



JAPAN RADIO TEST REPORT

Applicant : TECHTUIT CO., LTD.

Address : Mita International Building 26F, 1-4-28 Mita
Minato-ku

Equipment : GPS golf watch

Model No. : Exceeds G2 (GSW400L)

Trade Name : ShotNavi

Output Power : 1Mbps: 2.958 mW
2Mbps: 2.958 mW

Carrier Sense : ☐Yes ☒No

I HEREBY CERTIFY THAT :

The sample was received on Jun. 30, 2026 and the testing was completed on Jul. 03, 2026 at CerpPASS Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology Corp., the test report shall not be reproduced except in full.

Approval by:

Mark Liao / Supervisor

Laboratory Accreditation:

CerpPASS Technology Corporation Test Laboratory





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History of this test report

Report No.	Issued Date	Description
26060485-TRMIC01	Jul. 17, 2026	Original



1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

“MIC Notification No. 88, Appendix No. 43”

TELEC-T401 (2023-11):

- Item 19 of Article 2

Description	Result
Frequency Error	Pass
Occupied Bandwidth	Pass
RF Output Power Tolerance	Pass
Spurious Emissions(TX)	Pass
Spurious Emissions(RX)	Pass
Interference Prevention Function	Pass
Angular Width of Principal Radiation	Pass
Construction Protection Confirmation	Pass

*The lab has reduced the uncertainty risk factor from test equipment, environment and staff technicians which according to the standard on contract. Therefore, the test result will only be determined by standard requirement, measurement uncertainty evaluation is not considered.

* The following reference test guidance is not within the scope of accreditation of TAF.

“MIC Notification No. 88, Appendix No. 43”

- Item 19 of Article 2



2. Test Configuration of Equipment under Test

2.1 Feature of Equipment under Test

Operation Frequency Range	2400-2483.5MHz
Center Frequency Range	2402MHz-2480MHz
Modulation Type	GFSK
Modulation Spread Spectrum	DSS
Data Rate	GFSK: 1Mbps, 2Mbps
Antenna Type	PCB Antenna
Antenna Gain	-10.21 dBi
Battery	Brand: N/A Model: N/A
SD CARD	Brand: N/A Model: N/A

Note: For more details, please refer to the User's manual of the EUT.

2.2 Carrier Frequency of Channels

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
*00	2402	14	2430	28	2458
01	2404	15	2432	29	2460
02	2406	16	2434	30	2462
03	2408	17	2436	31	2464
04	2410	18	2438	32	2466
05	2412	*19	2440	33	2468
06	2414	20	2442	34	2470
07	2416	21	2444	35	2472
08	2418	22	2446	36	2474
09	2420	23	2448	37	2476
10	2422	24	2450	38	2478
11	2424	25	2452	*39	2480
12	2426	26	2454	--	--
13	2428	27	2456	--	--

Note: Channels remarked * are selected to perform test.



2.3 Test Mode and Test Software

- An executive program, "Direct Test Mode v3.1.2" under Windows OS system was executed to transmit and receive data via Bluetooth.
- The following test mode was performed for the test:

Test Mode	Operating Description
1	GFSK (1Mbps)
2	GFSK (2Mbps)

Modulation Type	TX CONFIGURATION
GFSK (1Mbps)	1TX
GFSK (2Mbps)	1TX

2.4 Description of Test System

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	lenovo	S1GL2W	N/A	N/A
testfixture	N/A	N/A	N/A	N/A



2.5 General Information of Test

Organization	CerpPASS Technology Corp.		
☒ Test Site	CerpPASS Technology Corporation Test Laboratory Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel: +886-3-3226-888 Fax: +886-3-3226-881		
	FCC	TW1439, TW1079	
	ISED Company Number	4934E	
	ISED CAB identifier	TW1439	
	Test Condition	Normal Voltage: 3.7 V Extreme Voltage: 3.33 V and 4.07 V	

Test Item	Test Site	Test Period	Environmental Conditions	Tested By
RF Conducted	RFCON02-NK	2026/07/03	24.4°C / 52%	Peter Pan

2.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Measurement Item	Uncertainty
Output power	±1.1dB
Unwanted Emissions Strength	±2.0dB
Bandwidth	±6.5%
Frequency tolerance	±0.31KHz
Dwell Time	±3.5%



3. Test Equipment and Ancillaries Used for Tests

Test Item	RF Conducted						
Test Site	RFCON02-NK						
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date	Calibration authority	Calibration method
Spectrum Analyzer	ROHDE & SCHWARZ	FSP 40	100047	2026/02/24	2027/02/23	ETC	C
Attenuator	KEYSIGHT	8491B	MY39250703	2026/01/29	2027/01/28	ETC	C
Cable-0.5m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	28420/2	2025/10/13	2026/10/12	ETC	C
Power Meter	Anritsu	ML2495A	1224005	2026/01/27	2027/01/26	ETC	C
Power Sensor	Anritsu	MA2411B	1207295	2026/01/27	2027/01/26	ETC	C

Note: 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 (1).
- b) : Calibration conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992) Japan Calibration Service System.
- 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 (1).
- d) : Calibration conducted by using other equipment that listed above from a) to c).



4. Transmitter Parameters

4.1 Frequency Error

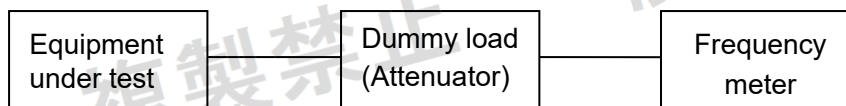
4.1.1 Test Limit

Limits: $\pm 50 \times 10^{-6}$, 50ppm

4.1.2 Test Procedures

According to Notification No. 88 of MIC, 2004, Annex 43, Test item frequency error measuring procedures.

