



(J-MIC) TEST REPORT

Report No. : BVT-RH-JPR-260001

Applicant

• Name : Apulse Co.,Ltd
• Address : 3-508,509, 120, Gunpocheomdansaneop 2-ro, Gunpo-si, Gyeonggi-do, 15880,
Republic of Korea

Test Item

• Product Name : RFID Reader Module
• Model Name : Air12

Manufacturer

• Name : Apulse Co.,Ltd
• Address : 3-508,509, 120, Gunpocheomdansaneop 2-ro, Gunpo-si, Gyeonggi-do, 15880,
Republic of Korea

Date of Test : 2026.01.19. ~ 2026.01.22.

Test Method Used : Article 2, Paragraph 1, Item 6.2

Test Result : ☒ Pass ☐ Fail

Note : None

This test report is not related to KOLAS accreditation

Affirmation

Tested by

Name : Lee, Heon-Ho (Signature)

Technical Manager

Name : Jang, Hyeon-Su (Signature)

2026. 01. 30.

Bureau Veritas CPS Korea Tech Limited



Revision History of test report

Date	Report No.	Revision Histoty
2026.01.30	BVT-RH-JPR-260001	Initial issue

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1. Information of Testing Laboratory

Legal Name and address

Bureau Veritas CPS Korea Tech Limited

(Annyeong-dong) 26, 28, 30, Seja-ro 406beon-gil, Hwaseong-si, Gyeonggi-do, 18326, Republic of Korea

Website: <http://www.bvcpskoreatech.co.kr>

Test location and address

☒ Hwaseong

(Annyeong-dong) 26, 28, 30, Seja-ro 406beon-gil, Hwaseong-si, Gyeonggi-do, 18326, Republic of Korea

Tel: 82-31-222-4251

☐ Suwon

Yeongtong Innoplex 1st Complex No.2 B303, No.2 B304, 306, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Suwon, 16675, Republic of Korea

Tel: +82-31-8002-3051, Fax: +82-31-8002-3061

☐ Anyang

Heungan-daero 49, Dongan-gu, Anyang-si, Gyeonggi-do, 14119, Republic of Korea

Tel: +82-31-689-4110, Fax: +82-31-689-4120

Registration information

- KOLAS No.: KT232
- RRA No.: KR0041
- A2LA No.: 4068.02, 4068.03
- FCC Designation No.: KR0041
- ISED CAB ID.: KR0041
- VCCI Membership No.: 2005

2. EQUIPMENT DESCRIPTION

The product specification described herein was declared by manufacturer. And refer to user's manual for the details.

Equipment Name	RFID Reader Module
Model No	Air12
Usage	RFID Reader Module
Serial Number	Proto type
Modulation type	ASK
Emission Type	-
Maximum output power	27.88 dBm
Operated Frequency	916.8 MHz ~ 920.8 MHz
Channel Number	6
Operation temperature	-10°C to +50°C
Power Source	DC 5 V
Antenna Description	External PCB Patch Antenna
Remark	1. The device was operating at its maximum output power for all measurements. 2. The above DUT's information was declared by manufacturer. Please refer to the specifications or user manual for more detailed description.

3. SYSTEM CONFIGURATION FOR TEST

3.1 Characteristics of equipment

The Equipment Under Test (EUT) contains the following capabilities: This equipment is RFID Module. The detailed explanation is refer as user manual.

3.2 Used peripherals list

Description	Model No.	Serial No.	Manufacture	Remark
Notebook	LG15U47	712QCKJ563509	LG	-
Adapter	A13-040N3A	None	LG	For notebook

3.3 Product Modification

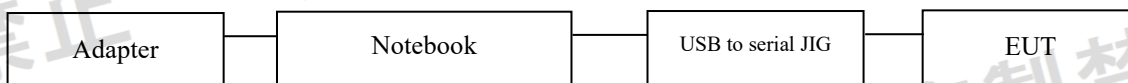
N/A

3.4 Operating Mode

Constantly transmitting with a modulated carrier at maximum power on the low, middle and high channels

3.5 Test Setup of EUT

The measurements were taken in continuous transmit mode using the test mode which controlled by demo_test_mode_tx.bat. The test command and the test Jig and cables were provided by the applicant.



3.6 Parameters of Test Software Setting

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel.

