

TEST REPORT

Report number : KR25-SRT0005

Issue date : 2025-03-26

Applicant : DREAMUS COMPANY
311, Gangnam-daero, Seocho-gu, Seoul,
Republic of Korea
TEL : 02-6240-9118
FAX : 02-3019-7576

Equipment under test (EUT) : PS10

Model name : PPR61

Date of test : 2025-02-24 ~ 2024-03-24

Test place : Eurofins KCTL Co., Ltd.
65 Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-
do, Korea

Test results : PASS

The results in this report are applicable only to the equipment tested.

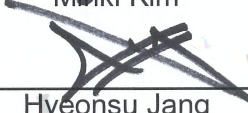
This report shall not be re-produced except in full without the written approval of **Eurofins KCTL Co.,Ltd.**

Eurofins KCTL Co., Ltd. is in compliance with KS Q ISO 17025.

Tested by;


Minki Kim

Approved by;


Hyeonsu Jang

1. Summary of Test

1. Purpose of test

Ordinance on Technical Standards Conformity Certification of Specified Radio Equipment
2.4GHz Band wide band low power data communication System

2. Standards

Certification Ordinance Article 2 Clause 1 Item19

1) Test Methods

Ministry of Internal Affairs and Communications Notification Article 88 Appendix 43

2) Deviation from standards

None

3. List of applied test to the EUT

Article 88 Appendix 43	Classification of EUT	Condition	Result
3	Frequency Tolerance	Conducted	PASS
4	Occupied Bandwidth, Spread bandwidth	Conducted	PASS
5	Unwanted (Spurious) Emission Strength	Conducted	PASS
6	RF Output Power Tolerance	Conducted	PASS
7	Secondary Emitted Radio Wave Strength	Conducted	PASS
8	Carrier Sensing Function	Conducted	PASS
12	Interference Prevention Function	Conducted	PASS

1) Test set up

Table-Top

2) Modification to the EUT by laboratory

None

1. Test Information

1. Applicant

DREAMUS COMPANY

311, Gangnam-daero, Seocho-gu, Seoul, Republic of Korea

2. Equipment under test

PS10

3. Model number

PPR61

4. Serial number

TP-54

5. Size

(W) 75.4 x (D) 17.3 x (H) 149.45

6. Terminal limitation

-10°C to 50°C

7. RF Specification Frequency range

IEEE802.11b/g/n(HT20) : 2412 - 2472 MHz

IEEE802.11n(HT40) : 2422 - 2462 MHz

8. Number of RF Channels

IEEE802.11b/g/n(HT20) : 13 Ch

IEEE802.11n(HT40) : 9 Ch

9. Modulation method

IEEE802.11b: DSSS (DBPSK, DQPSK, CCK)

IEEE802.11g/n(HT20, HT40) : OFDM (BPSK, QPSK, 16QAM, 64QAM)

10. Data rate

IEEE802.11b: 1, 2, 5.5, 11Mbps

IEEE802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps

IEEE802.11n(HT20 LTI) : 6.5, 13, 19.5, 26, 39, 52, 58.5, 65Mbps

IEEE802.11n(HT20 SGI) : 7.2, 14.4, 21.7, 28.9, 43.3, 57.8, 65, 72.2Mbps

IEEE802.11n(HT40 LTI) : 13.5, 27, 40.5, 54, 81, 108, 121.5, 135Mbps

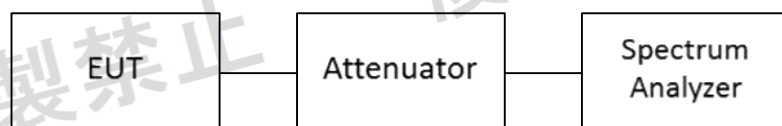
IEEE802.11n(HT40 SGI) : 15, 30, 45, 60, 90, 120, 135, 150Mbps

11. Variation of the family model(s)

None

2. Configuration of equipment

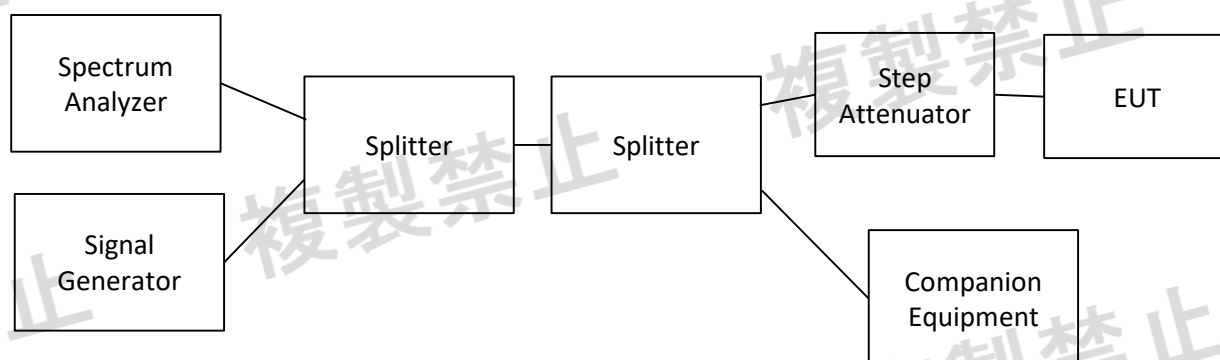
1. Frequency tolerance, RF output power tolerance, Occupied Bandwidth, Spread bandwidth, Unwanted(Spurious) emission strength, Interference Prevention Function



2. Secondary emitted radio wave strength



3. Carrier Sensing Function



3. Test results (Rated voltage)

S/N : TP-54

Environment of test room	Date of test	2025-02-24	2025-02-25	2025-03-24
	Temperature	24 °C	25 °C	23 °C
	Humidity	51 %	52 %	51 %

Test category	IEEE802.11b/1-13ch	
Peak Antenna Gain	-2.48	dBi
Declaration Output Power	1.50	mW/MHz
Declaration Output Power	1.76	dBm/MHz
E.I.R.P.	-0.72	dBm/MHz
Input Power Voltage	3.80	VDC

Test category	IEEE802.11b/1-13ch	
Tested Circuit Insertion Loss	0	dB
Frequency equal to the Transmission rate	1.375	MHz
Transmission Time	ON TIME (1sec or less)	8.366 ms
	OFF TIME (0.1sec or more)	0.102 ms
	Ratio	0.988 %
Packet Type (Mode)	Not Applicable	mode
Transmit Speed	Not Applicable	MHz

Using TDF and offset function in Spectrum Analyzer.
Measurement of plots are included Loss value.

(Att : 10dB + Cable loss + EUT cable: 0.5dB offset)

Test category :	2.4GHz Band Low-Power Data Communication System (IEEE802.11b/1-13ch)
The reason why the tests are performed only at rated voltage :	The fluctuation of input voltage to the circuit of the radio part of the equipment to be tested is identified as being less than ± 1 % when input voltage from an external supply into the equipment fluctuates ± 10 %.