4.1.3 Test Setup



4.1.4 Test Result and Data

GFSK-1Mbps & 2Mbps

Test Conditions					
Voltage	Test Frequency	MHz	2402	2440	2480
Vnom	Measured Frequency	MHz	2401.9750	2439.9745	2479.9742
Vnom	Frequency Error	ppm	-10.41	-10.45	-10.40



4.2 Occupied Bandwidth

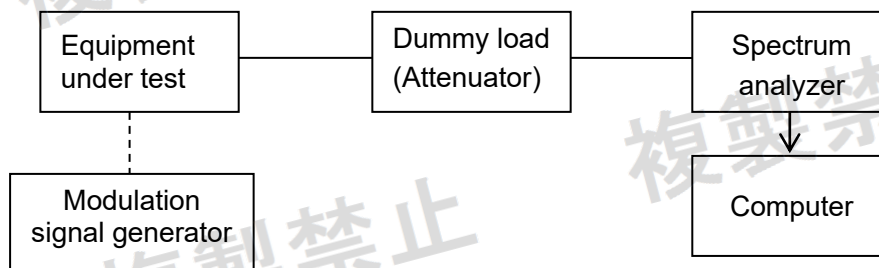
4.2.1 Test Limit

Modulation type	Occupied Band Width
FHSS、FHSS+DSSS、FHSS+OFDM	< 83.5 MHz
DSSS	< 26 MHz
OFDM	< 26 MHz
	26 -40MHz
Other	< 26 MHz

4.2.2 Test Procedures

According to Notification No. 88 of MIC, 2004, Annex 43, test item occupied bandwidth and spreading bandwidth, measuring procedures.

4.2.3 Test Setup



4.2.4 Test Result and Data

GFSK-1Mbps

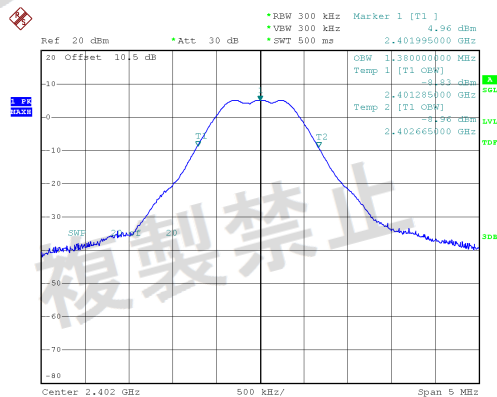
Test Conditions					
Voltage	Test Frequency	MHz	2402	2440	2480
Vnom	Occupied Bandwidth	MHz	1.38	1.38	1.39

GFSK-2Mbps

Test Conditions					
Voltage	Test Frequency	MHz	2402	2440	2480
Vnom	Occupied Bandwidth	MHz	2.21	2.22	2.22

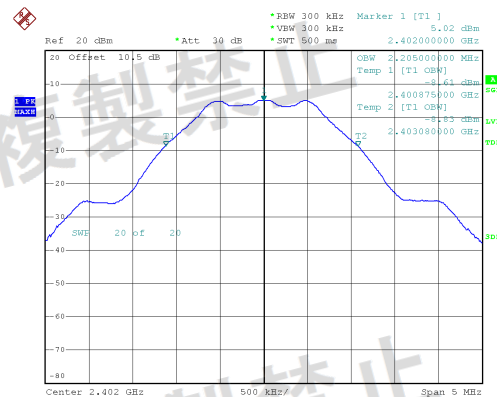


Modulation Standard: GFSK(1Mbps)
CH00



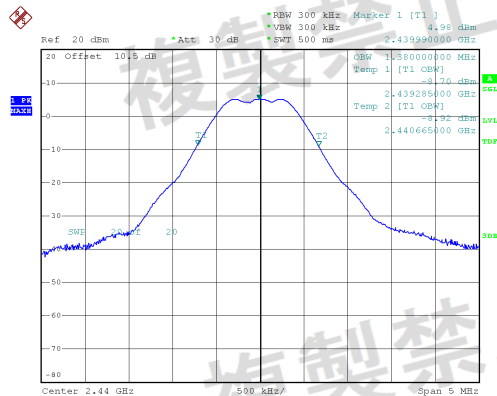
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Modulation Standard: GFSK(2Mbps)
CH00



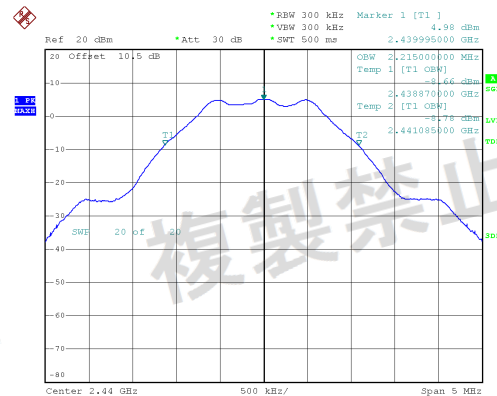
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CH19



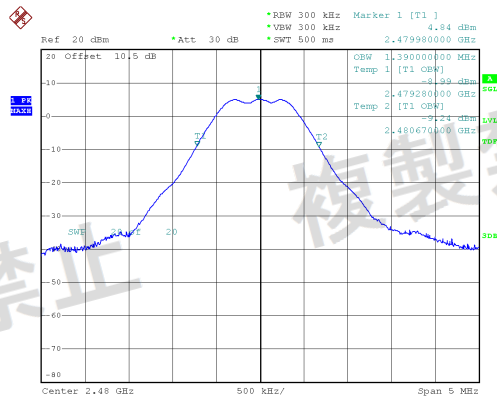
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CH19



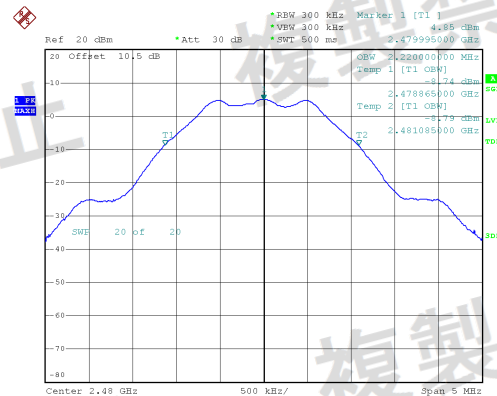
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CH39



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CH39



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4.3 RF Output Power Tolerance

4.3.1 Test Limit

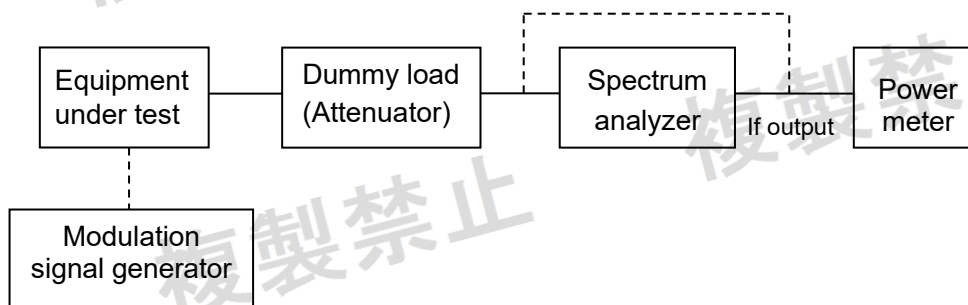
1. tolerance: +20 %
2. output power:

Modulation type	Occupied Band Width	output power
FHSS、FHSS+DSSS、FHSS+OFDM	< 83.5 MHz	< 10mW/MHz
DSSS	< 26 MHz	< 10mW/MHz
OFDM	< 26 MHz	< 10mW/MHz
	26 -40MHz	< 5mW/MHz
Other	< 26 MHz	< 10mW

4.3.2 Test Procedure

According to Notification No. 88 of MIC, 2004, Annex 43, test item antenna power error measuring procedure.

