

TEST REPORT

Report number : KR20-SRT0018

Issue date : 2020-07-22

Applicant : DREAMUS COMPANY
5, Bangbae-ro 18gil, Seocho-gu, Seoul,
Republic of Korea
TEL : 02-3019-7542
FAX : 02-3019-7576

Equipment under test (EUT) : KANN ALPHA

Model name : PPM43

Date of test : 2020.07.15 ~ 2020.07.20

Test place : KCTL Inc.
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 **KCTL Inc.**

Tested by;



Hosung Lee

Approved by;



Heesu Ahn

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	Conducted	PASS
4	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	N/A
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
5, Bangbae-ro 18gil, Seocho-gu, Seoul, Republic of Korea

2. Equipment under test KANN ALPHA

3. Model number PPM43

4. Serial number N/A

5. Size (W) 68.22 x (D) 25.63 x (H) 117.1

6. Terminal limitation -10°C to 50°C

7. RF Specification Frequency range IEEE802.11b/g/n (HT20) : 2412 - 2472 MHz

8. Number of RF Channels IEEE802.11b/g/n (HT20) : 13 Ch

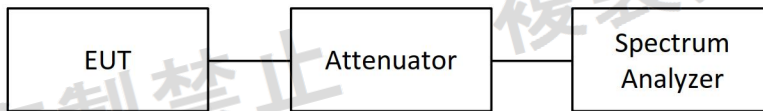
9. Modulation method IEEE802.11b: DSSS (DBPSK, DQPSK, CCK) IEEE802.11g / n (HT20) : OFDM (BPSK, QPSK, 16QAM, 64QAM)

10. Data rate IEEE802.11b: 1, 2, 5.5, 11Mbps IEEE802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps IEEE802.11n (HT20 LCI): 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

11. Variation of the family model(s) None

2. Configuration of equipment

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



4. Measurement equipment list

[illegible]

Note1: "X" は使用した測定機器です。
"X" used equipment.

Note2: 較正期限は、較正を行った日の翌月から起算して1年以内です。
The validity of measurement equipment is one year from the first day of the following month of the calibration date.

Note3: 較正方法 ... Cal.Method ...

イ): 国立研究開発法人情報通信研究機構（NICT）（以下「機構」という。）又は第百二条の十八第一項の指定較正機関（TELEC, インターテックジャパン、キーサイト）が行う較正

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 ~.

ロ): 計量法（平成四年法律第五十一号）第百三十五条 又は第百四十四条 の規定に基づく校正（JCSS校正）

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 ~

ハ): 外国において行う較正であつて、機構又は第百二条の十八第一項の指定較正機関（TELEC, インターテックジャパン、キーサイト）が行う較正に相当するもの

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 ~.

ニ): イからハまでのいずれかに掲げる較正等を受けたものを用いて行う較正等

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

5. Uncertainty

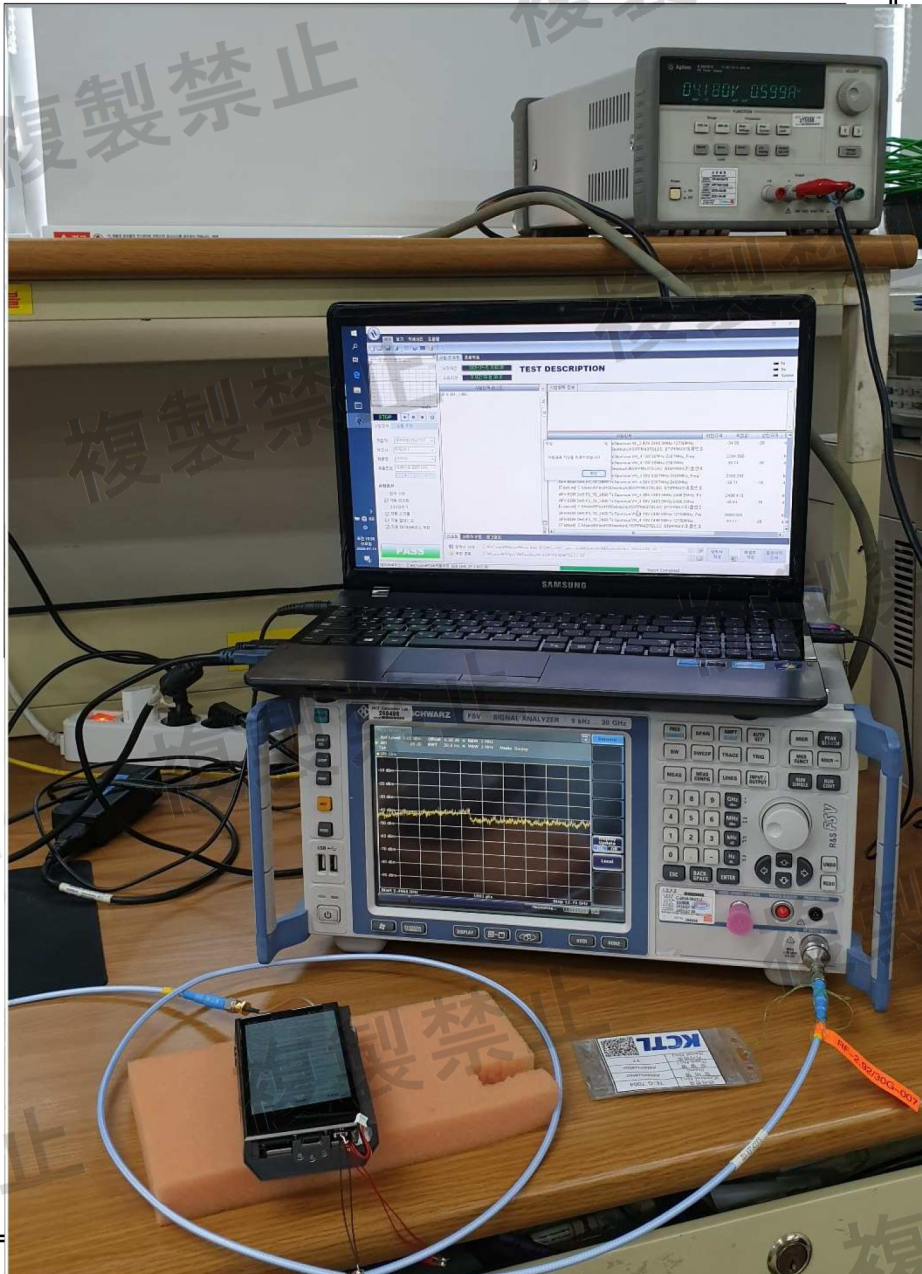
About uncertainty of measured value

Parameter	Uncertainty
Total RF power conducted	$\pm 1.42\text{dB}$
Spurious emissions conducted	$\pm 1.05\text{dB}$
Temperature	$\pm 1.12^{\circ}\text{C}$
Humidity	$\pm 4.92\%$

Judge	Measured value and standard limit value	
PASS	Case1	Standard limit value +Uncertainty -Uncertainty Measured 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



3. Test results (Rated voltage)

S/N : N/A

Environment of test room	Date of test	2020-07-15	2020-07-20
	Temperature	21 °C	20 °C
	Humidity	49 %	50 %

Test category	IEEE802.11b/1-13ch/ANT1	
Peak Antenna Gain	-0.35	dBi
Declaration Output Power	3.000	mW/MHz
Declaration Output Power	4.77	dBm/MHz
E.I.R.P.	4.42	dBm/MHz
Input Power Voltage	3.80	VDC

Test category	IEEE802.11b/1-13ch/ANT1	
Tested Circuit Insertion Loss	0	dB
Frequency equal to the Transmission rate	1.375	MHz
Transmission Time	ON TIME (1sec or less)	8.605 ms
	OFF TIME (0.1sec or more)	0.098 ms
	Ratio	0.9888 %
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/ANT1)	
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 $\pm 1\%$ when input voltage from an external supply into the equipment fluctuates $\pm 10\%$. Please refer to "Regulator performance test result_PPM43" file.	

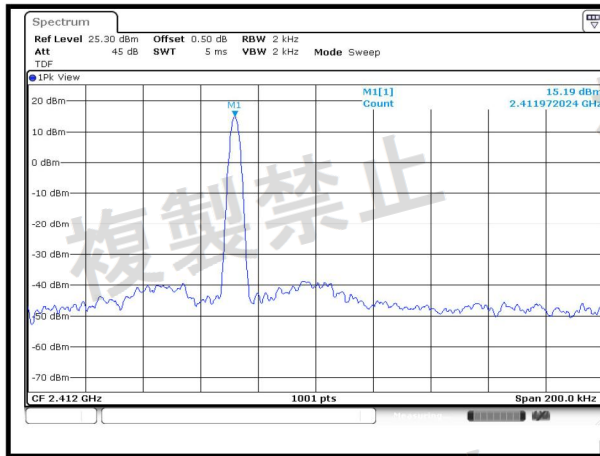
Measurement Frequency	MHz	2412	2442	2472	Result	Limit	Note
Channel Number	Ch.	1	7	13	---	---	
Frequency Measurements	MHz	2411.972000	2441.971300	2471.970600	---	---	
Frequency Tolerance	ppm	-11.60862	-11.75266	-11.89320	PASS	$\pm 50 \times 10^{-5}$ (50ppm)	
Occupied Bandwidth	MHz	10.69	11.19	11.69	PASS	26MHz or below	
Spread Bandwidth	MHz	7.4900	7.5900	7.6900	PASS	500kHz or more	
RF Output Power	mW/MHz	2.258880	2.599520	2.563853	PASS	10mW/MHz or below	
RF Output Power Tolerance	%	-24.7040	-13.3493	-14.5382	PASS	+20 to -80%	
Unwanted (Spurious) Emission Strength (1-13ch)	30 to 2387MHz	uW/MHz	0.034435	0.031696	0.026122	PASS	2.5uW/MHz or below
		MHz	2385.800	2383.500	2350.500	----	
	2387 to 2400MHz	uW/MHz	0.224905	0.043752	0.041115	PASS	25uW/MHz or below
		MHz	2399.994	2397.019	2396.331	----	
	2483.5 to 2496.5MHz	uW/MHz	0.037411	0.040365	0.390841	PASS	25uW/MHz or below
		MHz	2484.857	2488.831	2485.065	----	
	2496.5 to 12750MHz	uW/MHz	0.134586	0.117220	0.123310	PASS	2.5uW/MHz or below
		MHz	6895.500	6916.500	6947.500	----	
Secondary Emitted Radio Wave Strength	30 to 1000MHz	nW	0.032961	0.034754	0.031405	PASS	4nW or below
		MHz	750.470	750.470	888.080	----	
	1000 to 10000MHz	nW	1.428894	1.438799	1.377209	PASS	20nW or below
		MHz	6938.600	6965.500	6902.600	----	
	10000 to 12750MHz	nW	0.444631	0.492040	0.478630	PASS	20nW or below
		MHz	12732.100	12633.200	10638.700	----	
Spreading Factor	---	5.4473	5.5200	5.5927	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

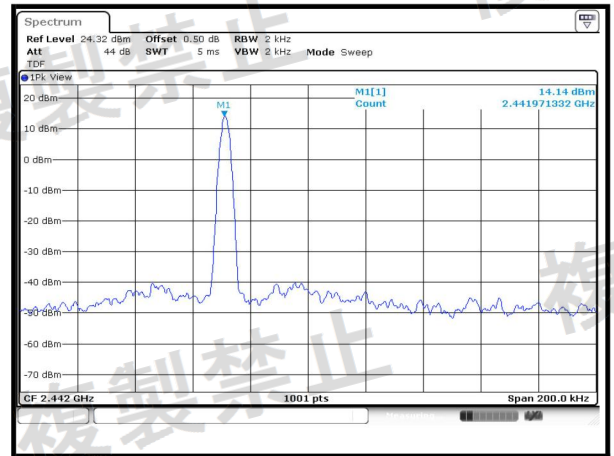
7. Test chart

7.1 Frequency tolerance (Rated voltage)

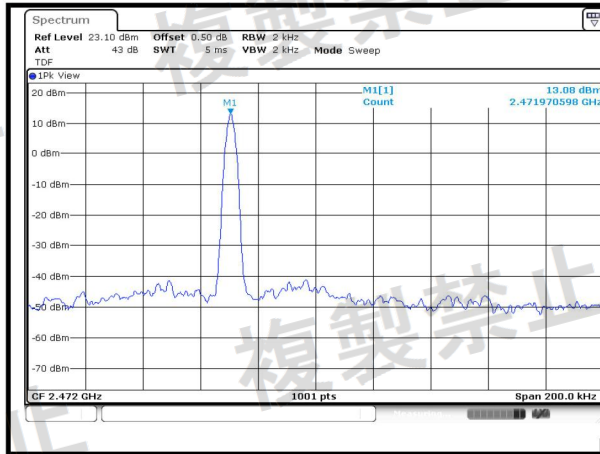
Ch.1: 2412MHz



Ch.7: 2442MHz



Ch.13: 2472MHz

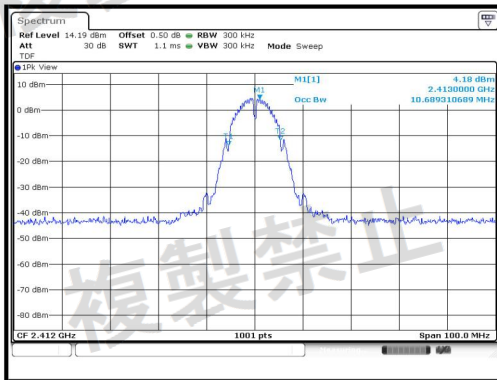


7. Test chart

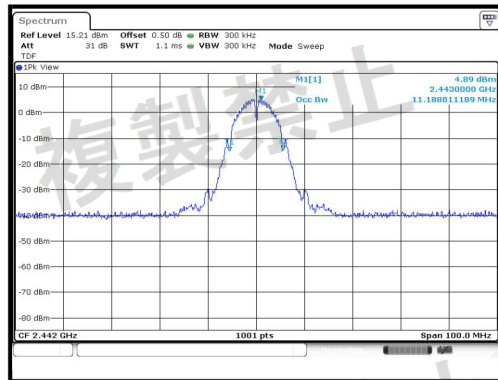
7.2 Occupied bandwidth / Spread bandwidth (Rated voltage)

