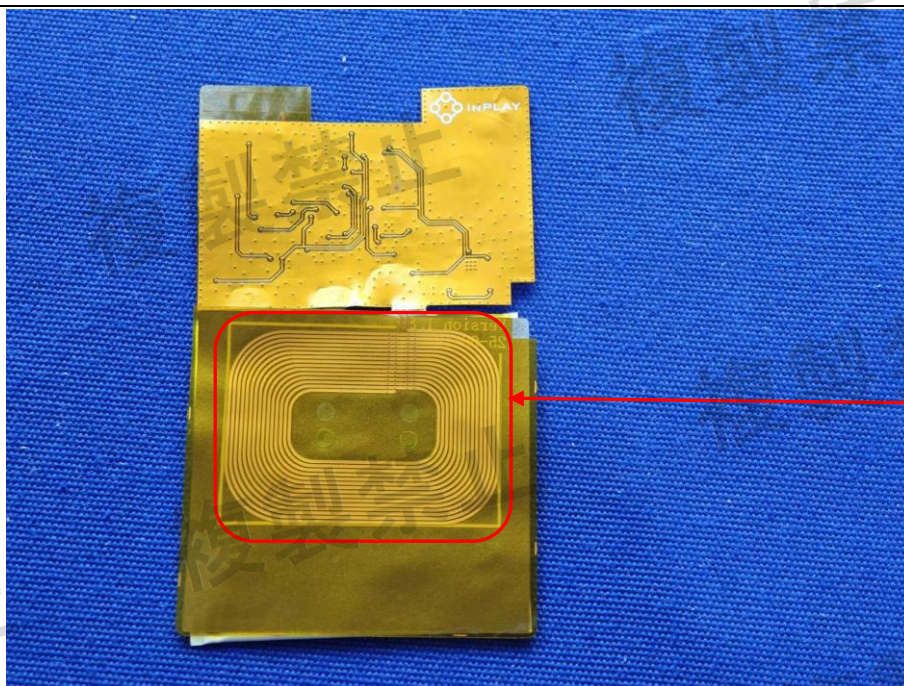


Photo 10



RX
ANT

Photo 11



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