4.3.3 Test Setup



4.3.4 Declared Rated Power

1Mbps: 2.958 mW
2Mbps: 2.958 mW

4.3.5 Test Result and Data

GFSK-1Mbps

Test Conditions					
Voltage	Test Frequency	MHz	2402	2440	2480
Vnom	Antenna Power	mW	2.958	2.931	2.877
Vnom	Antenna Power Error	%	0.00	-0.92	-2.73

GFSK-2Mbps

Test Conditions					
Voltage	Test Frequency	MHz	2402	2440	2480
Vnom	Antenna Power	mW	2.958	2.938	2.877
Vnom	Antenna Power Error	%	0.00	-0.69	-2.73



4.4 Spurious Emissions

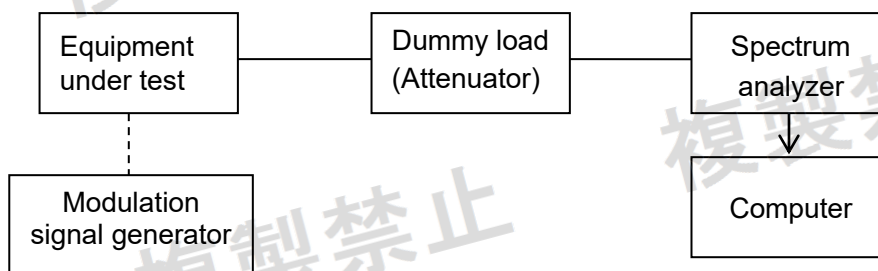
4.4.1 Test Limit

	Frequency Band (For 2400 ~ 2483.5 MHz)	Limit
*1	<2387MHz	2.5 μ W/MHz
*2	2387MHz ~ 2400MHz	25 μ W/MHz
*3	2483.5MHz ~ 2496.5MHz	25 μ W/MHz
*4	>2496.5MHz	2.5 μ W/MHz

4.4.2 Test Procedure

According to Notification No. 88 of MIC, 2004, Annex 43 Spurious and unwanted emission intensity measuring procedure.

4.4.3 Test Setup





4.4.4 Test Result and Data

GFSK-1Mbps

Test Conditions						
Voltage	Frequency Band	Test Frequency	MHz	2402	2440	2480
Vnom	30 MHz~ 2387 MHz	Unwanted Emission Frequency	MHz	2372.86	2310.69	2288.01
Vnom	2387 MHz~ 2400 MHz		MHz	2400.00	2399.13	2391.59
Vnom	2483.5 MHz~ 2496.5 MHz		MHz	2491.60	2489.95	2483.50
Vnom	2496.5 MHz~ 12500 MHz		MHz	4803.56	4879.83	4959.86
Vnom	30 MHz~ 2387 MHz	Unwanted Emission Intensity	μW/MHz	0.0098	0.0105	0.0086
Vnom	2387 MHz~ 2400 MHz		μW/MHz	20.6063	0.0109	0.0096
Vnom	2483.5 MHz~ 2496.5 MHz		μW/MHz	0.0095	0.0095	0.6067
Vnom	2496.5 MHz~ 12500 MHz		μW/MHz	0.5395	0.3936	0.2438

*The test result calculated as follows: $\mu W = 10^{(\text{Measurement Value(dBm)}/10)} * 1000$

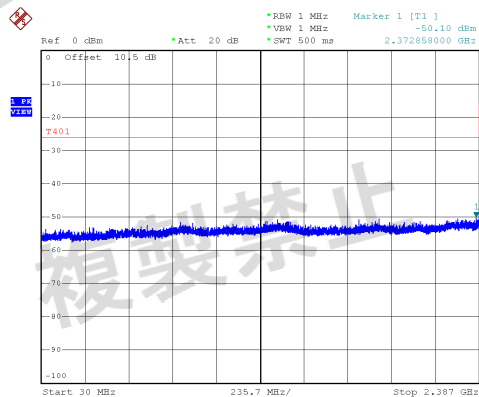
GFSK-2Mbps

Test Conditions						
Voltage	Frequency Band	Test Frequency	MHz	2402	2440	2480
Vnom	30 MHz~ 2387 MHz	Unwanted Emission Frequency	MHz	2378.75	1823.68	2262.37
Vnom	2387 MHz~ 2400 MHz		MHz	2400.00	2391.51	2387.92
Vnom	2483.5 MHz~ 2496.5 MHz		MHz	2491.16	2495.81	2483.51
Vnom	2496.5 MHz~ 12500 MHz		MHz	4802.31	4878.58	4958.61
Vnom	30 MHz~ 2387 MHz	Unwanted Emission Intensity	μW/MHz	0.0102	0.0094	0.0102
Vnom	2387 MHz~ 2400 MHz		μW/MHz	7.3282	0.0091	0.0106
Vnom	2483.5 MHz~ 2496.5 MHz		μW/MHz	0.0097	0.0098	1.0715
Vnom	2496.5 MHz~ 12500 MHz		μW/MHz	0.5483	0.4121	0.2153

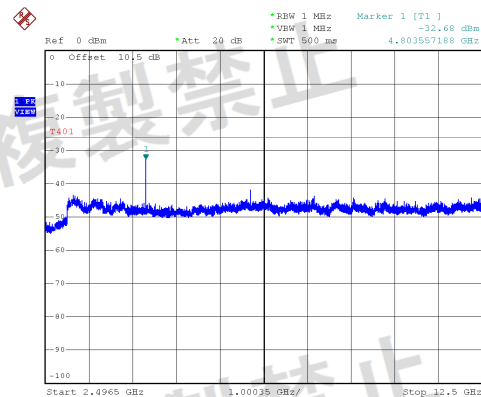
*The test result calculated as follows: $\mu W = 10^{(\text{Measurement Value(dBm)}/10)} * 1000$