Occupied bandwidth

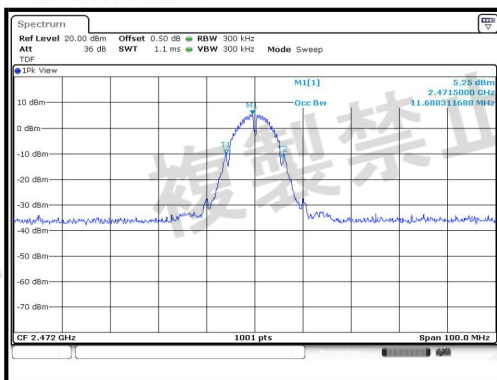
Ch.1: 2412MHz



Ch.7: 2442MHz

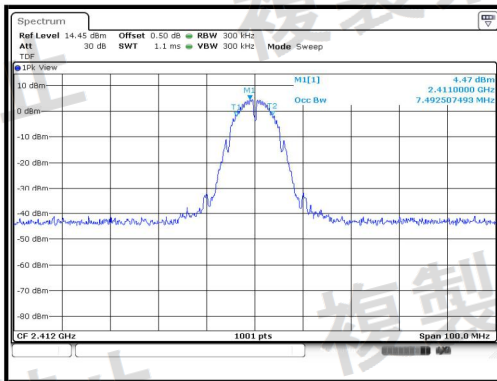


Ch.13: 2472MHz

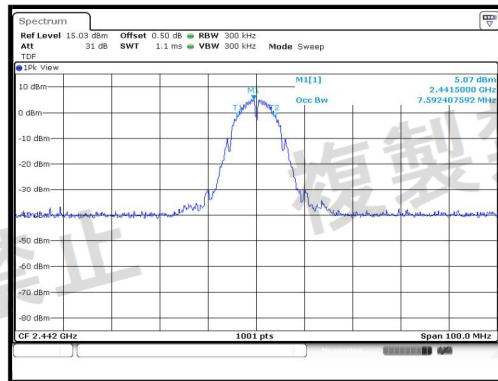


Spread bandwidth

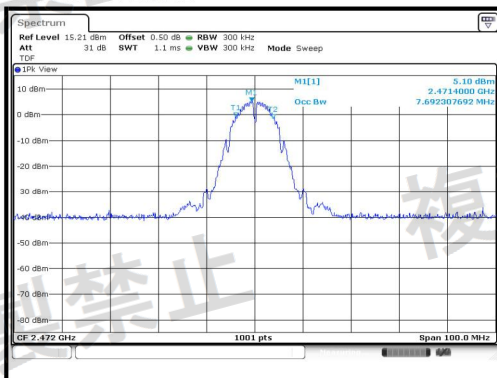
Ch.1: 2412MHz



Ch.7: 2442MHz



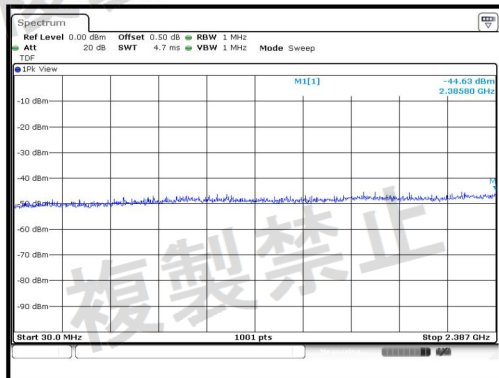
Ch.13: 2472MHz



7. Test chart

7.3 Unwanted(Spurious) emission strength (Rated voltage)

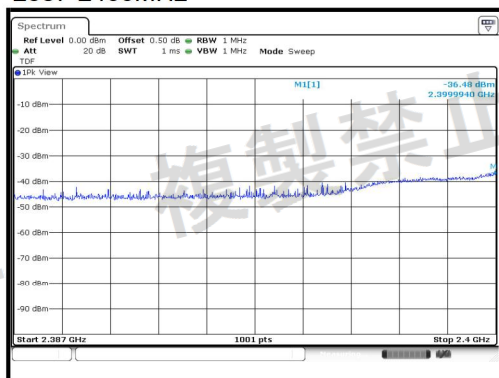
2412MHz
30-2387MHz



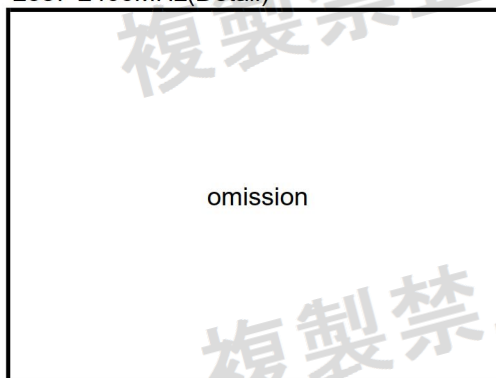
30-2387MHz(Detail)



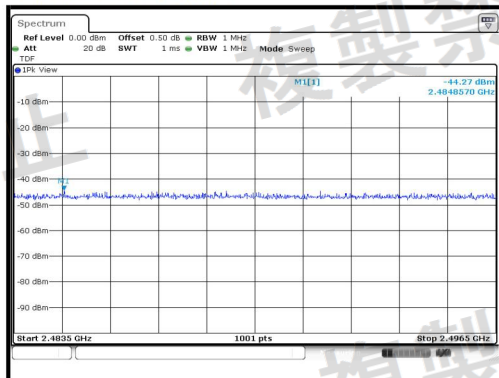
2387-2400MHz



2387-2400MHz(Detail)



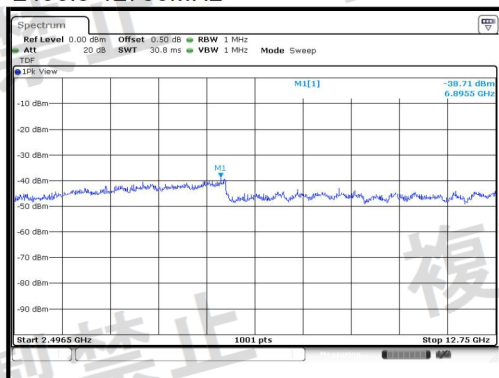
2483.5-2496.5MHz



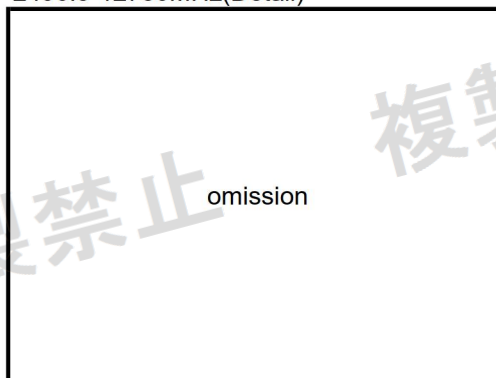
2483.5-2496.5MHz(Detail)



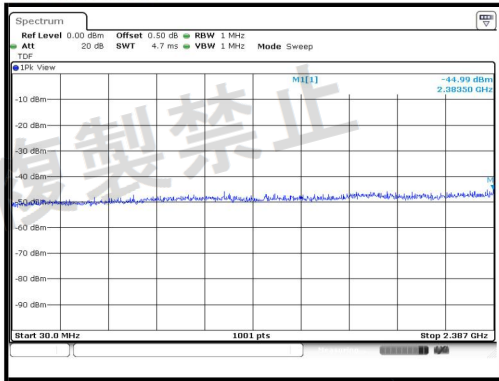
2496.5-12750MHz



2496.5-12750MHz(Detail)



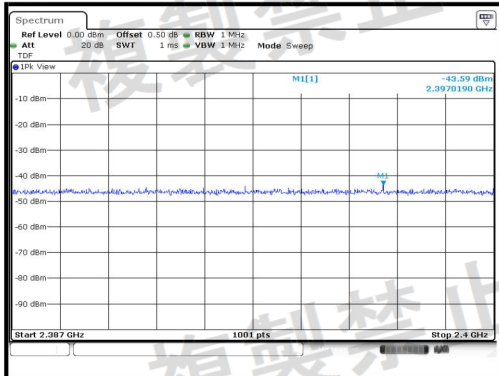
2442MHz 30-2387MHz



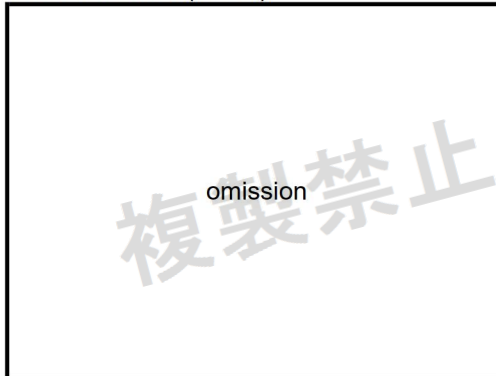
30MHz-5135MHz(Detail)



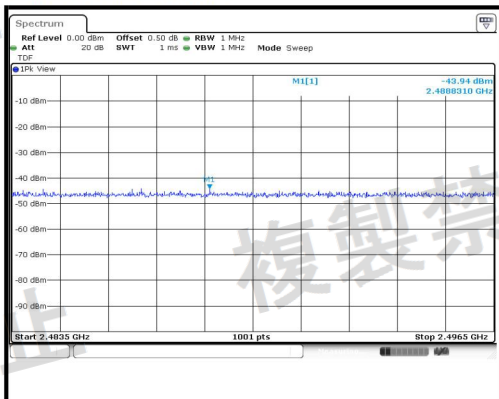
2387-2400MHz



2387-2400MHz(Detail)



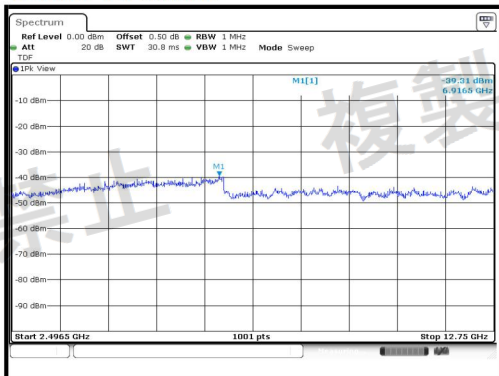
2483.5-2496.5MHz



2483.5-2496.5MHz(Detail)



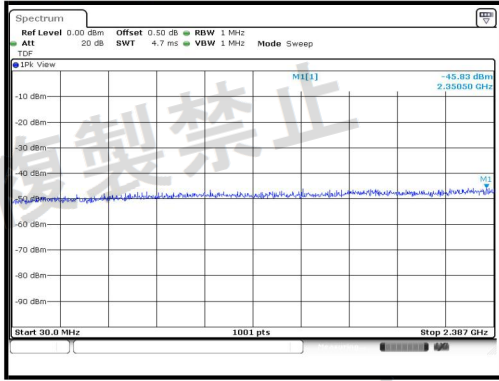
2496.5-12750MHz



2496.5-12750MHz(Detail)