Measurement Frequency	MHz	2412	2442	2472	Result	Limit	Note
Channel Number	Ch.	1	7	13	---	---	
Frequency Measurements	MHz	2412.009	2441.988	2471.995	---	---	
Frequency Tolerance	ppm	3.628	-4.873	-2.023	PASS	$\pm 50 \times 10^{-6}$ (50ppm)	
Occupied Bandwidth	MHz	13.09	12.99	13.09	PASS	26MHz or below	
Spread Bandwidth	MHz	8.19	8.29	8.29	----		
RF Output Power	mW/MHz	1.42	1.43	1.37	PASS	10mW/MHz or below	
RF Output Power Tolerance	%	-5.34	-4.69	-8.98	PASS	+20 %	
Unwanted (Spurious) Emission Strength (1-13ch)	30 to 2387MHz	uW/MHz	0.121	0.184	0.127	PASS	2.5uW/MHz or below
		MHz	2190.400	2359.900	2378.800	----	
	2387 to 2400MHz	uW/MHz	1.368	0.282	0.531	PASS	25uW/MHz or below
		MHz	2391.864	2396.318	2391.422	----	
	2483.5 to 2496.5MHz	uW/MHz	0.233	0.187	0.955	PASS	25uW/MHz or below
		MHz	2494.766	2487.286	2490.143	----	
Secondary Emitted Radio Wave Strength	30 to 1000MHz	uW/MHz	0.372	0.317	0.342	PASS	2.5uW/MHz or below
		MHz	6958.500	6189.500	6648.500	----	
	1000 to 12500MHz	nW	0.012	0.015	0.017	PASS	4nW or below
		MHz	938.470	887.110	888.080	----	
	1000 to 12500MHz	nW	0.436	0.471	0.457	PASS	20nW or below
		MHz	6968.000	6084.000	11242.000	----	
Spreading Factor	---	5.958	6.030	6.030	PASS	5 / 10 or more	
Interference Prevention Function	Good				PASS		
Transmitting antenna absolute gain	-				----	*1	
Angular width of the main radiation of the transmitting antenna	-				----	*1	

*1 Measurement only if the E.I.R.P. exceeds 12.14dBm/MHz

4. Measurement equipment list

USE	Equipment	Company	Model No.	Serial No.	Calibrated by	Cal. Method	Cal. Due	Cal. Date
X	Spectrum analyzer	R & S	FSV30	100806	HCT	(c)	2024.07.01	2025.07.01
X	DC Power Supply	AGILENT	E3632A	MY40004791	HCT	(c)	2024.07.01	2025.07.01
X	Signal generator	R & S	SMB100A	176206	HCT	(c)	2025.01.17	2026.01.17
X	Attenuator	API Inmet	40AH2W-10	13	HCT	(c)	2024.04.30	2025.04.30
X	SPLITTER	Mini-Circuits	ZX10-2-98-S+	1635-1	HCT	(c)	2025.01.17	2026.01.17
X	SPLITTER	Mini-Circuits	ZX10-2-98-S+	1635-2	HCT	(c)	2025.01.17	2026.01.17
X	Step Attenuator	HP	8496A	3308A16640	HCT	(c)	2024.07.01	2025.07.01
X	Power Sensor	R&S	NRP-Z81	1137.9009.02-106223-bb	HCT	(c)	2024.04.24	2025.04.24

Note1: "X" used equipment.

Note2: The validity of measurement equipment is one year from the first day of the following month of the calibration date.

Note3:

Cal.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)~ TELECOM Engineering Center, Intertek Japan K.K., Keysight Technologies, Inc~.

b) : Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992)~Japan Calibration Service System~

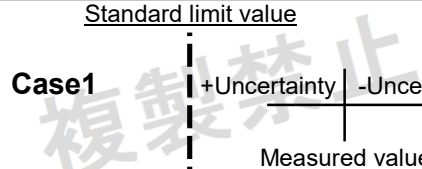
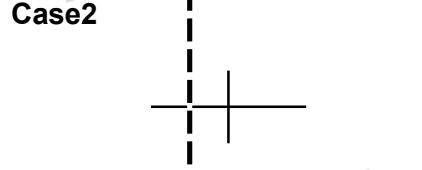
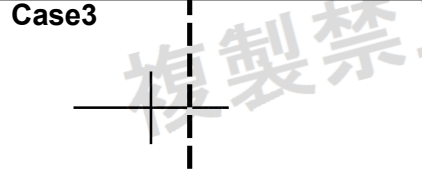
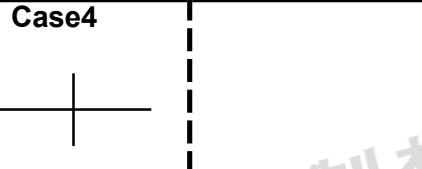
c) : Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1)~ TELECOM Engineering Center, Intertek Japan K.K., Keysight Technologies, Inc~.

d) : Calibration conducted by using other equipment that listed above from a) to c)