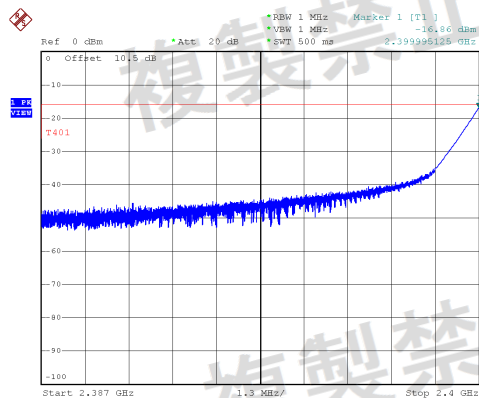
Modulation Standard: GFSK-1Mbps
CH00



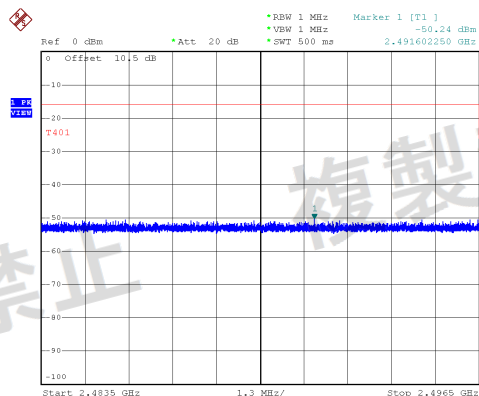
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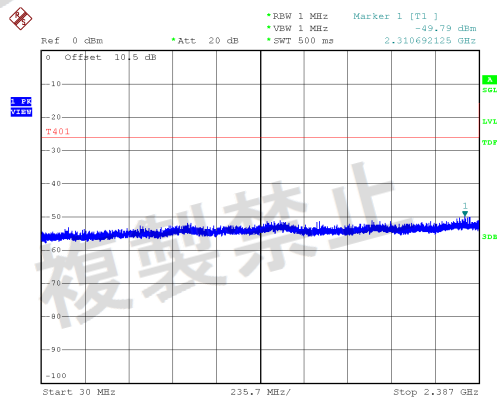
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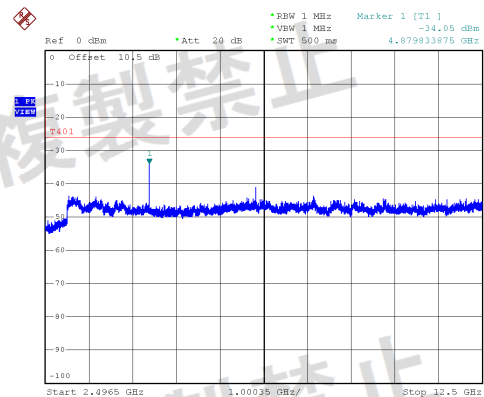
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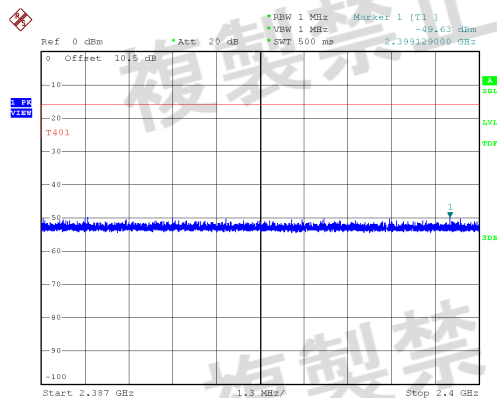
Modulation Standard: GFSK-1Mbps
CH19



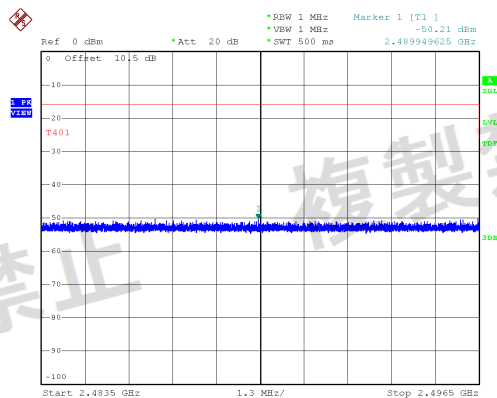
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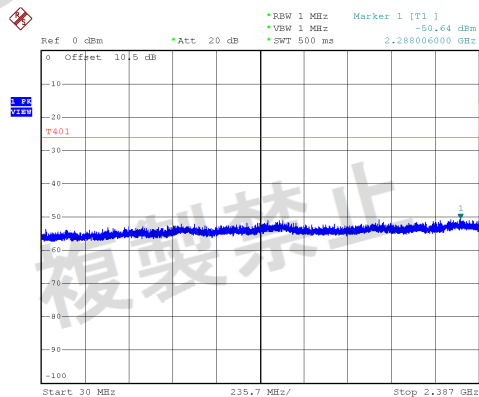
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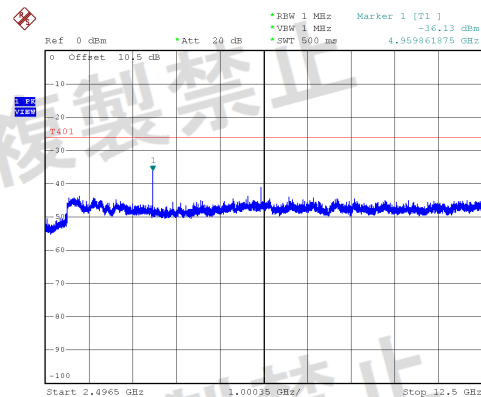
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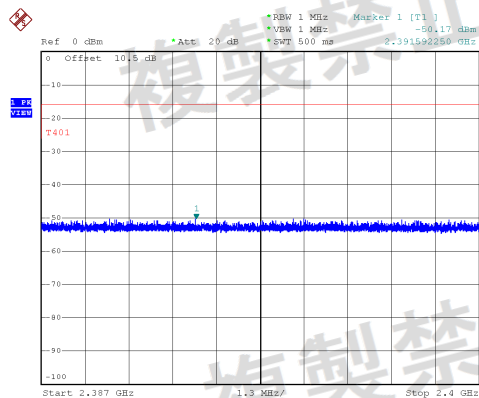
Modulation Standard: GFSK-1Mbps
CH39