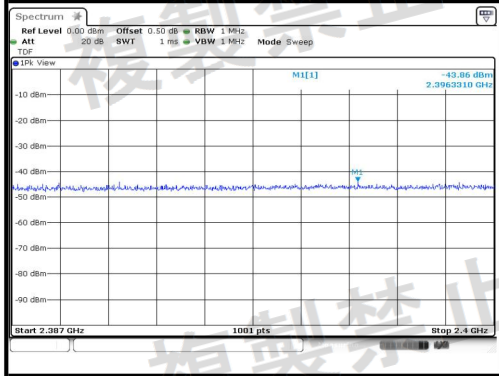
2472MHz 30-2387MHz



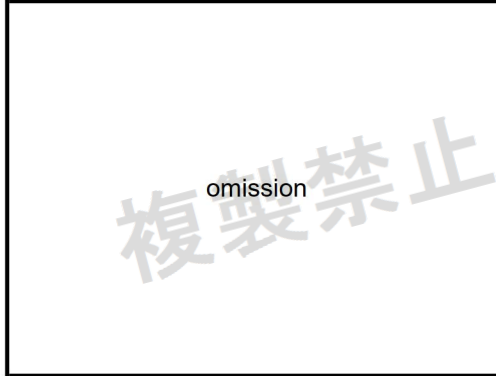
30MHz-5135MHz(Detail)



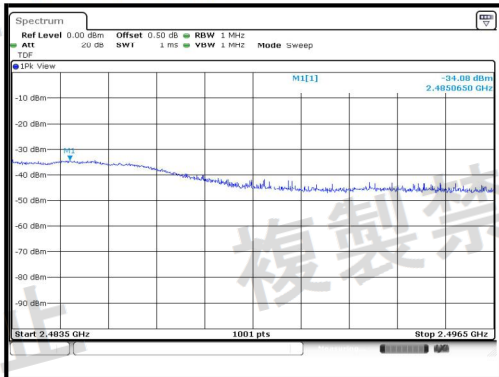
2387-2400MHz



2387-2400MHz(Detail)



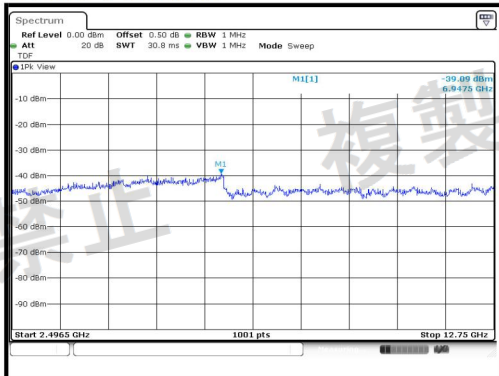
2483.5-2496.5MHz



2483.5-2496.5MHz(Detail)



2496.5-12750MHz



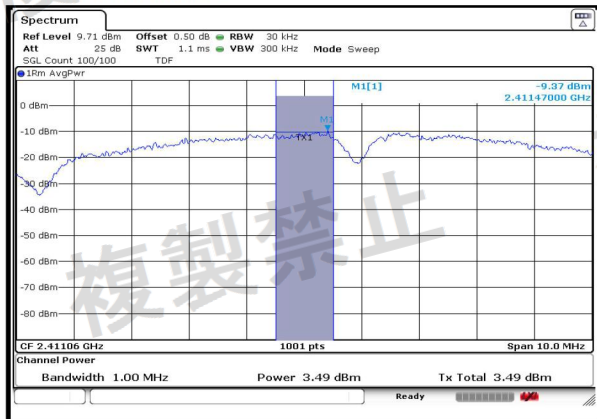
2496.5-12750MHz(Detail)



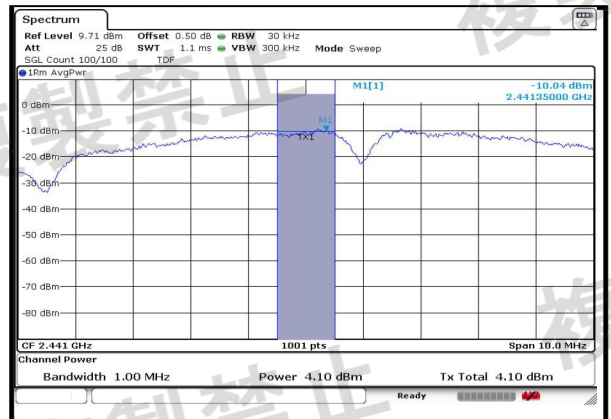
7. Test chart

7.4 RF output power tolerance (Rated voltage)

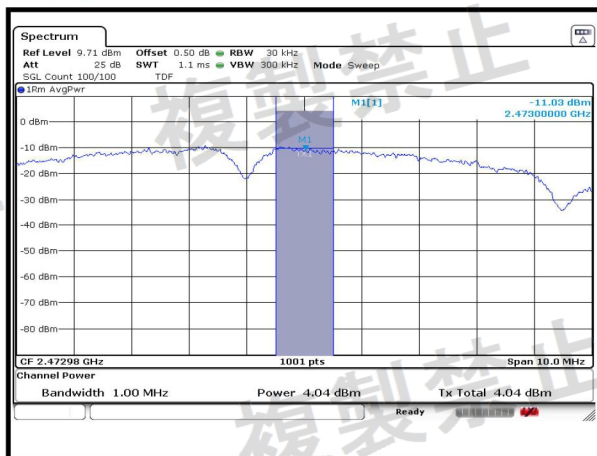
Ch.1: 2412MHz



Ch.7: 2442MHz



Ch.13: 2472MHz



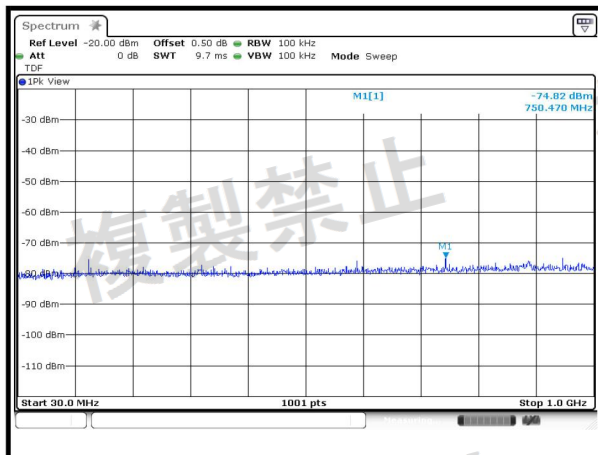
ON/OFF time



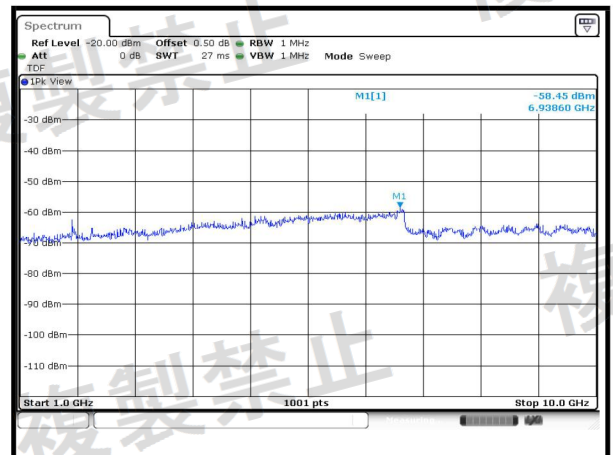
7. Test chart

7.5 Secondary emitted radio wave strength (Rated voltage)

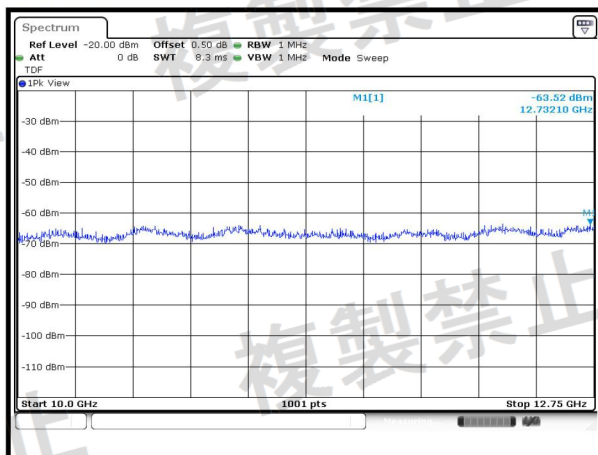
Ch.1: 2412MHz
30-1000MHz



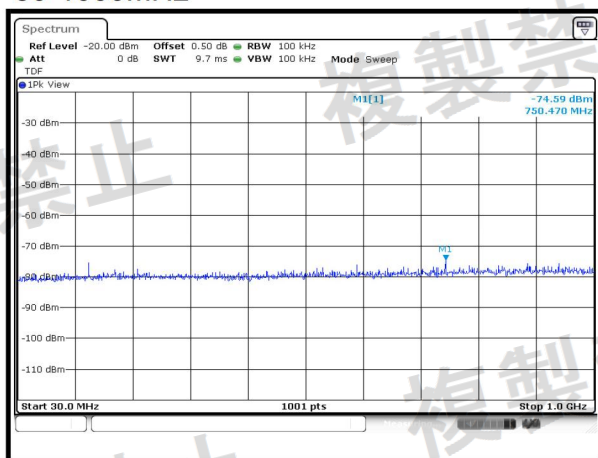
1-10GHz



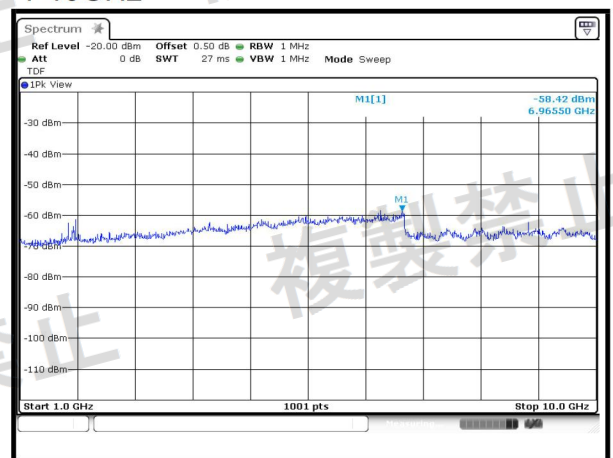
10-12.75GHz



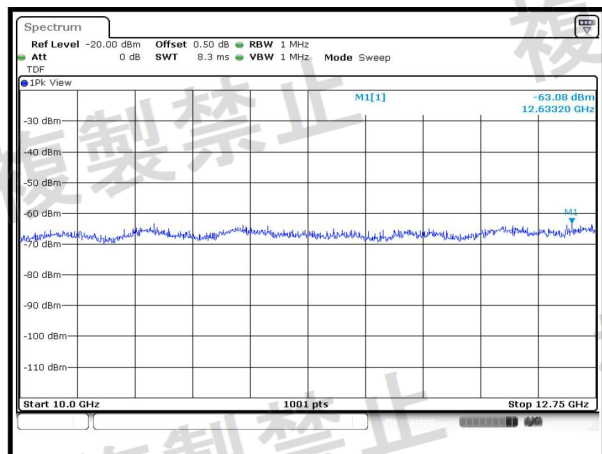
Ch.7: 2442MHz
30-1000MHz



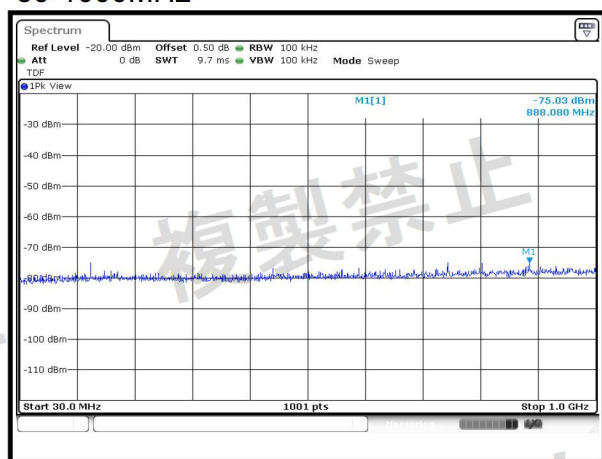
1-10GHz



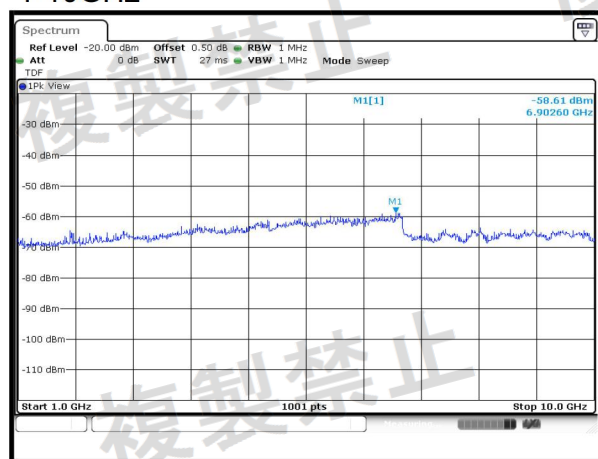
10-12.75GHz



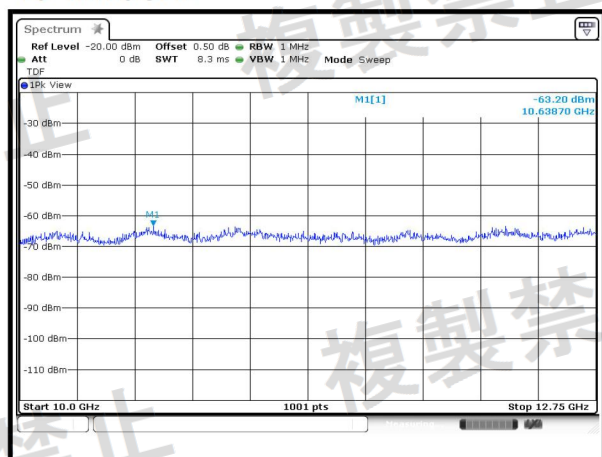
Ch.13: 2472MHz
30-1000MHz



1-10GHz



10-12.75GHz



3. Test results (Rated voltage)

S/N : N/A

Environment of test room	Date of test	2020-07-15	2020-07-20
	Temperature	21 °C	20 °C
	Humidity	49 %	50 %