☒ TX Power setting value during test

Band	Rate	TX Power setting value		
		Low CH	Middle CH	High CH
920 MHz band	-	27	27	27

☒ Test Program

RFID 모듈 SDK 데모 v2.00.01b00

설정 보기 도움말

☐ 실행어 복구 모드 진입

모듈 AH12(AIR12202S1221) 모듈 물품(IW) 인터페이스 포트수 4

연결 방식 ☒ 시리얼 ☐ 이더넷

시리얼 COM66 보드레이트 115200

연결 해제

인벤토리 읽기/쓰기 학/무표차 물품 액세스 보안 전송 인증

결과 시간 00:00:00.0 속도 0.0 cm/s 평균 속도 0.0 cm/s

타그 값	RSSI	위상	채널	FastID	포트	횟수
0						

선택 마스크

인증 설정

설정

인벤토리 시작

엑셀로 저장

전부 삭제

마스크의 < > 비활성화, 세션: S0, 타그: A, SL: ALL

동작 설정

☒ 연속 모드 ☒ 독출 ☒ 사운드 ☒ 트리거 ☐ 중복 무음 ☐ 리모트 물터

☒ 물터 ☒ PC ☒ RSSI ☐ 위상 ☐ 채널 ☐ FastID

파워 제한 27, 27, 27, 27 dBm

설정

☒ Test Program Version

앱 정보

RFID 모듈 SDK 데모 v2.00.01b00

저작권 관련

Copyright 2018-2025. Apluse Co.,Ltd. 저작권 소유.

이 소프트웨어는 기기의 사용 및 어플리케이션 개발의 이해를 돕기위한 목적으로 제공하고 있습니다. 펌웨어를 비롯한 모든 소프트웨어는 허가 또는 협의하에 제공되어 집니다. 허가받지 않고 부분 또는 전체 소프트웨어를 복제 또는 다른 기기에 사용하는 것을 금지합니다.

확인

3.7 Table for Carrier Frequencies

Frequency Band	Channel No	Frequency (MHz)
920 MHz band	5	916.8
	11	918.0
	17	919.2
	23	920.4
	24	920.6
	25	920.8

3.8 Used Test Equipment List

Equipment Name	Manufacturer	Model No.	Serial No.	Next Cal. Date
Signal Analyzer	FSW85	101602	Rohde & Schwarz	2026.11.11
Signal Generator	Rohde & Schwarz	SMB100A	179628	2026.12.22
DC Power supply	6632B	MY43004005	Agilent Technology	2026.12.24
Attenuator	54A-10	74564	WEINSCHEL	2026.08.11
Attenuator	56-10	66920	WEINSCHEL	2026.12.22
Band rejection filter	3TNF-00007	311	DOVER Tech	2026.12.26
3Way Power divider	KPDSU3W	00070365	KMW	2026.08.12

4. SUMMARY TEST RESULTS

Description of Test	MIC Rule	Reference Clause	Used	Test Result
Frequency Tolerance	STD-T106 2.0	Clause 3.2	☒	Compliance
Occupied Bandwidth (99 %)	STD-T106 2.0	Clause 3.2	☒	Compliance
RF Output Power	STD-T106 2.0	Clause 3.2	☒	Compliance
Adjacent Channel Leakage power	STD-T106 2.0	Clause 3.2	☒	Compliance
Unwanted (Spurious)Emission Strength	STD-T106 2.0	Clause 3.2	☒	Compliance
Secondarily Emitted Radio Wave Strength (RX Spurious Emission)	STD-T106 2.0	Clause 3.2	☒	Compliance
Transmssion Time	STD-T106 2.0	Clause 3.2	☒	Compliance
Carrier Sense Function	STD-T106 2.0	Clause 3.2	☒	Compliance
Cabinet	STD-T106 2.0	Clause 3.2	☒	Compliance
Compliance of Radiation Protection	STD-T106 2.0	Clause 4	☒	Compliance
Compliance/pass : The EUT complies with the essential requirements in the standard. Not Compliance : The EUT does not comply with the essential requirements in the standard. N/A : The test was not applicable in the standard.				

5. MEASUREMENT RESULTS

5.1 Frequency tolerance

5.1.1 Measurement Procedure

The transmitter output is connected to the Spectrum analyzer.
Setting the spectrum analyzer is as follows.