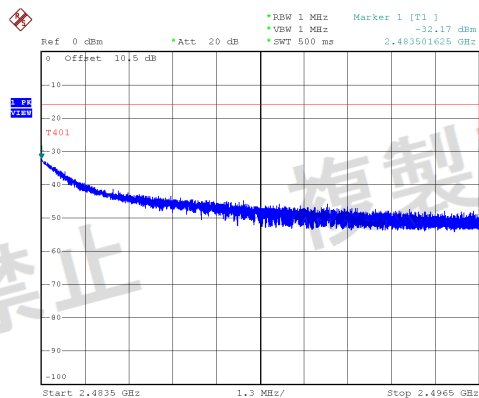
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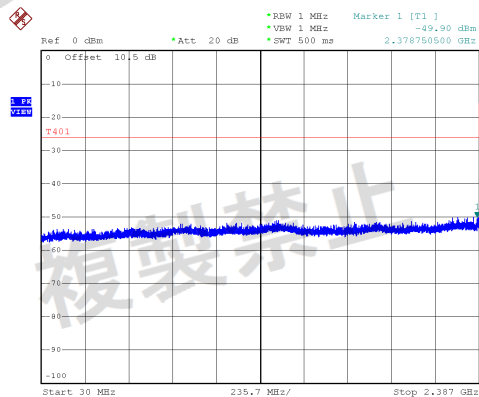
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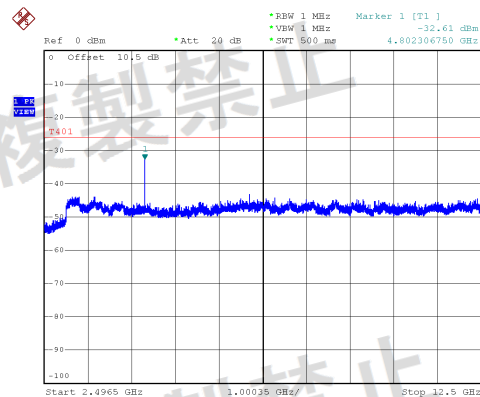
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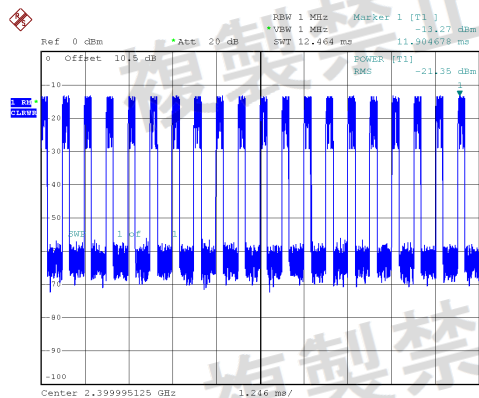
Modulation Standard: GFSK-2Mbps
CH00



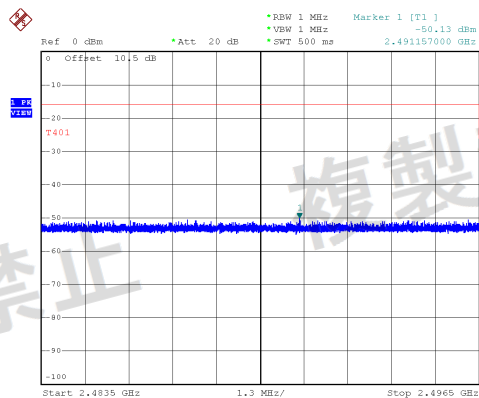
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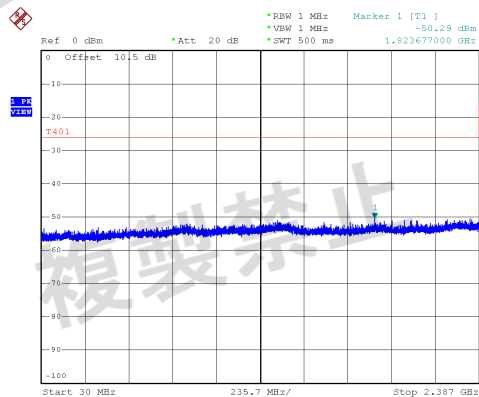
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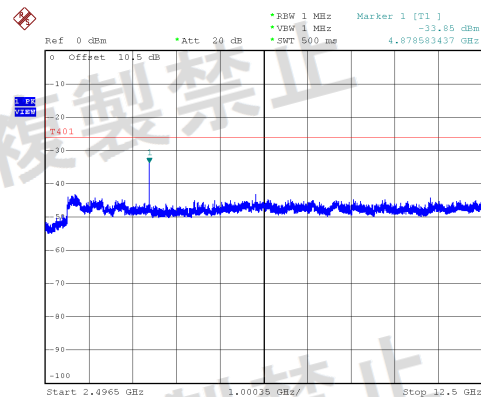
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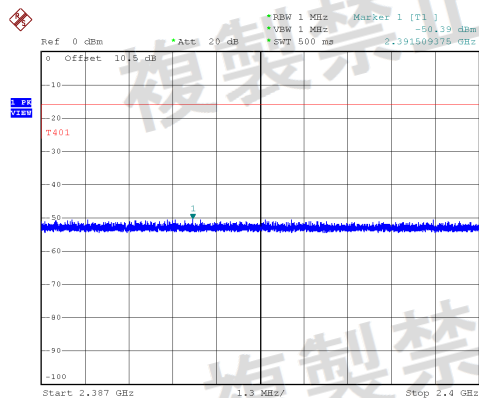
Modulation Standard: GFSK-2Mbps
CH19