Test category	IEEE802.11g/1-13ch/ANT1	
Peak Antenna Gain	-0.35	dBi
Declaration Output Power	2.000	mW/MHz
Declaration Output Power	3.01	dBm/MHz
E.I.R.P.	2.66	dBm/MHz
Input Power Voltage	3.80	VDC

Test category	IEEE802.11g/1-13ch/ANT1	
Tested Circuit Insertion Loss	0	dB
Transmission Time	ON TIME (1sec or less)	1.4189 ms
	OFF TIME (0.1sec or more)	0.112 ms
	Ratio	0.9268 %
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 (IEEE802.11g/1-13ch/ANT1)	
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 $\pm 1\%$ when input voltage from an external supply into the equipment fluctuates $\pm 10\%$. Please refer to "Regulator performance test result_PPM43" file.	

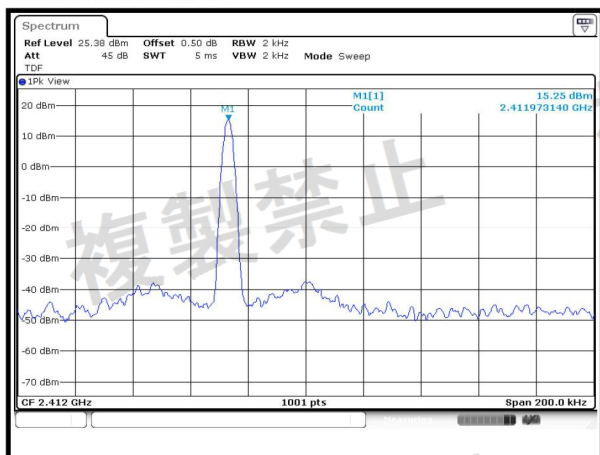
Measurement Frequency	MHz	2412	2442	2472	Result	Limit	Note
Channel Number	Ch.	1	7	13	---	---	
Frequency Measurements	MHz	2411.973100	2441.971900	2471.970900	---	---	
Frequency Tolerance	ppm	-11.15257	-11.50696	-11.77184	PASS	$\pm 50 \times 10^{-5}$ (50ppm)	
Occupied Bandwidth	MHz	16.88	16.78	16.88	PASS	26MHz or below	
RF Output Power	mW/MHz	1.435473	1.790585	1.887970	PASS	10mW/MHz or below	
RF Output Power Tolerance	%	-28.2263	-10.4707	-5.6015	PASS	+20 to -80%	
Unwanted (Spurious) Emission Strength (1-13ch)	30 to 2387MHz	uW/MHz	0.147231	0.030549	0.036224	PASS	2.5uW/MHz or below
	2387 to 2400MHz	MHz	2385.800	2301.100	2317.500	----	
		uW/MHz	8.974288	0.106660	0.040832	PASS	25uW/MHz or below
	2483.5 to 2496.5MHz	MHz	2399.994	2399.578	2388.370	----	
		uW/MHz	0.034514	0.050933	20.989399	PASS	25uW/MHz or below
	2496.5 to 12750MHz	MHz	2493.065	2484.779	2483.844	----	
		uW/MHz	0.116145	0.145546	0.382825	PASS	2.5uW/MHz or below
Secondary Emitted Radio Wave Strength	30 to 1000MHz	nW	0.037931	0.032285	0.037931	PASS	4nW or below
		MHz	149.680	750.470	750.470	----	
	1000 to 10000MHz	nW	1.399587	1.250259	1.592209	PASS	20nW or below
		MHz	6965.500	6686.800	6911.600	----	
	10000 to 12750MHz	nW	0.442588	0.495450	0.487528	PASS	20nW or below
		MHz	10611.300	12303.600	11158.000	----	
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

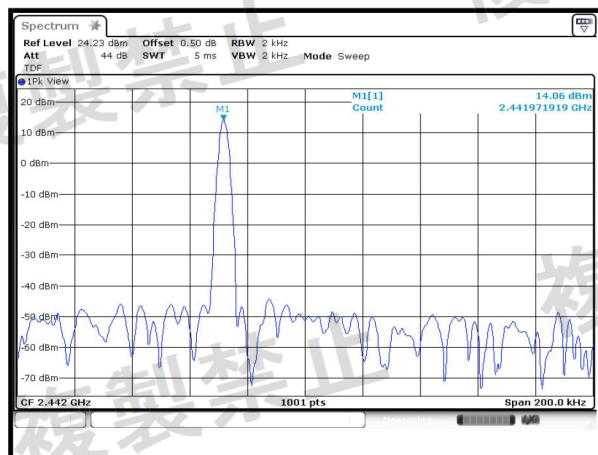
7. Test chart

7.1 Frequency tolerance (Rated voltage)

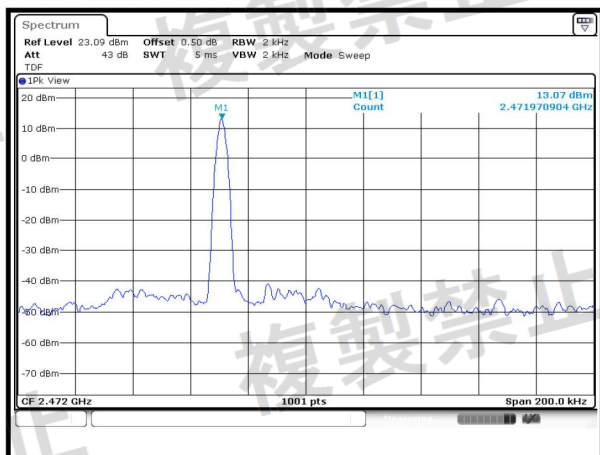
Ch.1: 2412MHz



Ch.7: 2442MHz



Ch.13: 2472MHz

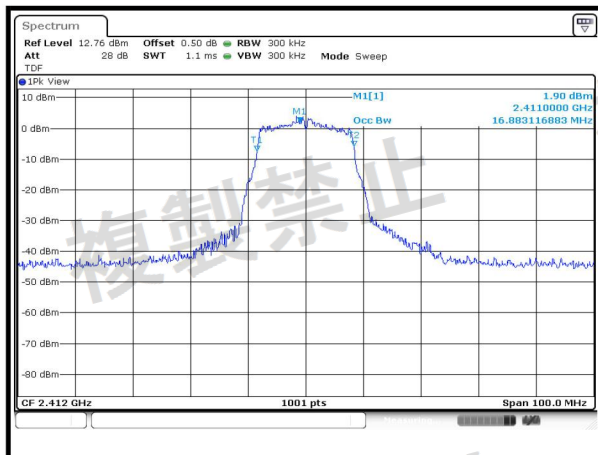


7. Test chart

7.2 Occupied bandwidth (Rated voltage)

Occupied bandwidth

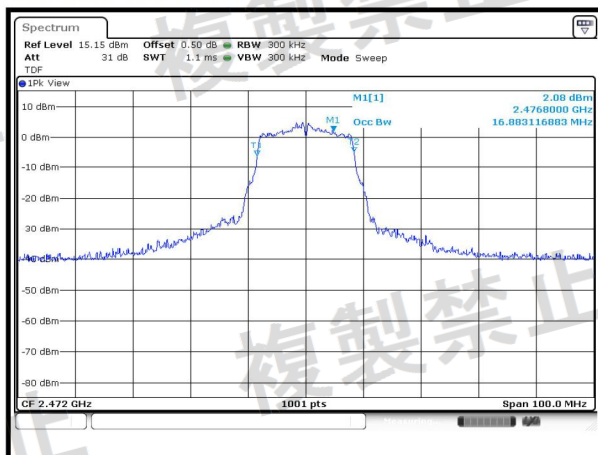
Ch.1: 2412MHz



Ch.7: 2442MHz



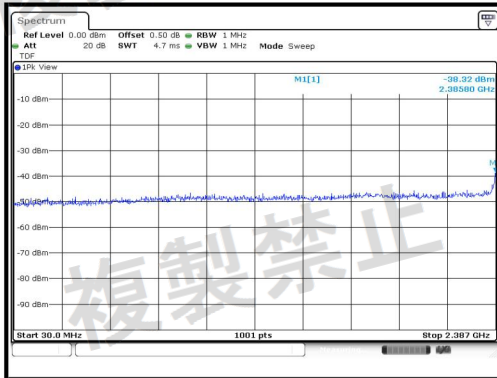
Ch.13: 2472MHz



7. Test chart

7.3 Unwanted(Spurious) emission strength (Rated voltage)

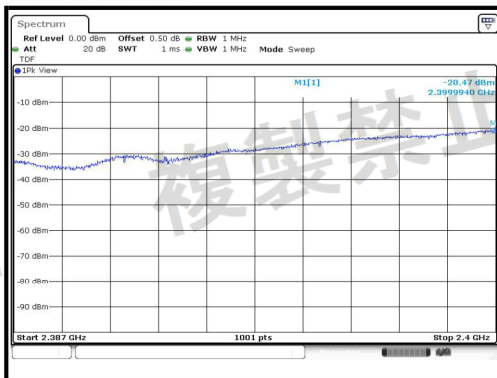
2412MHz
30-2387MHz



30-2387MHz(Detail)



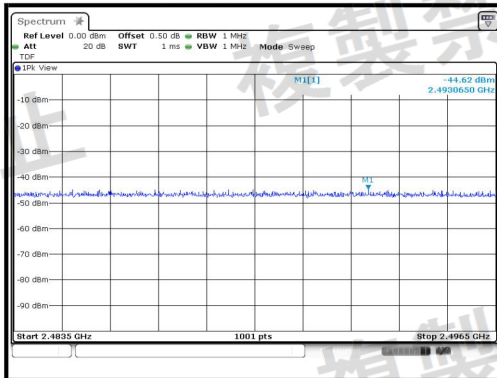
2387-2400MHz



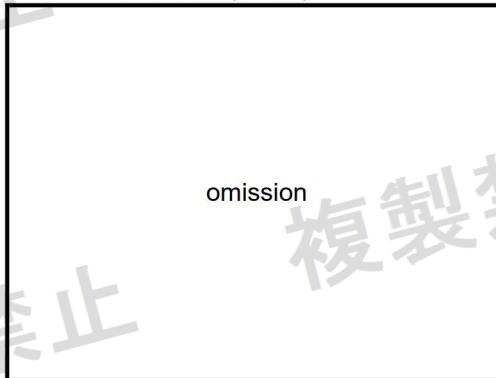
2387-2400MHz(Detail)



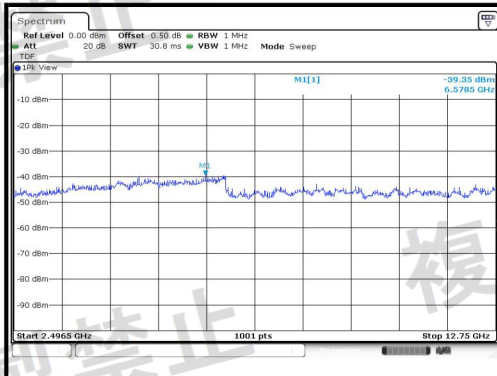
2483.5-2496.5MHz



2483.5-2496.5MHz(Detail)