5. Uncertainty

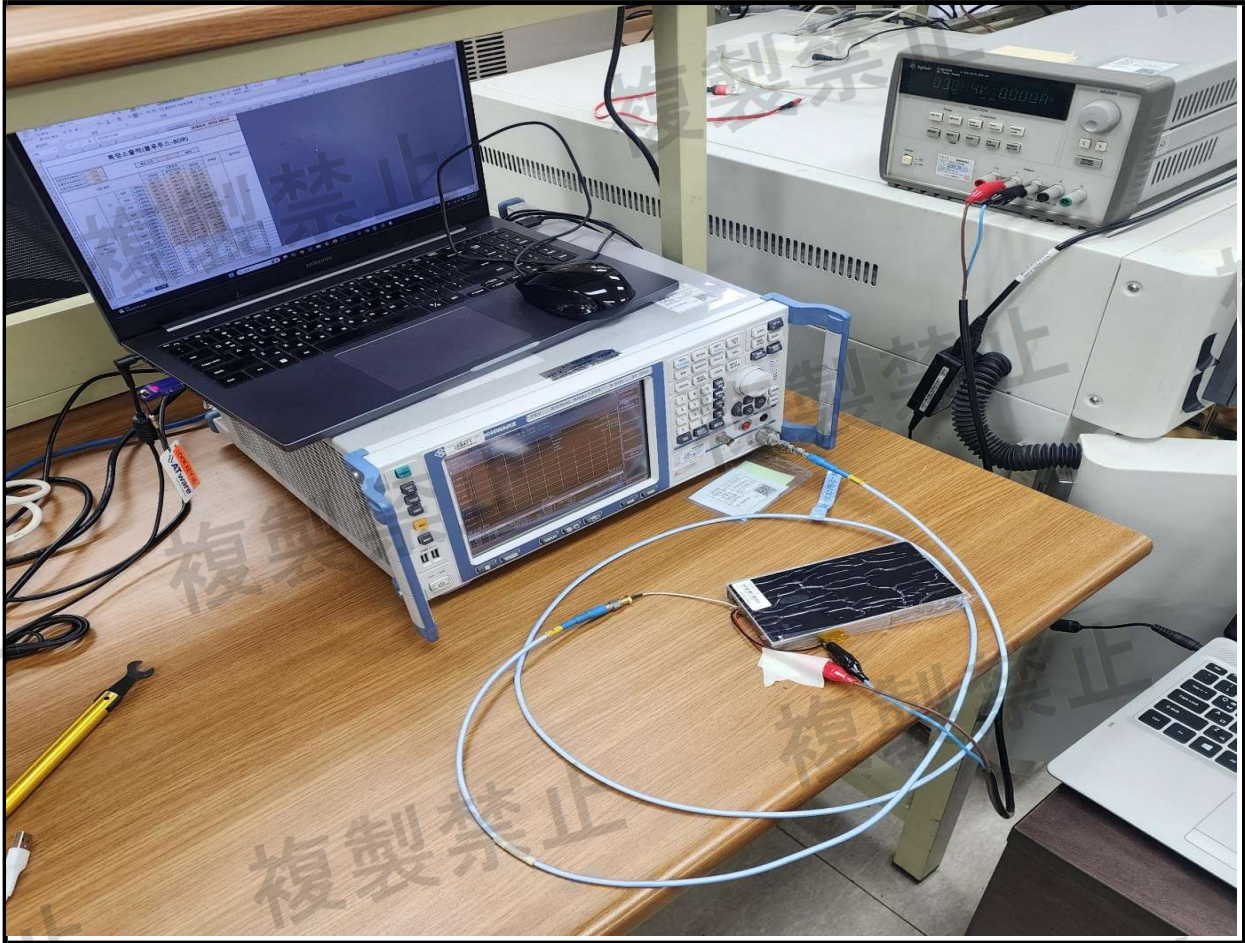
About uncertainty of measured value

Parameter	Uncertainty
Total RF power conducted	$\pm 0.9\text{dB}$
Spurious emissions conducted	$\pm 2.0\text{dB}$
Temperature	$\pm 1.0^\circ\text{C}$
Humidity	$\pm 3.8\%$

Judge	Measured value and standard limit value
PASS	Standard limit value  Even if it takes uncertainty into consideration, a standard limit value is fulfilled.
	Case2  Although measured value is in a standard limit value, a limit value won't be fulfilled if uncertainty is taken into consideration.
FAIL	Case3  Although measured value exceeds a standard limit value, a limit value will be fulfilled if uncertainty is taken into consideration.
	Case4  Even if it takes uncertainty into consideration, a standard limit value isn't fulfilled.

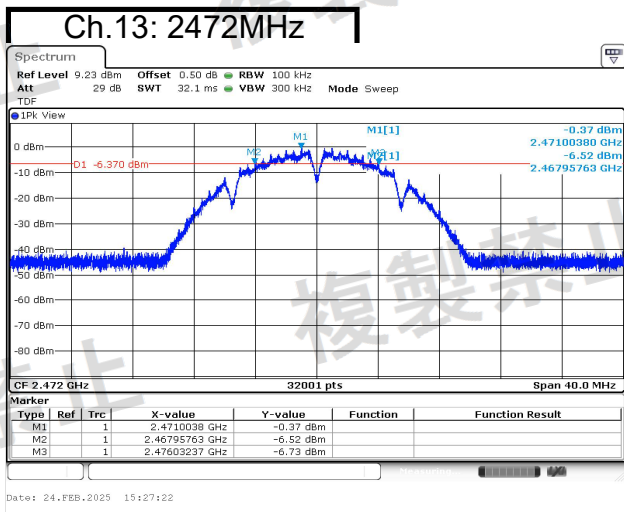
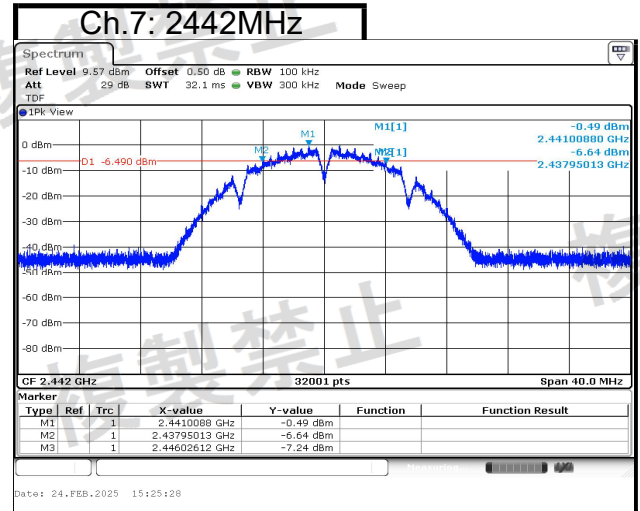
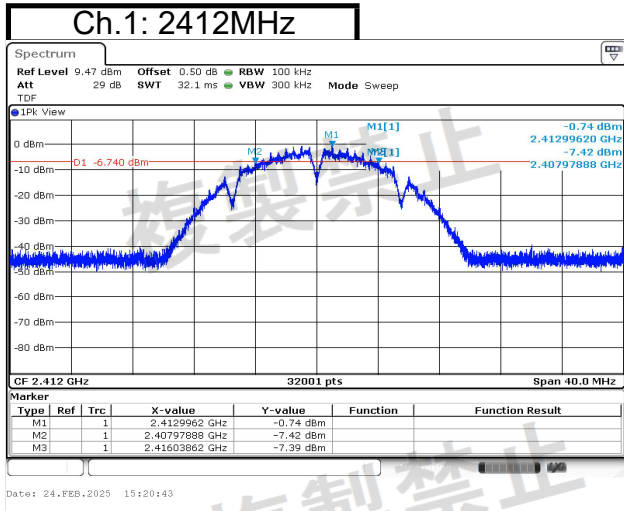
6. Photographs

Conducted Measurement Photo



7. Test chart

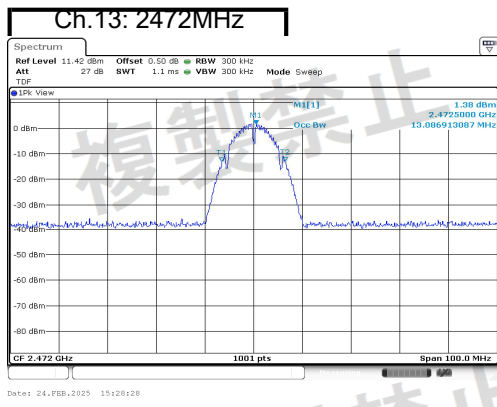
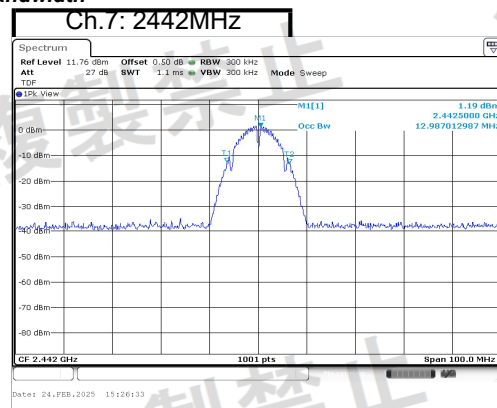
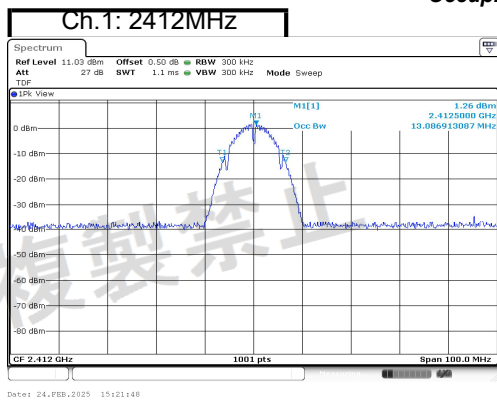
7.1 Frequency tolerance (Rated voltage)