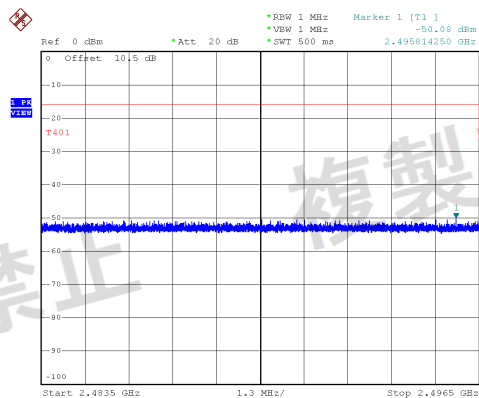
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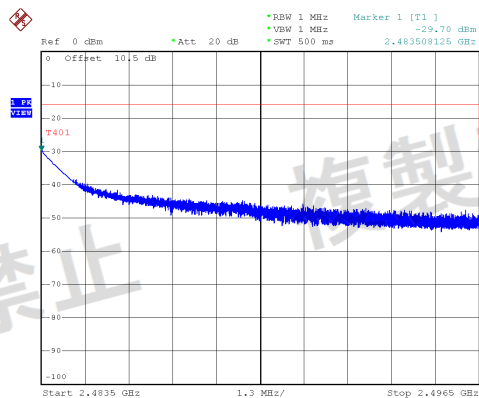
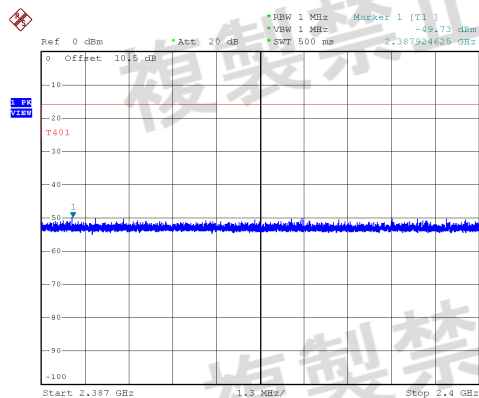
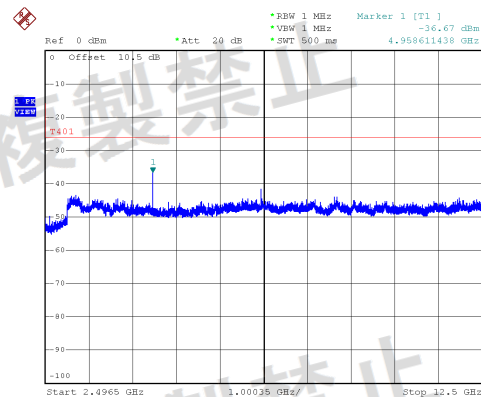
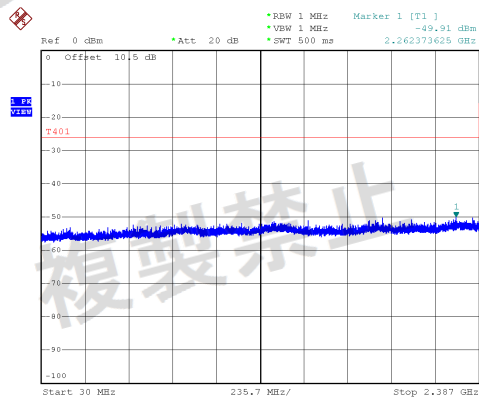
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Modulation Standard: GFSK-2Mbps
CH39





4.5 Interference Prevention Function

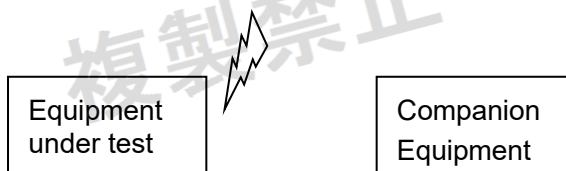
4.5.1 Test Limit

Identification code $\geq$ 48 bits

4.5.2 Test Procedures

1. Set EUT under operation mode and link up with companion equipment
2. Check communication status between EUT and companion equipment is normal
3. Confirm the MAC address of EUT

4.5.3 Test Setup



4.5.4 Test Result

ID Code	MAC Address : CD:F4:AF:27:2F:24
Result : PASS	

4.6 Carrier Sensing Function

4.6.1 Test Result

Not applicable



5. Receiver Parameters

5.1 Spurious Emissions

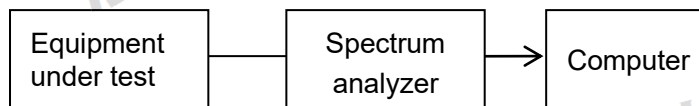
5.1.1 Test Limit

Frequency Band	Limit
<1GHz	4nW
1GHz ~ 12.5GHz	20nW

5.1.2 Test Procedures

According to Notification No. 88 of MIC, 2004, Annex 43 Limit of secondary radiated emissions measuring procedure.

5.1.3 Test Setup



5.1.4 Test Result and Data

GFSK-1Mbps

Test Conditions						
Voltage	Frequency Band	Test Frequency	MHz	2402	2440	2480
Vnom	30 MHz~ 1000 MHz	Spurious Emission Frequency	MHz	305.12	570.29	761.99
Vnom	1000 MHz~ 12500 MHz		MHz	4802.19	4878.38	4957.44
Vnom	30 MHz~ 1000 MHz	Spurious Emission Intensity	nW	0.0252	0.0237	0.0259
Vnom	1000 MHz~ 12500 MHz		nW	1.0257	0.9376	0.6761

*The test result calculated as follows: $nW = 10^{(\text{Measurement Value(dBm)}/10)} * 1000000$

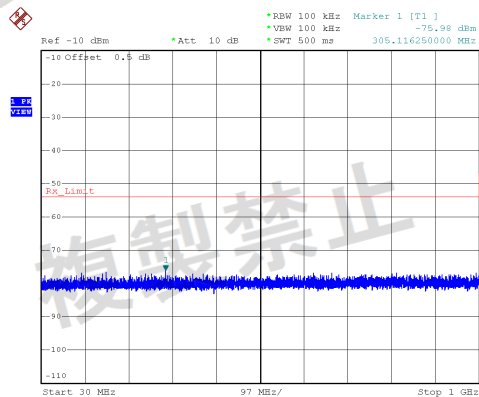
GFSK-2Mbps

Test Conditions						
Voltage	Frequency Band	Test Frequency	MHz	2402	2440	2480
Vnom	30 MHz~ 1000 MHz	Spurious Emission Frequency	MHz	569.20	489.78	788.78
Vnom	1000 MHz~ 12500 MHz		MHz	4799.31	4875.50	4956.00
Vnom	30 MHz~ 1000 MHz	Spurious Emission Intensity	nW	0.0220	0.0236	0.0299
Vnom	1000 MHz~ 12500 MHz		nW	1.1298	0.9484	0.7178