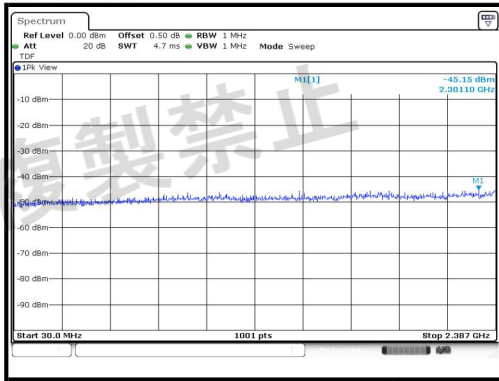
2496.5-12750MHz



2496.5-12750MHz(Detail)



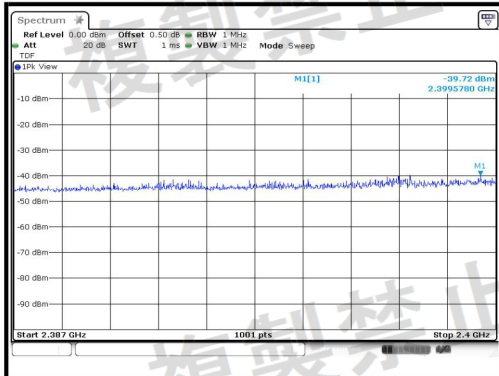
2442MHz 30-2387MHz



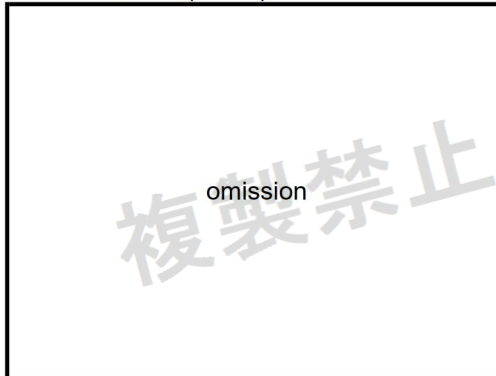
30MHz-5135MHz(Detail)



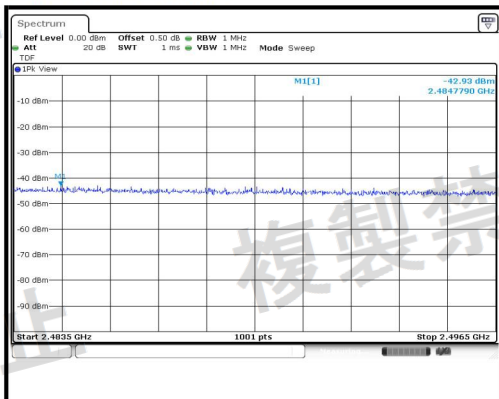
2387-2400MHz



2387-2400MHz(Detail)



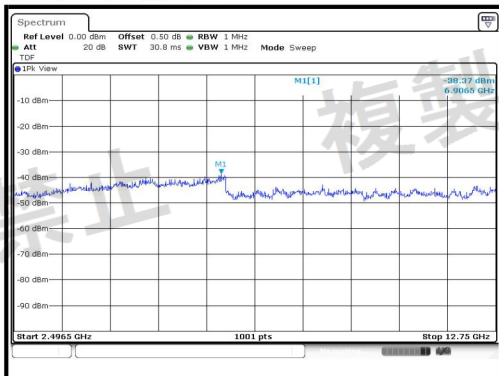
2483.5-2496.5MHz



2483.5-2496.5MHz(Detail)



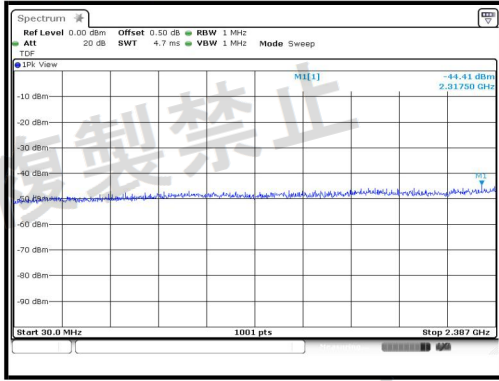
2496.5-12750MHz



2496.5-12750MHz(Detail)



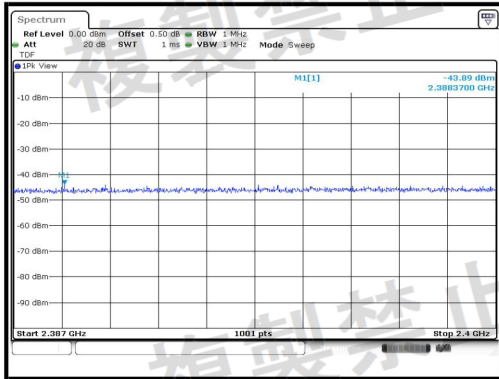
2472MHz
30-2387MHz



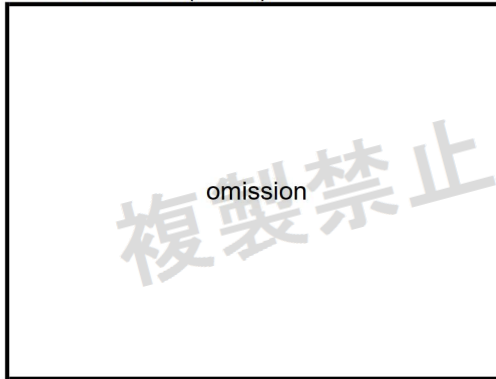
30MHz-5135MHz(Detail)



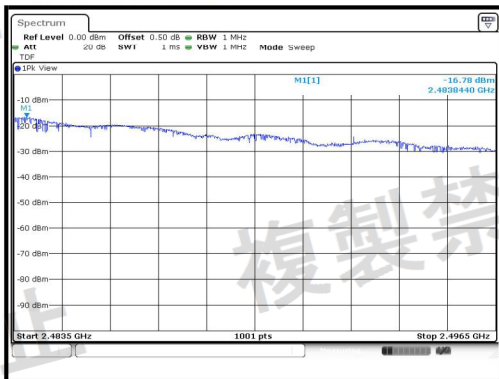
2387-2400MHz



2387-2400MHz(Detail)



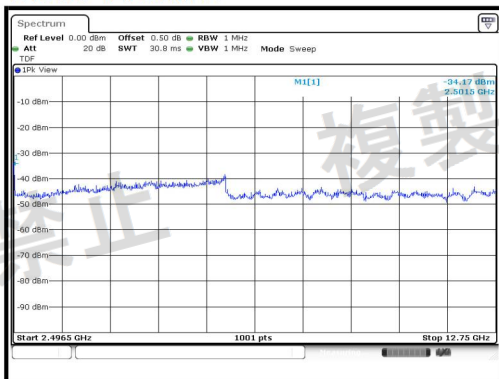
2483.5-2496.5MHz



2483.5-2496.5MHz(Detail)



2496.5-12750MHz



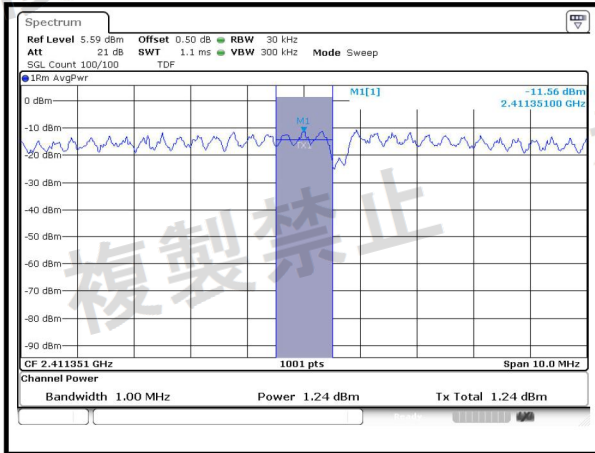
2496.5-12750MHz(Detail)