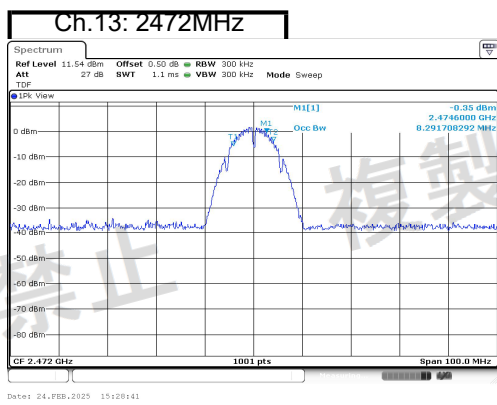
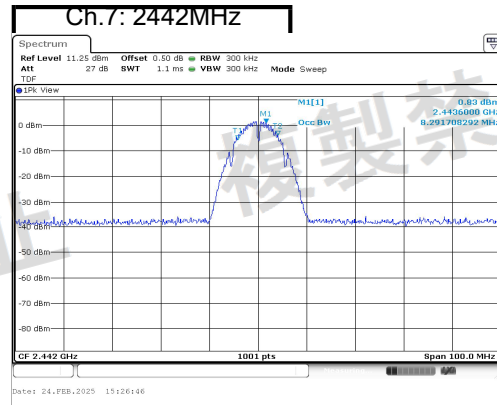
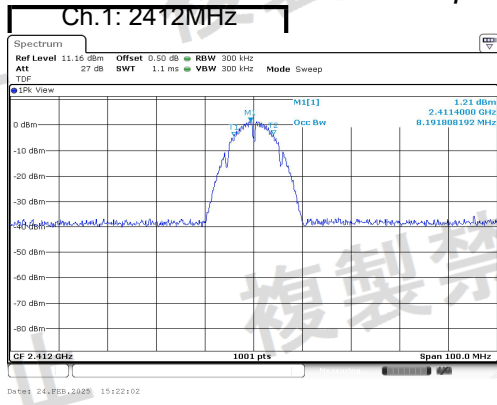
7. Test chart

7.2 Occupied bandwidth / Spread bandwidth (Rated voltage)

Occupied bandwidth

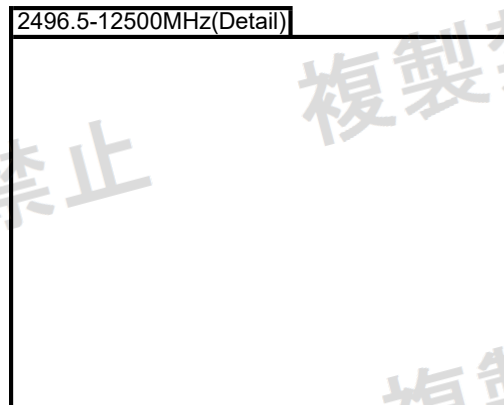
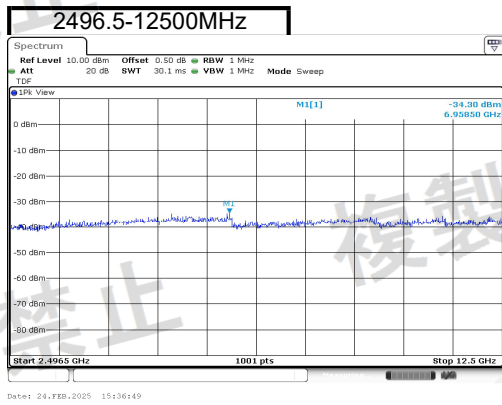
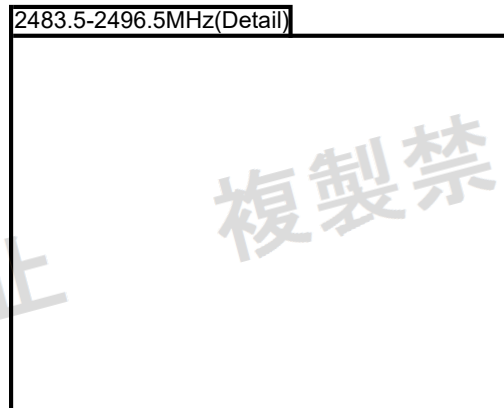
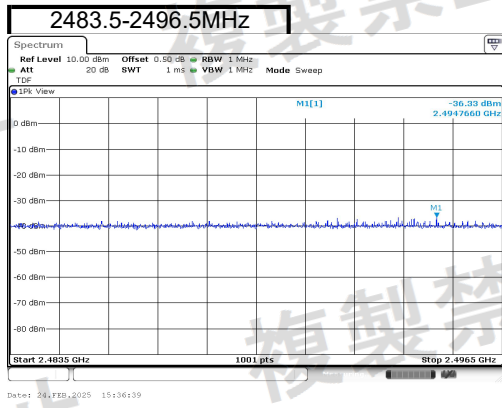
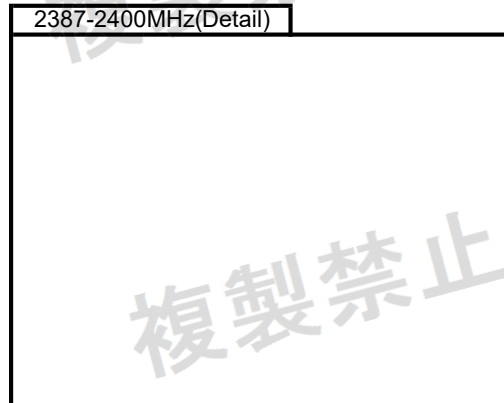
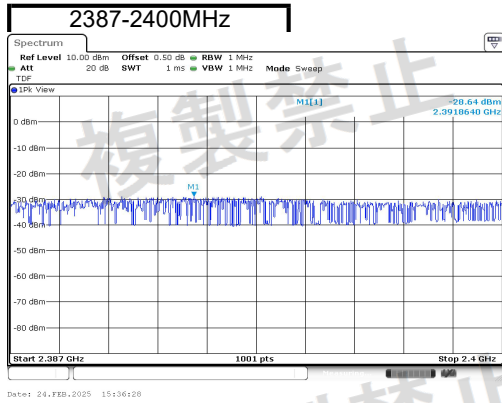
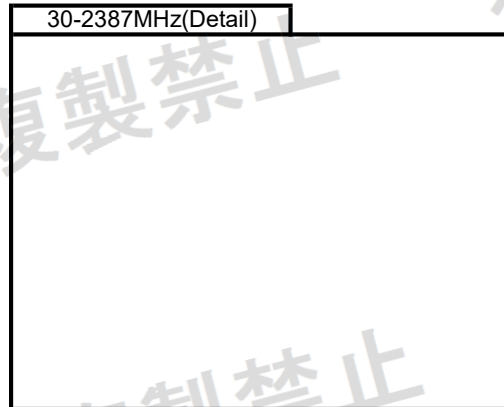
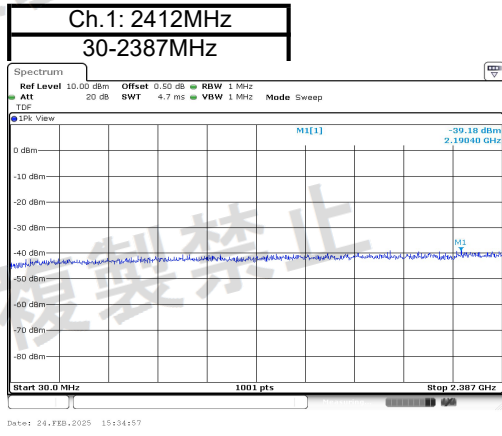