*The test result calculated as follows: $nW = 10^{(\text{Measurement Value(dBm)}/10)} * 1000000$

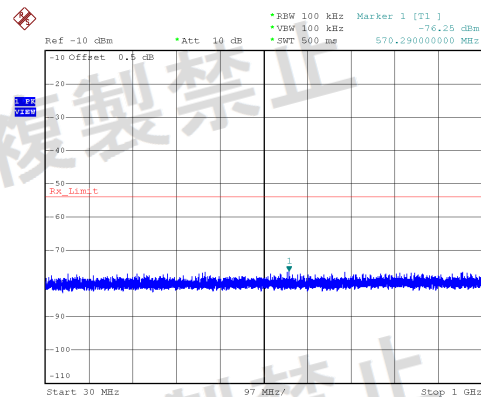


Modulation Standard: GFSK-1Mbps
CH00

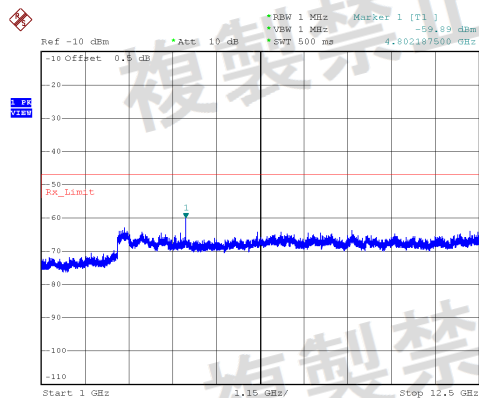


Date: 3.JUL.2026 16:36:02

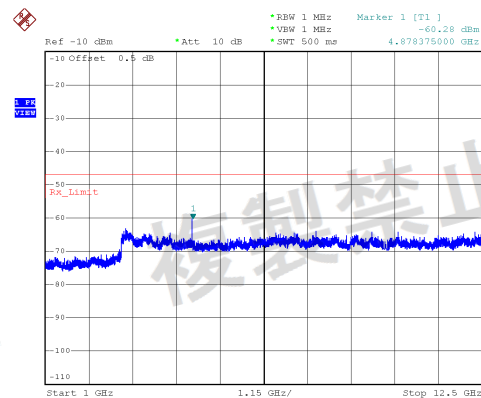
Modulation Standard: GFSK-1Mbps
CH19



Date: 3.JUL.2026 16:37:40



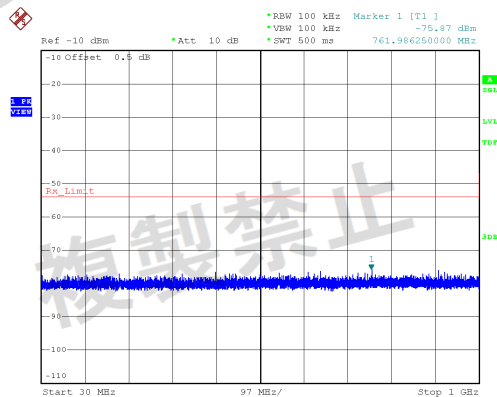
Date: 3.JUL.2026 16:36:38



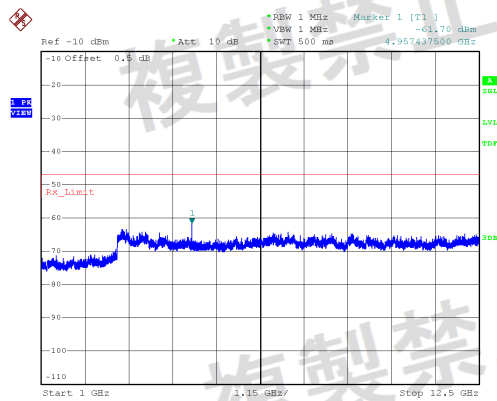
Date: 3.JUL.2026 16:38:15



Modulation Standard: GFSK-1Mbps
CH39



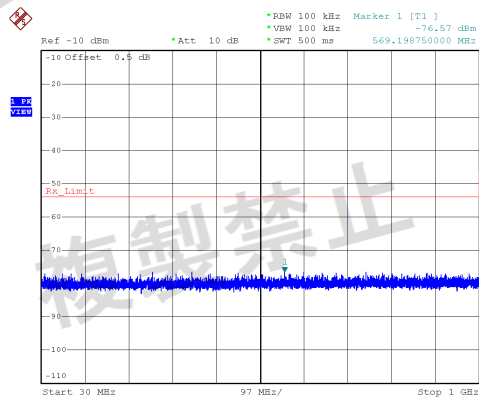
Date: 3.JUL.2026 16:39:07



Date: 3.JUL.2026 16:39:42

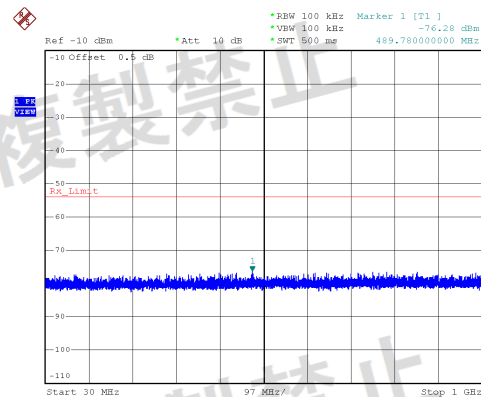


Modulation Standard: GFSK-2Mbps
CH00

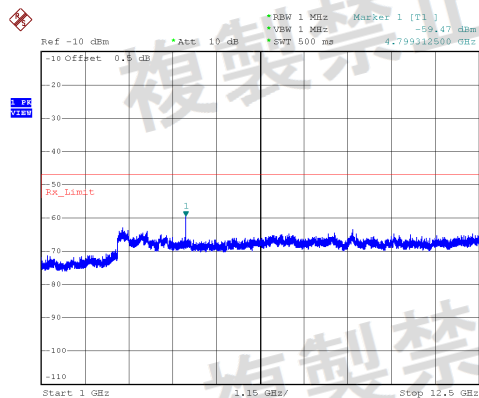


Date: 3.JUL.2026 17:11:01

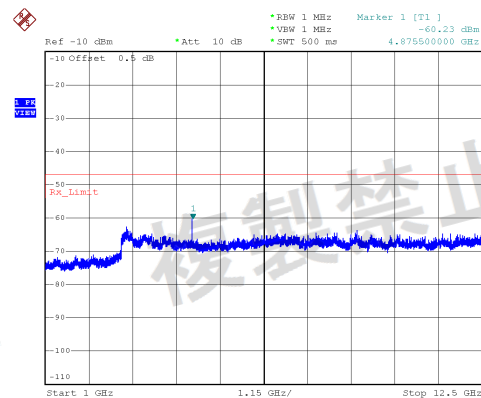
Modulation Standard: GFSK-2Mbps
CH19



Date: 3.JUL.2026 17:12:59



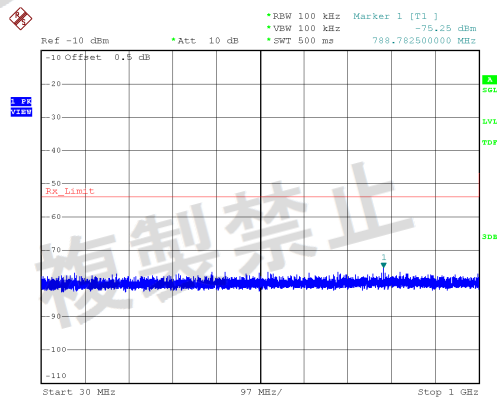
Date: 3.JUL.2026 17:11:36



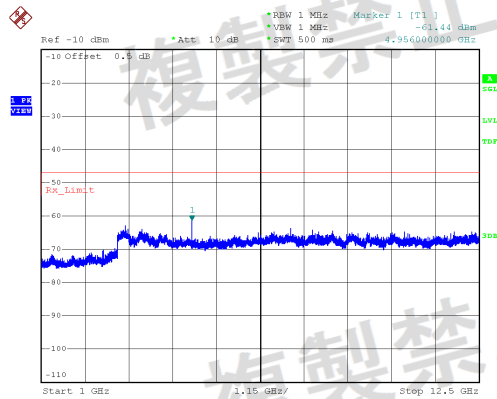
Date: 3.JUL.2026 17:13:35



Modulation Standard: GFSK-2Mbps
CH39



Date: 3.JUL.2026 17:14:56