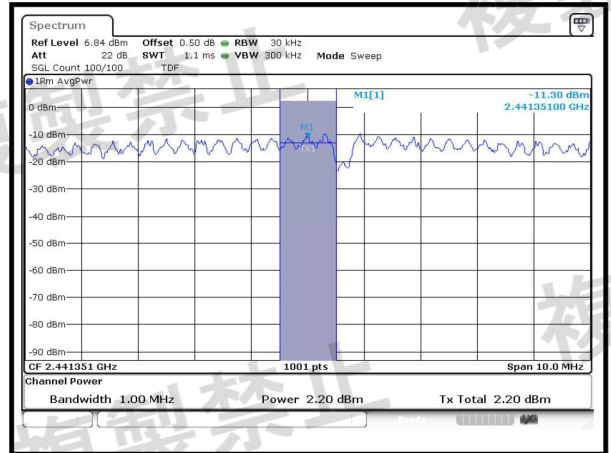
7. Test chart

7.4 RF output power tolerance (Rated voltage)

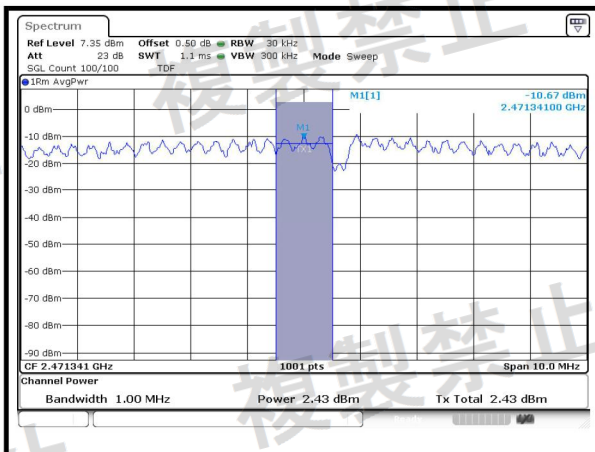
Ch.1: 2412MHz



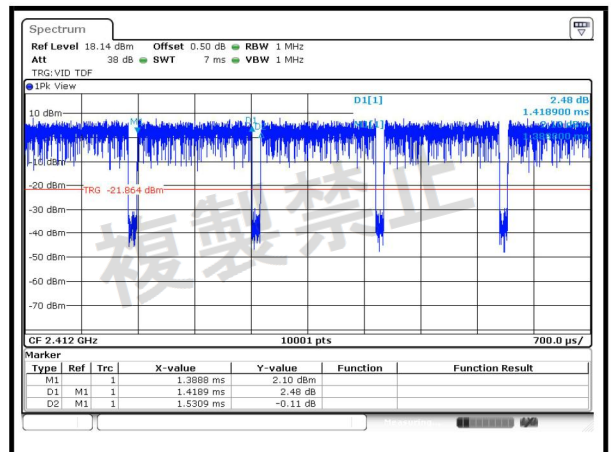
Ch.7: 2442MHz



Ch.13: 2472MHz



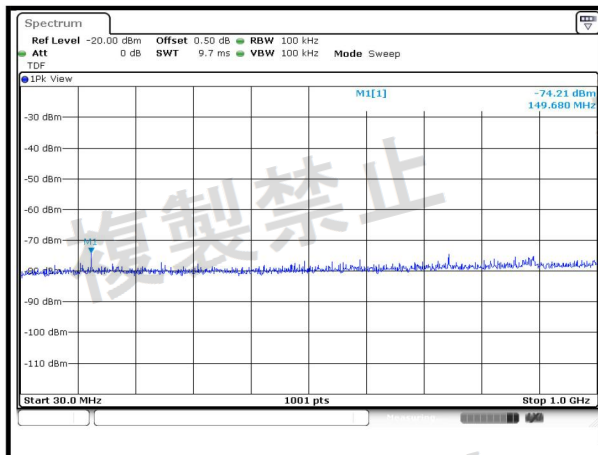
ON/OFF time



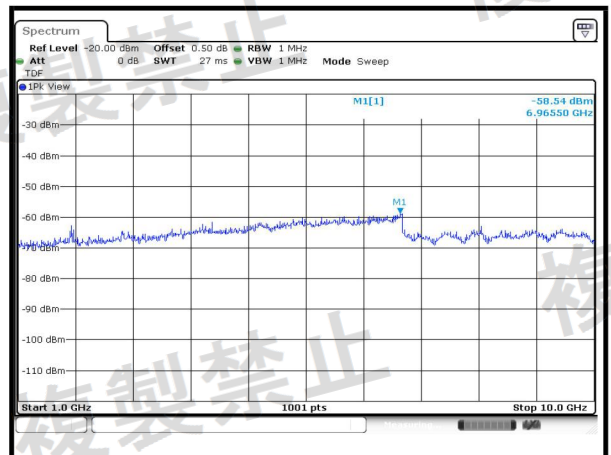
7. Test chart

7.5 Secondary emitted radio wave strength (Rated voltage)

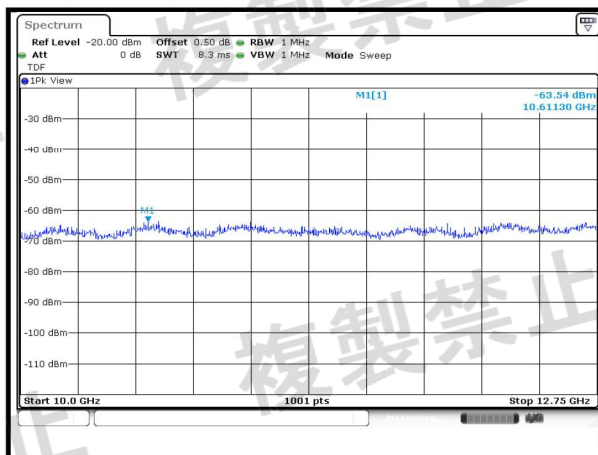
Ch.1: 2412MHz
30-1000MHz



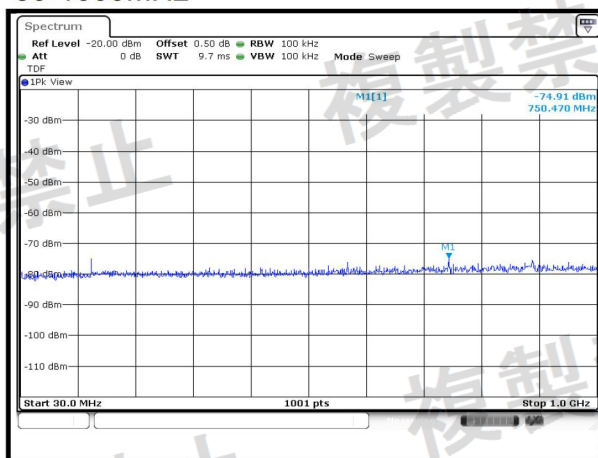
1-10GHz



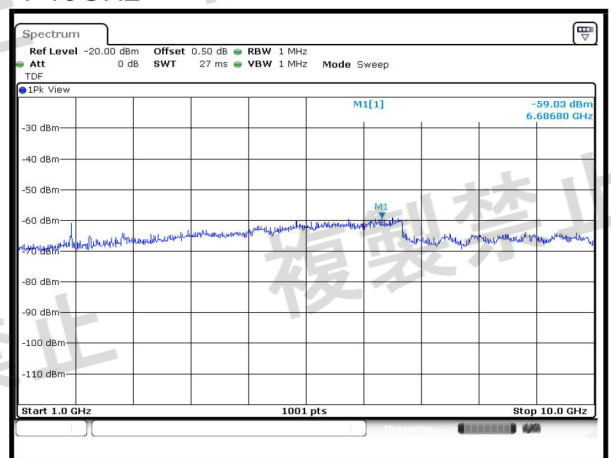
10-12.75GHz



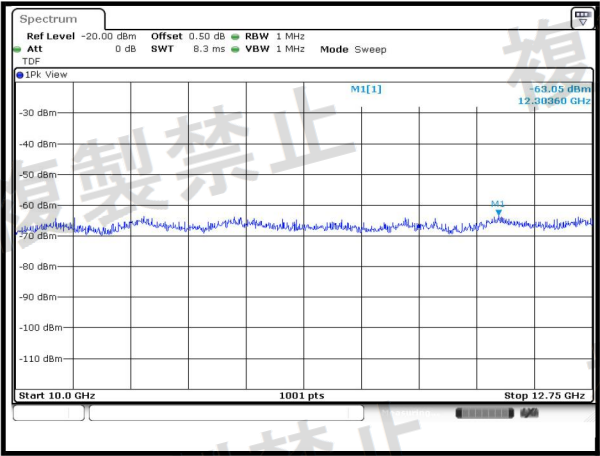
Ch.7: 2442MHz
30-1000MHz



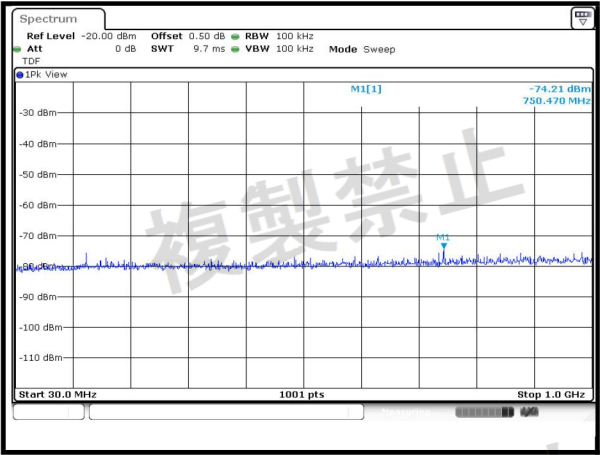
1-10GHz



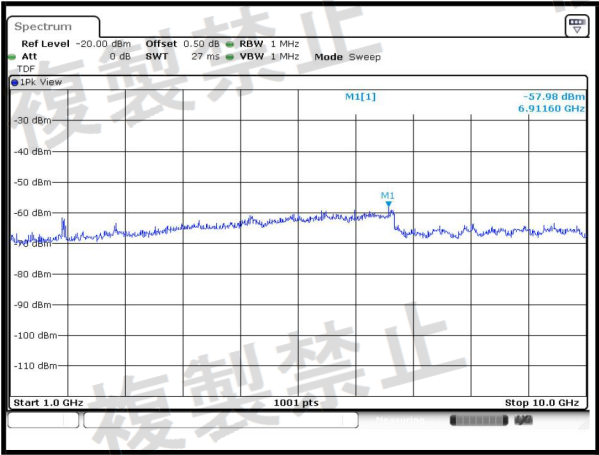
10-12.75GHz



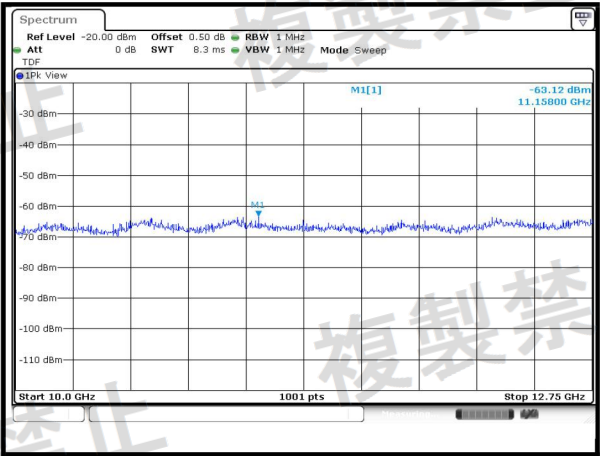
Ch.13: 2472MHz
30-1000MHz



1-10GHz



10-12.75GHz



3. Test results (Rated voltage)

S/N : N/A

Environment of test room	Date of test	2020-07-15	2020-07-20
	Temperature	21 °C	20 °C
	Humidity	49 %	50 %

Test category	IEEE802.11n20/1-13ch/ANT1	
Peak Antenna Gain	-0.35	dBi
Declaration Output Power	1.700	mW/MHz
Declaration Output Power	2.30	dBm/MHz
E.I.R.P.	1.96	dBm/MHz
Input Power Voltage	3.80	VDC

Test category	IEEE802.11n20/1-13ch/ANT1	
Tested Circuit Insertion Loss	0	dB
Transmission Time	ON TIME (1sec or less)	1.3278 ms
	OFF TIME (0.1sec or more)	0.112 ms
	Ratio	0.9225 %
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 (IEEE802.11n20/1-13ch/ANT1)	
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 $\pm 1\%$ when input voltage from an external supply into the equipment fluctuates $\pm 10\%$. Please refer to "Regulator performance test result_PPM43" file.	

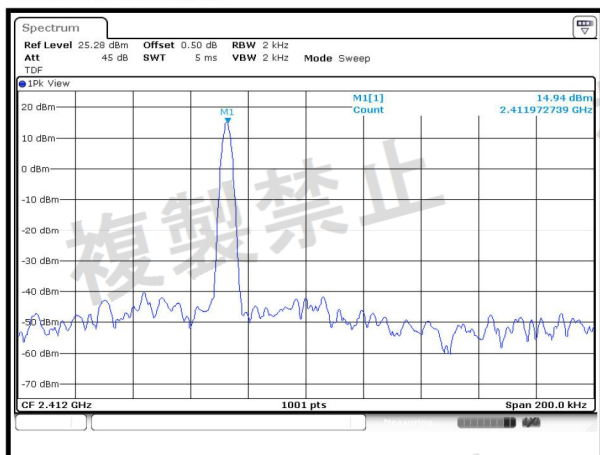
Measurement Frequency	MHz	2412	2442	2472	Result	Limit	Note
Channel Number	Ch.	1	7	13	---	---	
Frequency Measurements	MHz	2411.972700	2441.971700	2471.970900	---	---	
Frequency Tolerance	ppm	-11.31841	-11.58886	-11.77184	PASS	$\pm 50 \times 10^{-5}$ (50ppm)	
Occupied Bandwidth	MHz	17.88	17.88	17.98	PASS	26MHz or below	
RF Output Power	mW/MHz	1.342916	1.618262	1.588725	PASS	10mW/MHz or below	
RF Output Power Tolerance	%	-21.0049	-4.8081	-6.5456	PASS	+20 to -80%	
Unwanted (Spurious) Emission Strength (1-13ch)	30 to 2387MHz	uW/MHz	0.073451	0.029376	0.027040	PASS	2.5uW/MHz or below
	2387 to 2400MHz	MHz	2385.800	1750.100	2258.700	----	
		uW/MHz	15.523870	0.095940	0.042855	PASS	25uW/MHz or below
	2483.5 to 2496.5MHz	MHz	2399.604	2399.617	2399.214	----	
		uW/MHz	0.036983	0.046774	23.280913	PASS	25uW/MHz or below
	2496.5 to 12750MHz	MHz	2494.078	2484.195	2483.987	----	
		uW/MHz	0.115611	0.127644	0.332660	PASS	2.5uW/MHz or below
Secondary Emitted Radio Wave Strength	30 to 1000MHz	nW	0.035075	0.034914	0.036058	PASS	4nW or below
		MHz	149.680	149.680	600.270	----	
	1000 to 10000MHz	nW	1.288250	1.342765	1.282331	PASS	20nW or below
		MHz	6983.500	6965.500	6507.000	----	
	10000 to 12750MHz	nW	0.538270	0.494311	0.537032	PASS	20nW or below
		MHz	12704.700	11045.300	12265.100	----	
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

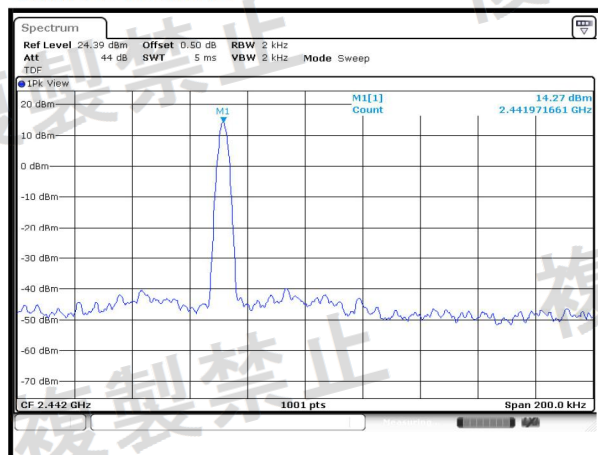
7. Test chart

7.1 Frequency tolerance (Rated voltage)

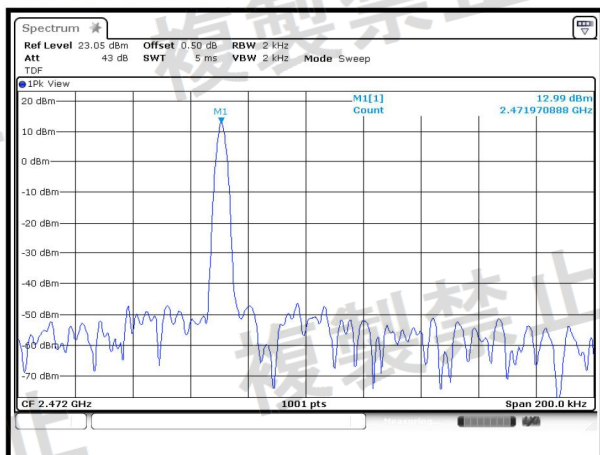
Ch.1: 2412MHz



Ch.7: 2442MHz



Ch.13: 2472MHz

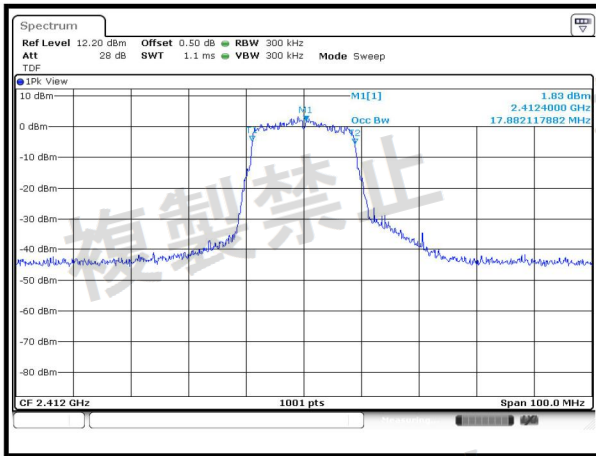


7. Test chart

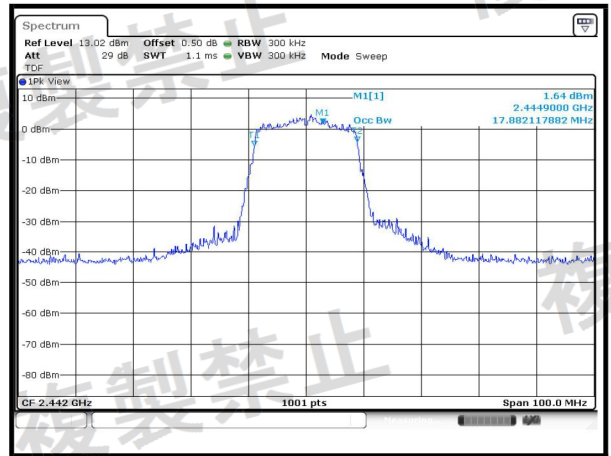
7.2 Occupied bandwidth / Spread bandwidth (Rated voltage)