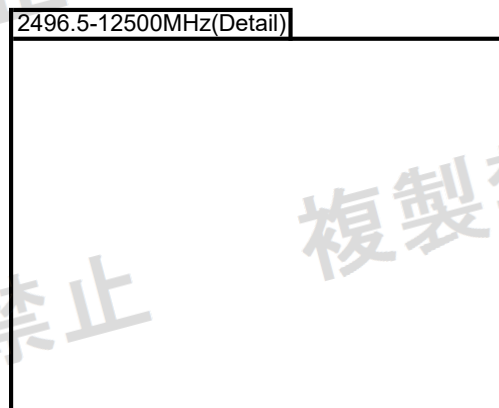
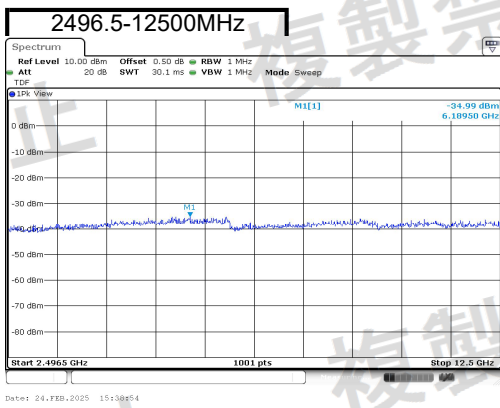
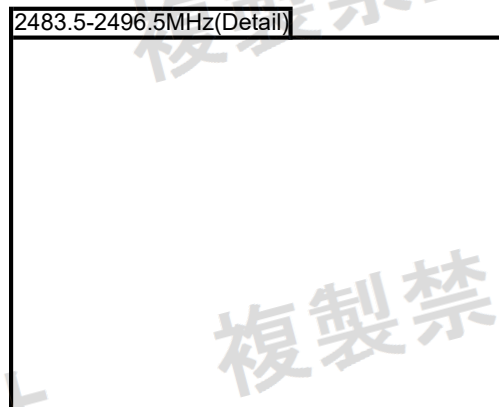
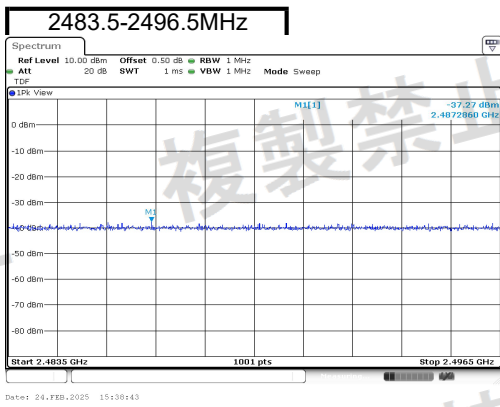
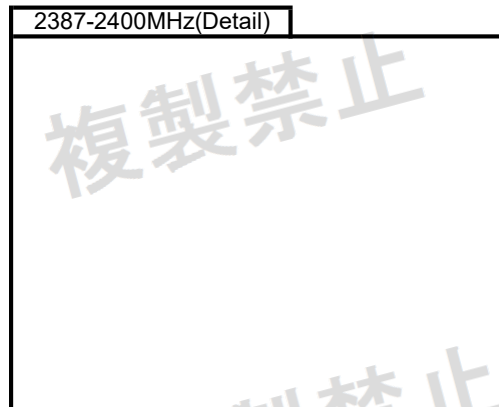
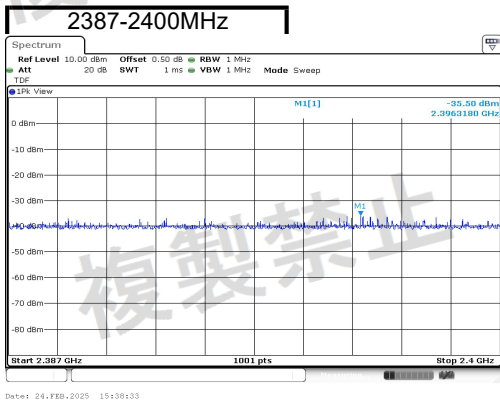
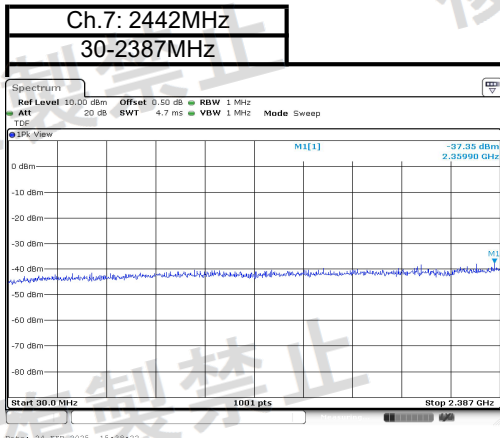
Spread bandwidth