Date: 3.JUL.2026 17:15:32



6. Angular Width of Principal Radiation

6.1 Test Result

Antenna Type	PCB
Antenna Gain	-10.21
Cable Loss (dB)	0.50
EIRP (dBm)	-5.50
Half Power Beam Angles (deg)	360.00
Limit of E.I.R.P (dBm)	12.14
Result	Pass



7. Power Supply Voltage Fluctuation Test

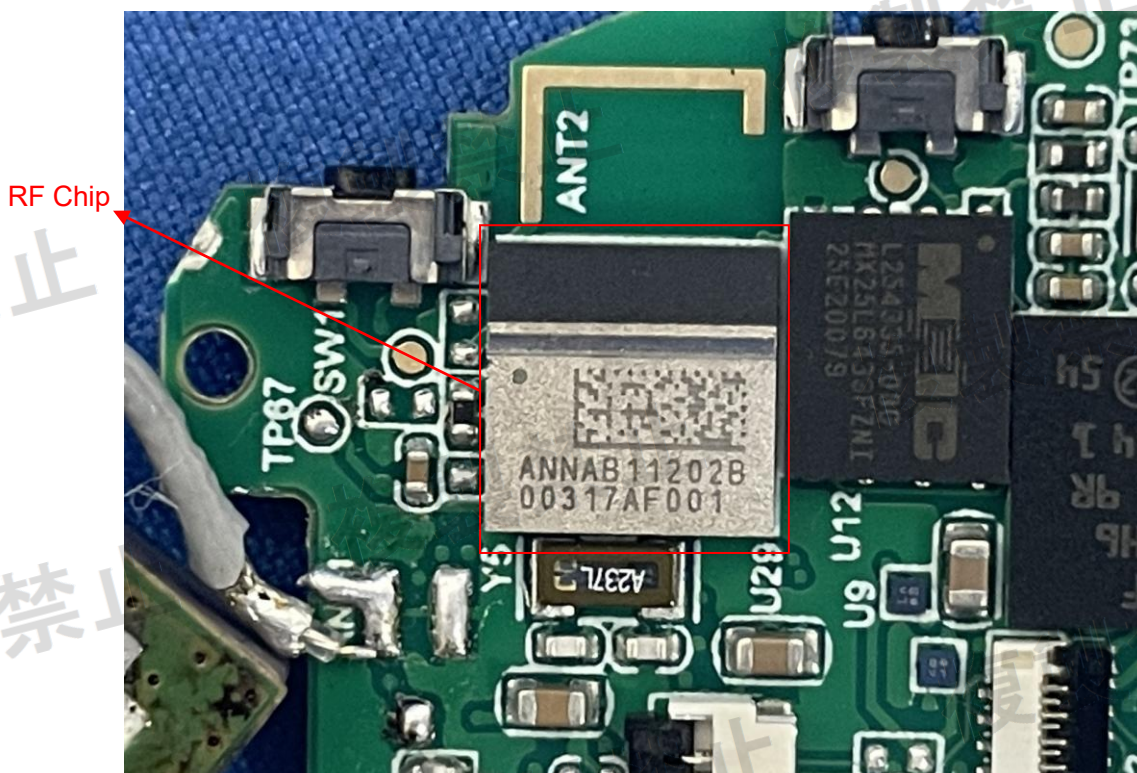
Voltage Fluctuation Test	Normal Voltage	High Voltage + 10% of Normal Voltage	Low Voltage - 10% of Normal Voltage
Input DC Power	3.7	4.07	3.33
Output DC Power	3.308	3.310	3.305
Voltage Variation (%)	-	0.06%	-0.09%

Note: Voltage Variation(%)=(Output High or Low Voltage - Output Normal Voltage)/Output Normal Voltage X 100 During the 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 tests ,EUT only operated in normal voltage to test all regulations.



8. Construction Protection Confirmation

The Radio Equipment:
☐ Use Special Screw
☐ Metal Shielding is Soldered
☐ Use Ball Grid Array (BGA)
☐ The RF part is covered by glue.
☐ Ultrasonic Welding
Module/Chip:
☐ RF module/Chip Pins > 20 and Chip Pins distance < 1.5 mm
☒ Use System in Package(SiP).



-----THE END OF REPORT-----