Occupied bandwidth

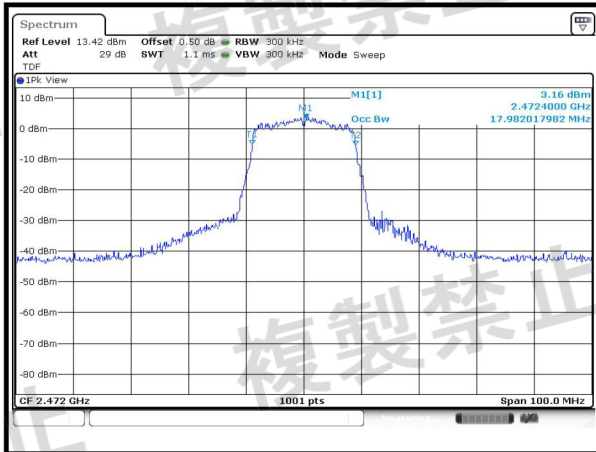
Ch.1: 2412MHz



Ch.7: 2442MHz



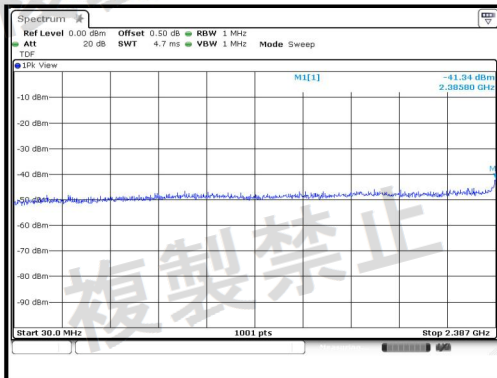
Ch.13: 2472MHz



7. Test chart

7.3 Unwanted(Spurious) emission strength (Rated voltage)

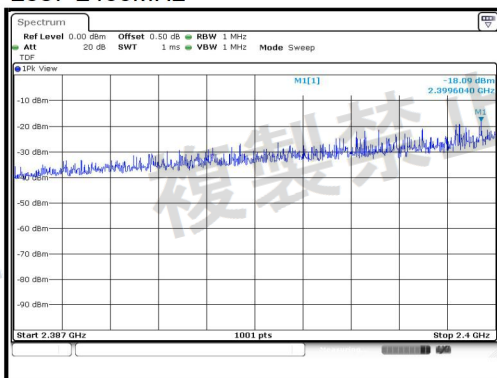
2412MHz
30-2387MHz



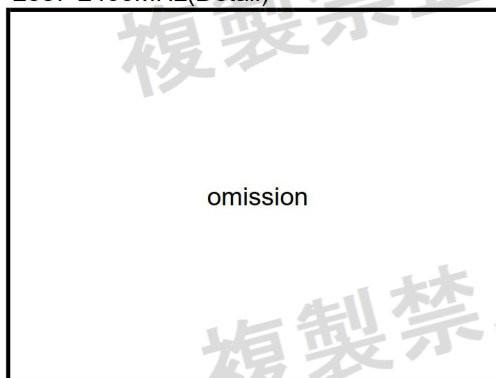
30-2387MHz(Detail)



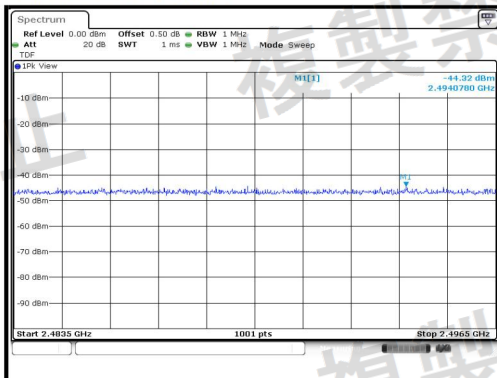
2387-2400MHz



2387-2400MHz(Detail)



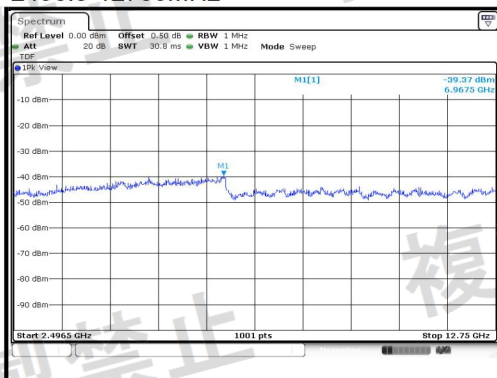
2483.5-2496.5MHz



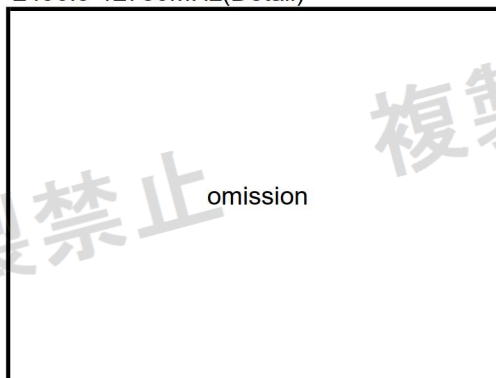
2483.5-2496.5MHz(Detail)



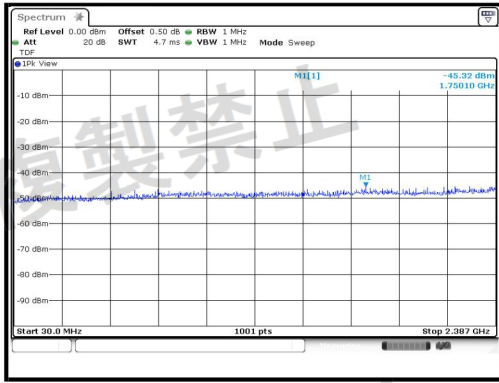
2496.5-12750MHz



2496.5-12750MHz(Detail)



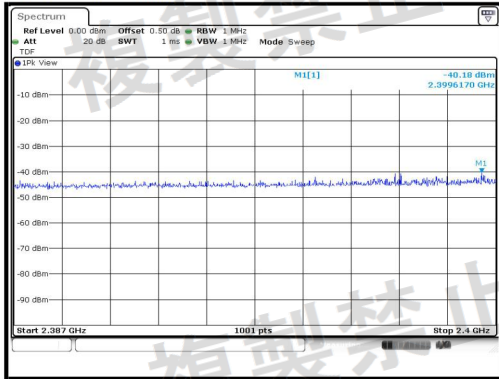
2442MHz 30-2387MHz



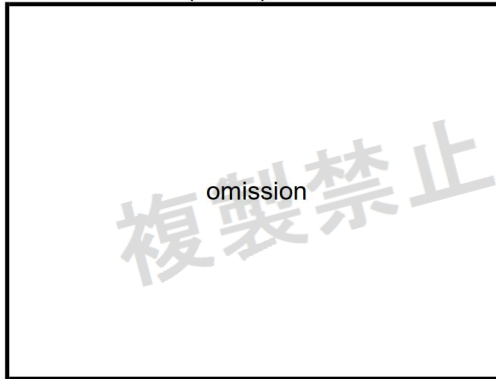
30MHz-5135MHz(Detail)



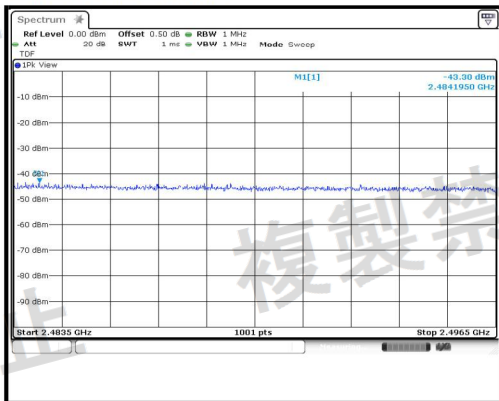
2387-2400MHz



2387-2400MHz(Detail)



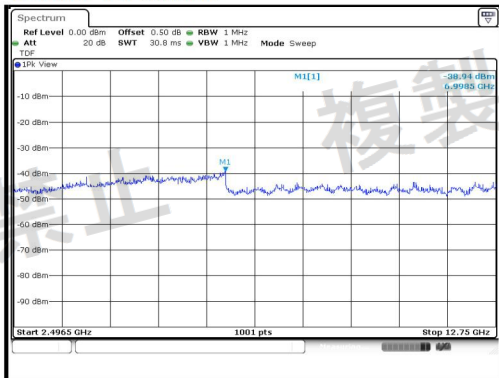
2483.5-2496.5MHz



2483.5-2496.5MHz(Detail)



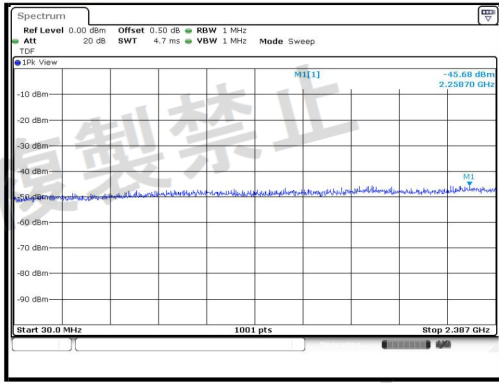
2496.5-12750MHz



2496.5-12750MHz(Detail)



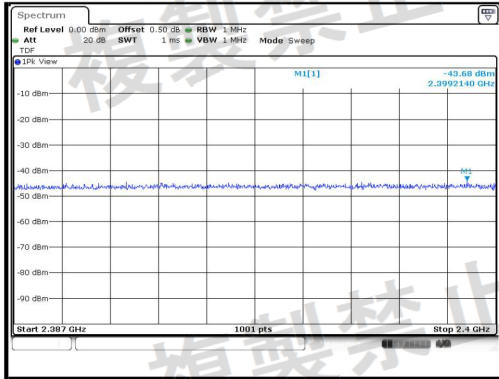
2472MHz 30-2387MHz



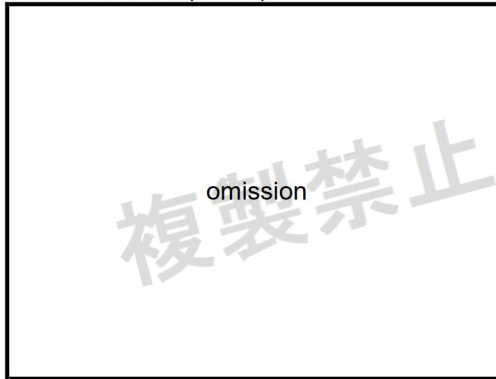
30MHz-5135MHz(Detail)



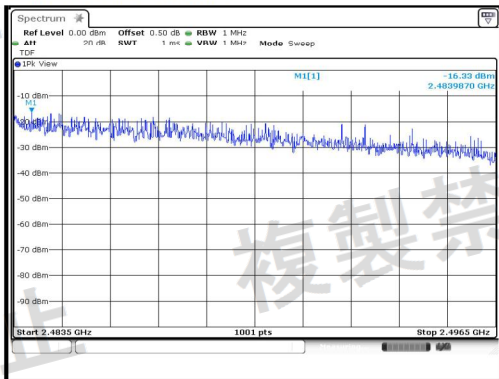
2387-2400MHz



2387-2400MHz(Detail)