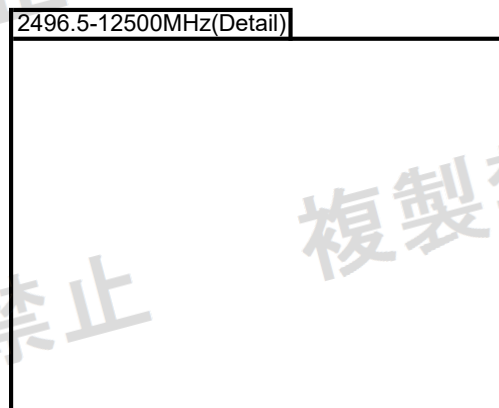
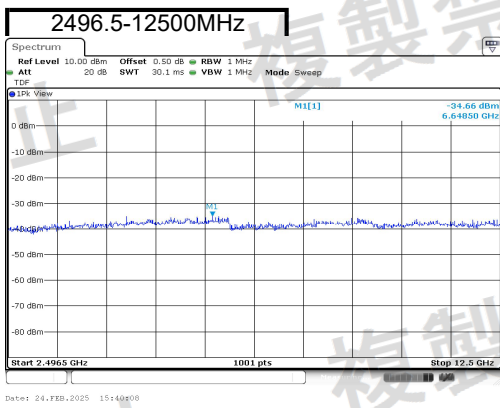
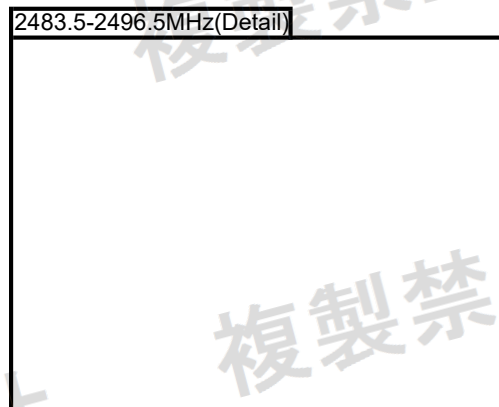
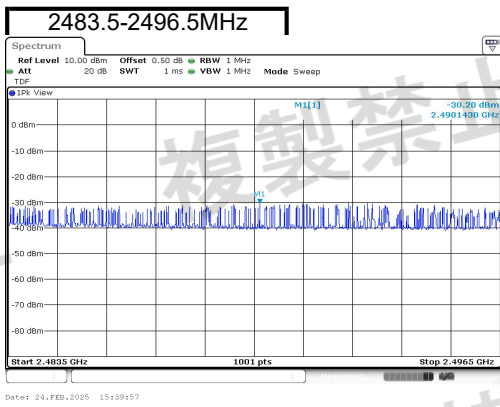
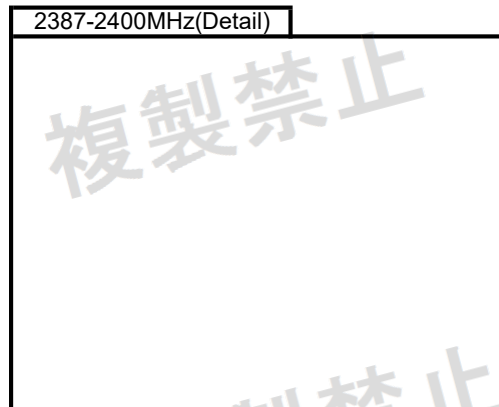
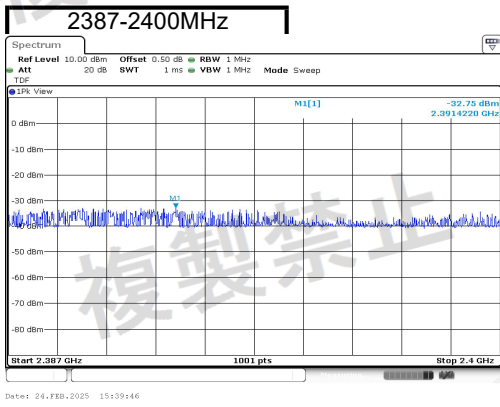
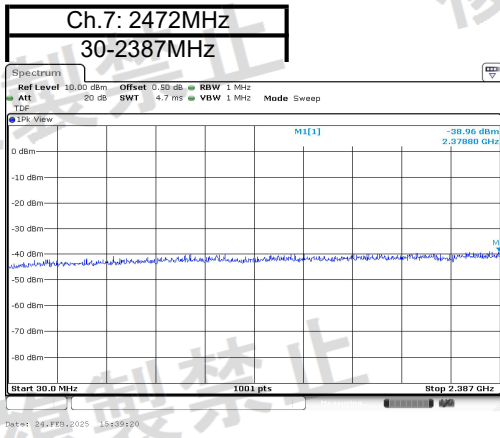


7. Test chart

7.3 Unwanted(Spurious) emission strength (Rated voltage)

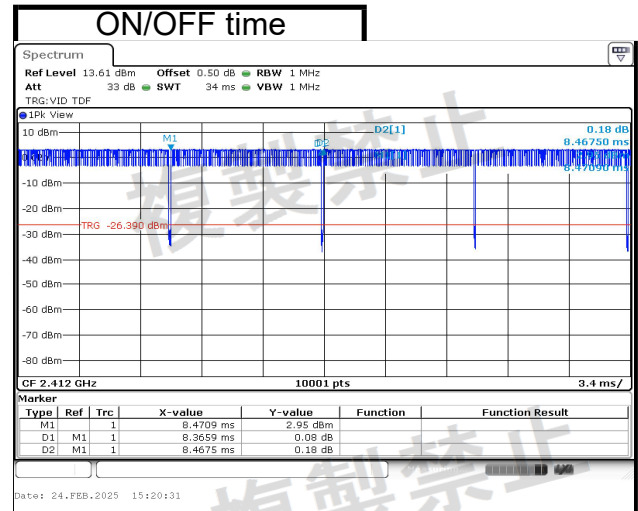
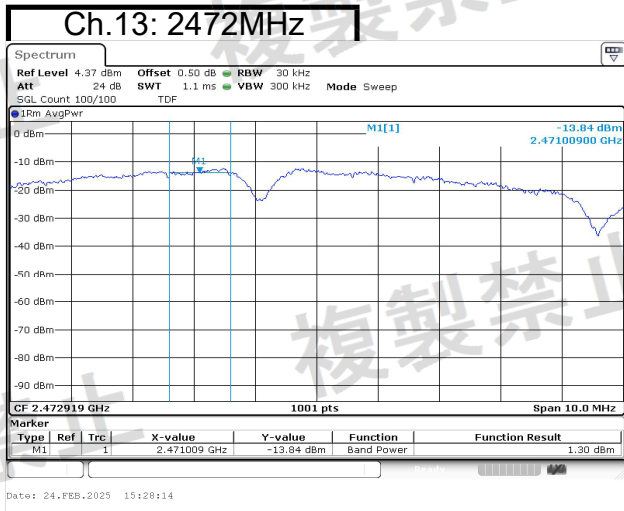
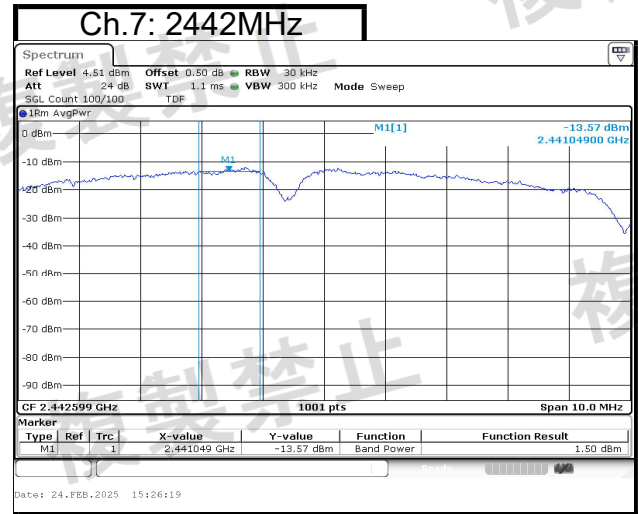
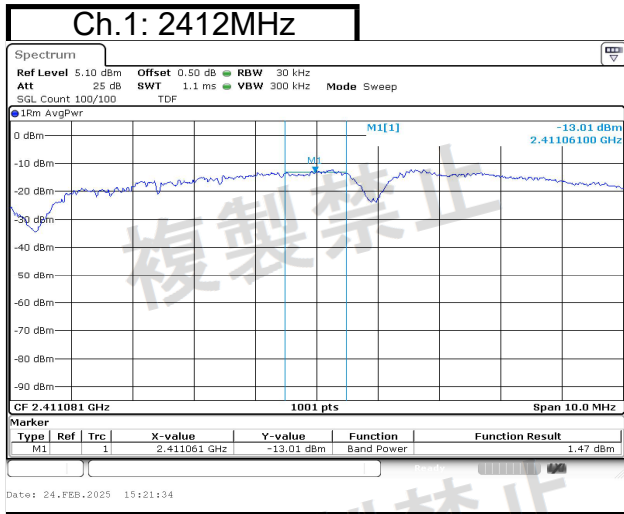






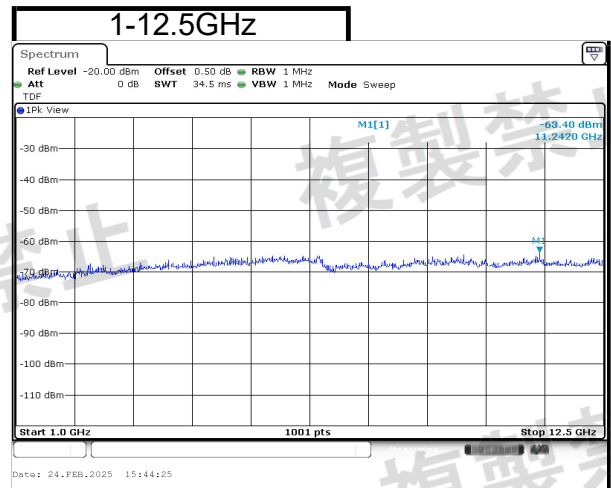
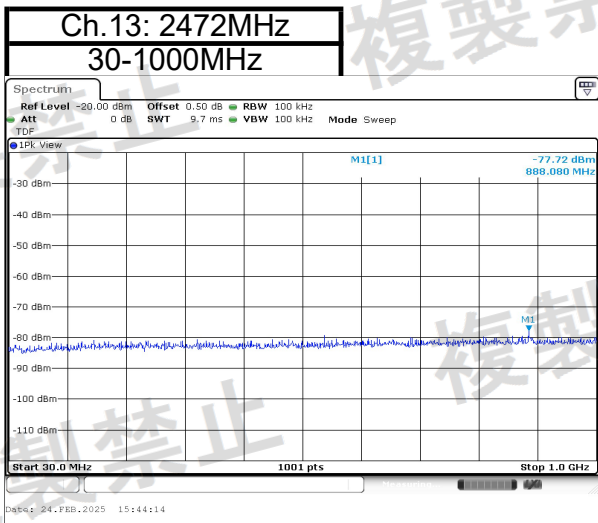
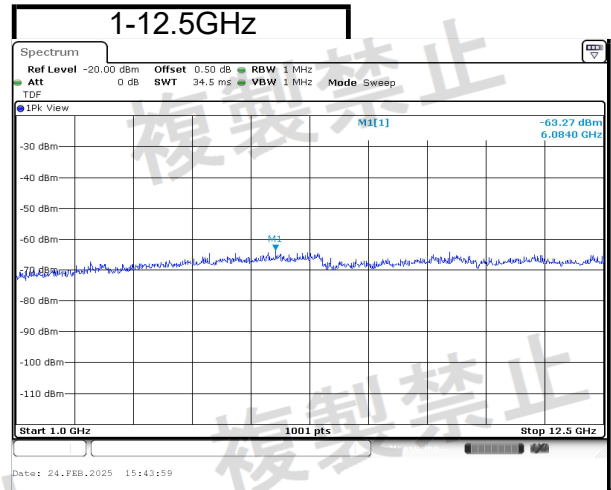
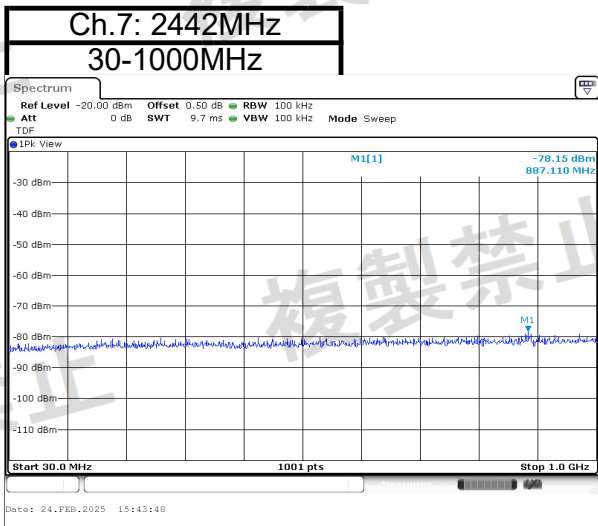
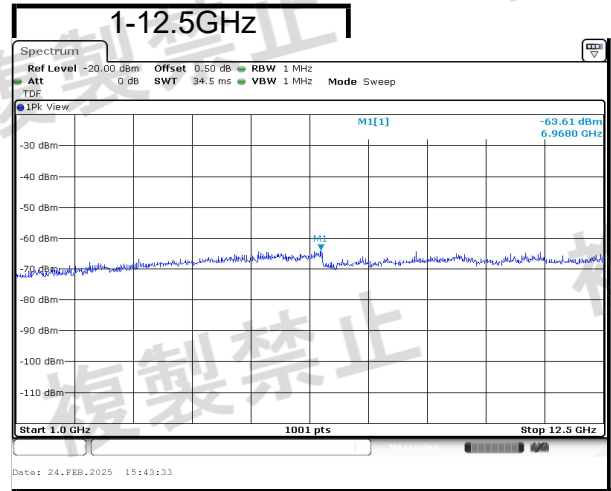
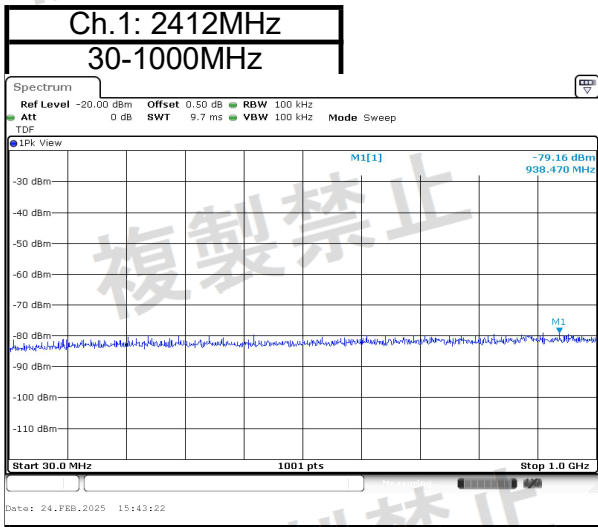
7. Test chart