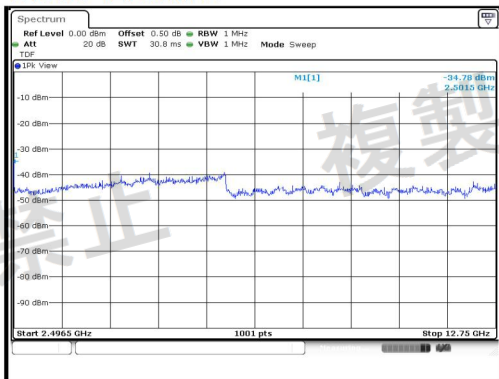
2483.5-2496.5MHz



2483.5-2496.5MHz(Detail)



2496.5-12750MHz



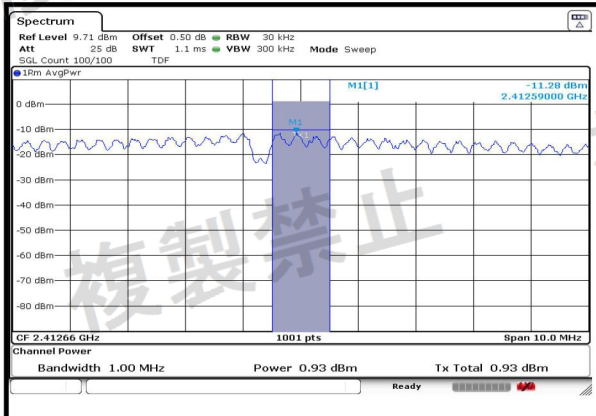
2496.5-12750MHz(Detail)



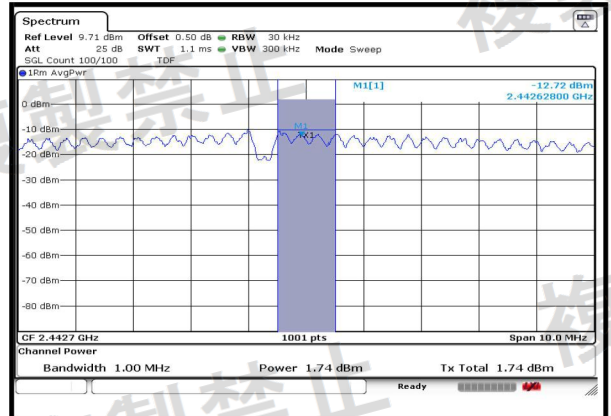
7. Test chart

7.4 RF output power tolerance (Rated voltage)

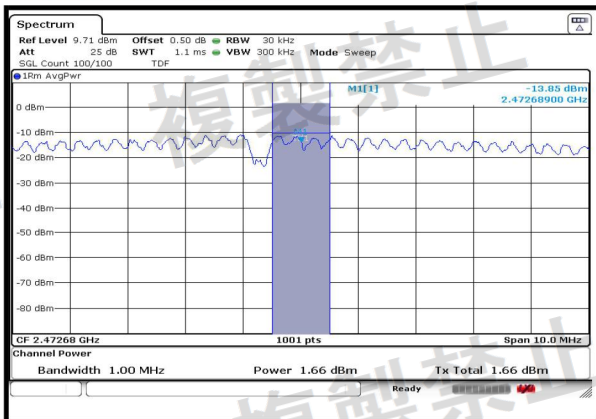
Ch.1: 2412MHz



Ch.7: 2442MHz



Ch.13: 2472MHz



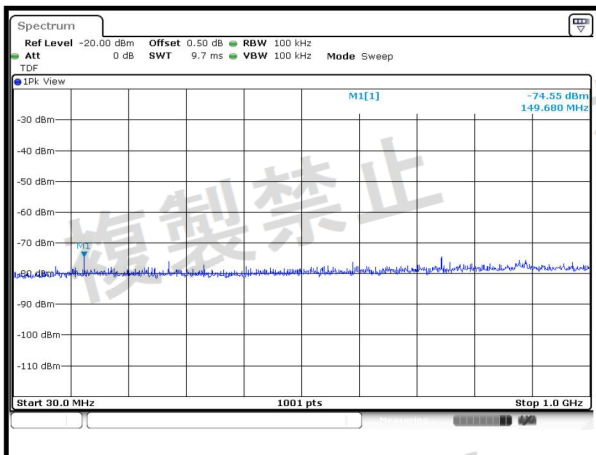
ON/OFF time



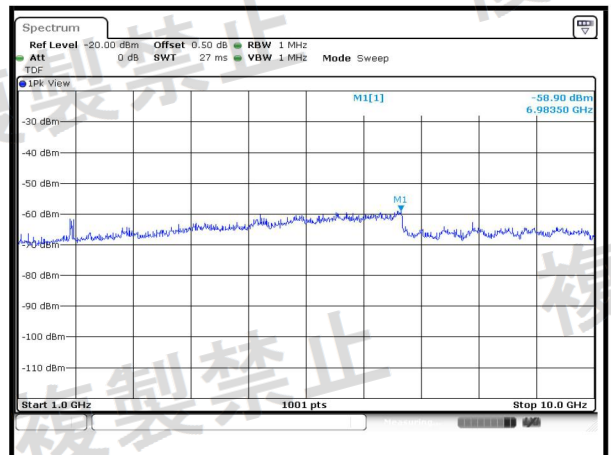
7. Test chart

7.5 Secondary emitted radio wave strength (Rated voltage)

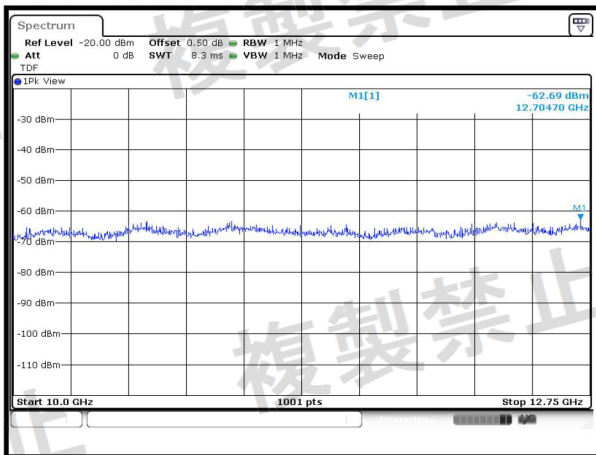
Ch.1: 2412MHz
30-1000MHz



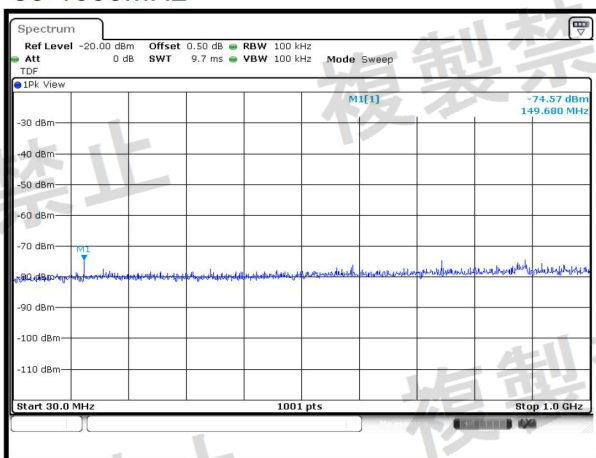
1-10GHz



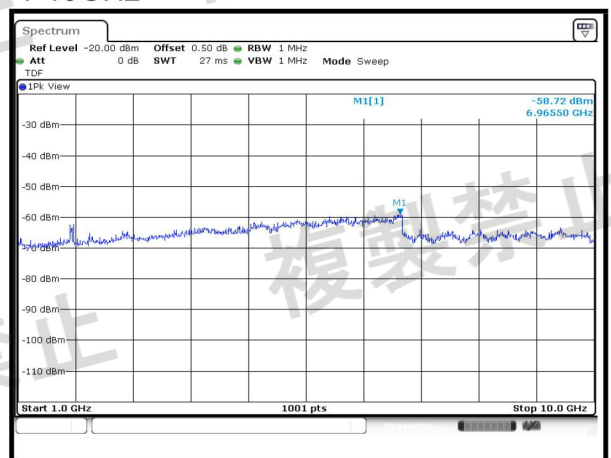
10-12.75GHz



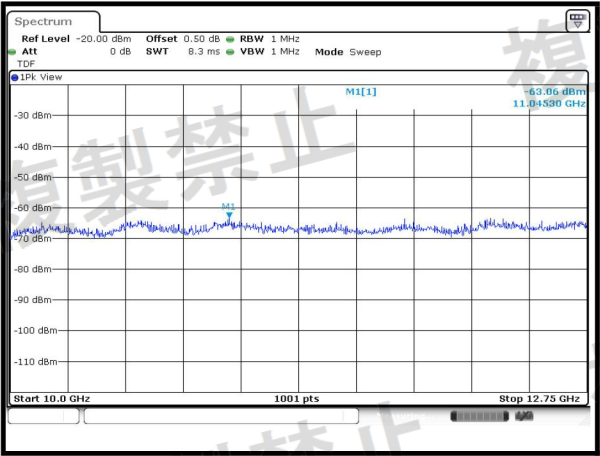
Ch.7: 2442MHz
30-1000MHz



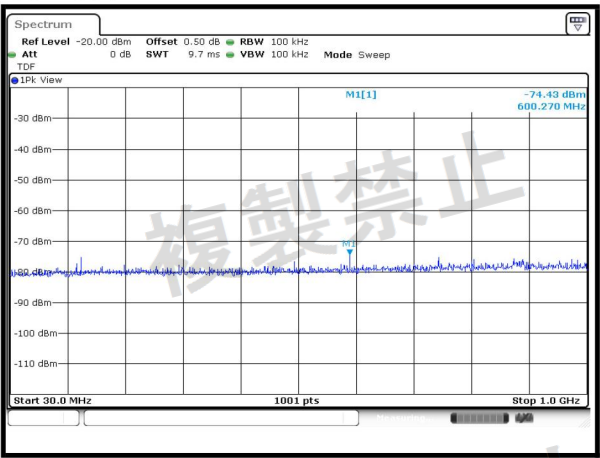
1-10GHz



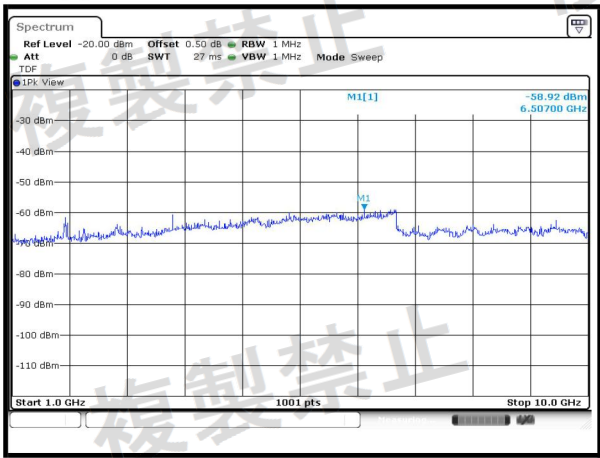
10-12.75GHz



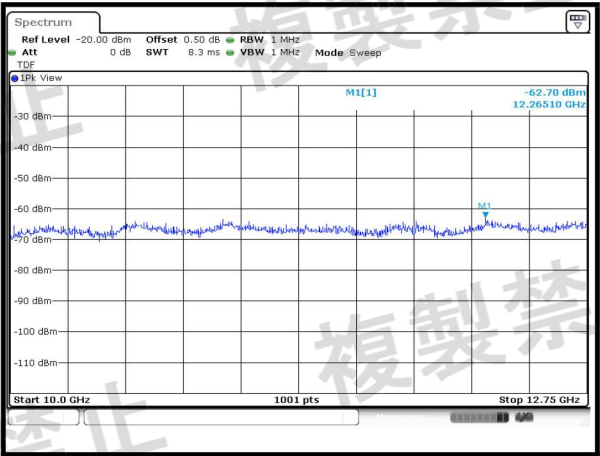
Ch.13: 2472MHz
30-1000MHz



1-10GHz



10-12.75GHz



6. Laboratory description

1. Location

Name: KCTL Inc.

65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea

Telephone Number: +82 31 285 0894

Facsimile Number: +82 505 299 8311

2. Accreditation and Registration

1) FCC

Site Designation No.: KR0040

Site Registration No.: 687132

2) VCCI

Registration No.: R-20080, G-20078, C-20059, T-20056

3) Industry Canada

Registration No.: 8035A

Test Site	OATS 3m	OATS 10m	OATS 30m	Chamber 3m	Chamber 10m	Expiry Date
8035A-2	No	No	No	Yes	Yes	2021-02-21

4) KOLAS

Registration number	Expiration date
KT231	2020-09-13