7.4 RF output power tolerance (Rated voltage)



7. Test chart

7.5 Secondary emitted radio wave strength (Rated voltage)



3. Test results (Rated voltage)

S/N : TP-54

Environment of test room	Date of test	2025-02-24		2025-02-25		2025-03-24	
	Temperature	24	°C	25	°C	23	°C
	Humidity	51	%	52	%	51	%

Test category	IEEE802.11g/1-13ch	
Peak Antenna Gain	-2.48	dBi
Declaration Output Power	0.50	mW/MHz
Declaration Output Power	-3.01	dBm/MHz
E.I.R.P.	-5.49	dBm/MHz
Input Power Voltage	3.80	VDC

Test category	IEEE802.11g/1-13ch		
Tested Circuit Insertion Loss	0		dB
Transmission Time	ON TIME (1sec or less)	1.384	ms
	OFF TIME (0.1sec or more)	0.116	ms
	Ratio	0.922	%
Packet Type (Mode)	Not Applicable		mode
Transmit Speed	Not Applicable		MHz

Using TDF and offset function in Spectrum Analyzer.

(Att : 10dB + Cable loss + EUT cable: 0.5dB offset)

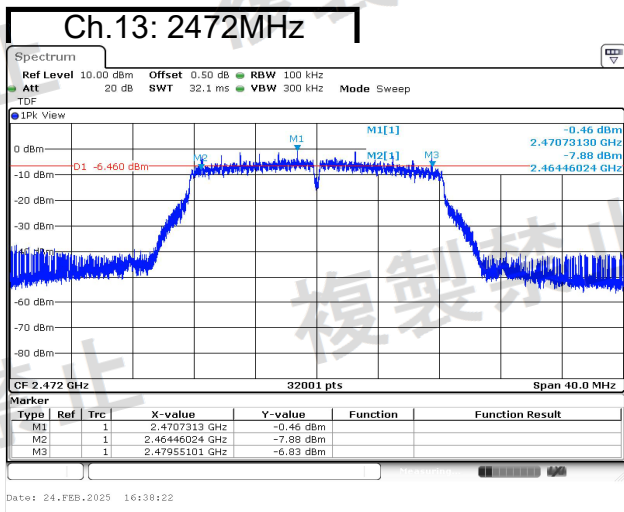
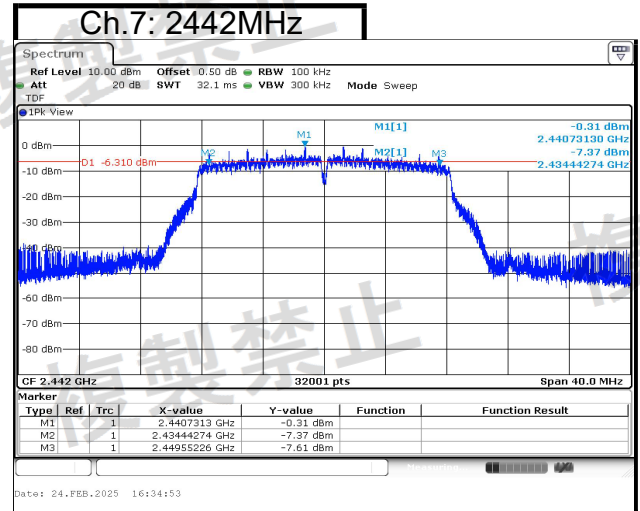
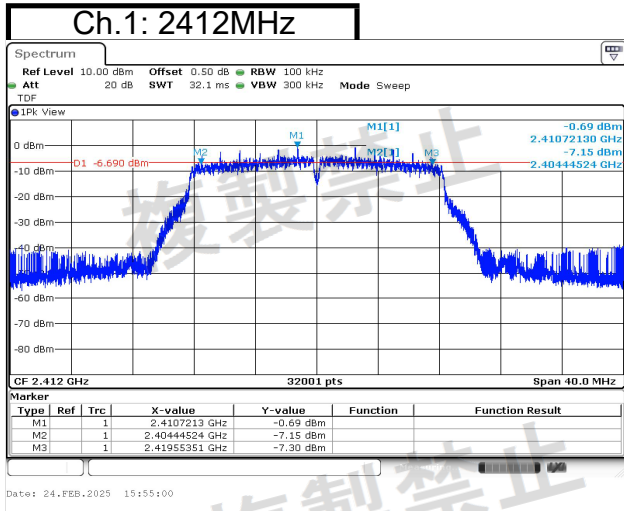
Test category :	2.4GHz Band Low-Power Data Communication System (IEEE802.11g/1-13ch)		
The reason why the tests are performed only at rated voltage :	The fluctuation of input voltage to the circuit of the radio part of the equipment to be tested is identified as being less than ± 1 % when input voltage from an external supply into the equipment fluctuates ± 10 %.		

Measurement Frequency	MHz	2412	2442	2472	Result	Limit	Note
Channel Number	Ch.	1	7	13	---	---	
Frequency Measurements	MHz	2411.999	2441.998	2472.006	---	---	
Frequency Tolerance	ppm	-0.269	-1.024	2.265	PASS	$\pm 50 \times 10^{-6}$ (50ppm)	
Occupied Bandwidth	MHz	16.78	16.78	16.78	PASS	40MHz or below	
Spread Bandwidth	MHz	-	-	-	----		
RF Output Power	mW/MHz	0.30	0.31	0.31	PASS	10mW/MHz or below	
RF Output Power Tolerance	%	-39.59	-38.47	-37.61	PASS	+20 %	
Unwanted (Spurious) Emission Strength (1-13ch)	30 to 2387MHz	uW/MHz	0.693	0.481	0.650	PASS	2.5uW/MHz or below
		MHz	2385.800	2374.000	2385.800	----	
	2387 to 2400MHz	uW/MHz	2.661	0.581	1.297	PASS	25uW/MHz or below
		MHz	2391.292	2396.630	2388.500	----	
	2483.5 to 2496.5MHz	uW/MHz	0.394	0.381	2.449	PASS	25uW/MHz or below
		MHz	2493.701	2486.883	2491.597	----	
	2496.5 to 12500MHz	uW/MHz	0.457	0.457	0.552	PASS	2.5uW/MHz or below
		MHz	6189.500	6169.500	6169.500	----	
Secondary Emitted Radio Wave Strength	30 to 1000MHz	nW	0.014	0.017	0.013	PASS	4nW or below
		MHz	885.170	923.930	886.140	----	
	1000 to 12500MHz	nW	0.476	0.378	0.430	PASS	20nW or below
		MHz	6899.000	9622.000	12460.000	----	
Interference Prevention Function	Good				PASS		
Transmitting antenna absolute gain	-				----	*1	
Angular width of the main radiation of the transmitting antenna	-				----	*1	

*1 Measurement only if the E.I.R.P. exceeds 12.14dBm/MHz

7. Test chart

7.1 Frequency tolerance (Rated voltage)



7. Test chart

7.2 Occupied bandwidth (Rated voltage)

Occupied bandwidth