Center frequency: Operating frequency

Resolution BW: 10 kHz

Video BW: 30 kHz

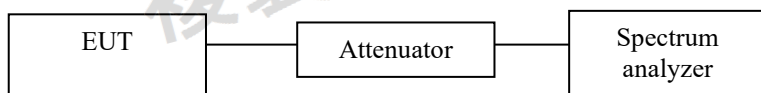
Span: 1 MHz

Sweep time: Auto

Detector mode: Positive Peak

Trace mode: Max hold

5.1.2 Test setup



5.1.3 Limit

$\pm 20 \times 10^{-6}$ (20 ppm or below)

5.1.4 Test environment conditions

• Ambient temperature : (20 ~ 22) °C • Relative Humidity : (38 ~ 42) % R.H.

5.1.5 Measurement Result

Ant 1

Frequency	Conducted power		Limit	Test results
[MHz]	[MHz]	[ppm]*	[ppm]	
916.8	916.799 999	-0.001	20	Compliance
919.2	919.199 966	-0.037	20	Compliance
920.8	920.799 953	-0.511	20	Compliance

Ant 2

Frequency	Conducted power		Limit	Test results
[MHz]	[MHz]	[ppm]*	[ppm]	
916.8	916.799 931	-0.751	20	Compliance
919.2	919.199 944	-0.061	20	Compliance
920.8	920.799 943	-0.062	20	Compliance

Ant 3

Frequency	Conducted power		Limit	Test results
[MHz]	[MHz]	[ppm]*	[ppm]	
916.8	916.799 879	-0.132	20	Compliance
919.2	919.199 877	-0.134	20	Compliance
920.8	920.799 879	-0.132	20	Compliance

Ant 4

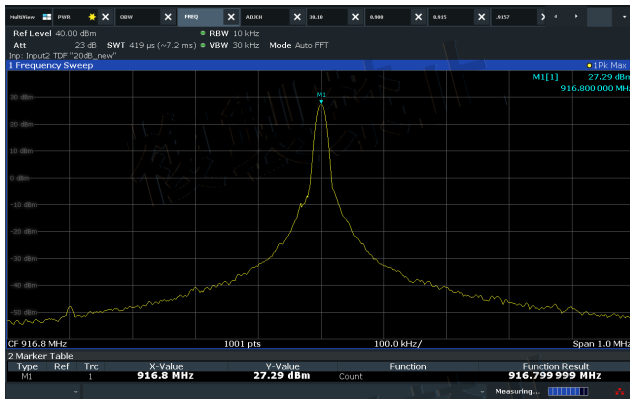
Frequency	Conducted power		Limit	Test results
[MHz]	[MHz]	[ppm]*	[ppm]	
916.8	916.799 879	-0.132	20	Compliance
919.2	919.199 875	-0.136	20	Compliance
920.8	920.799 873	-0.138	20	Compliance

*ppm = $\frac{((\text{Measured value (MHz)} - \text{Operating frequency (MHz)}) / \text{Operating frequency (MHz)})}{1} \times 10^{-6}$

5.1.6 Test Plot

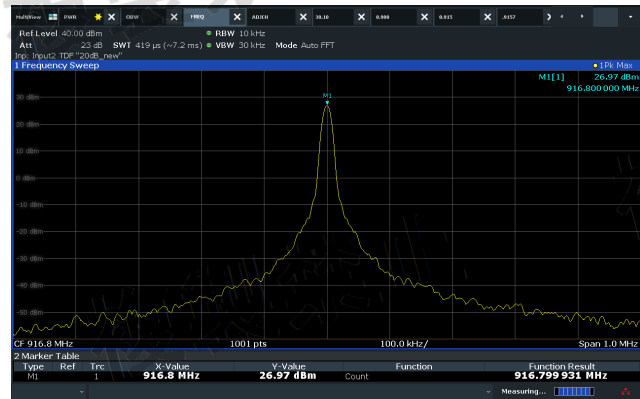
Ant1

CH Low

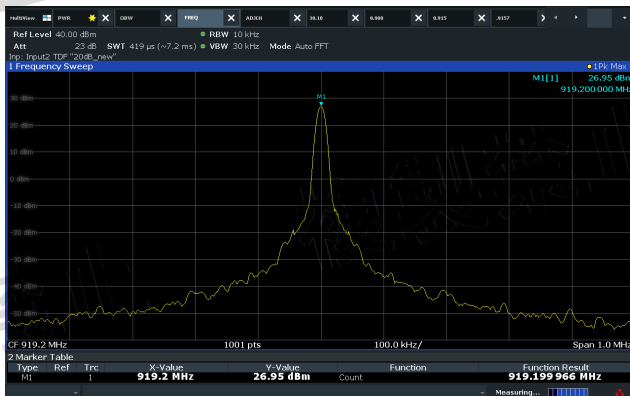


Ant2

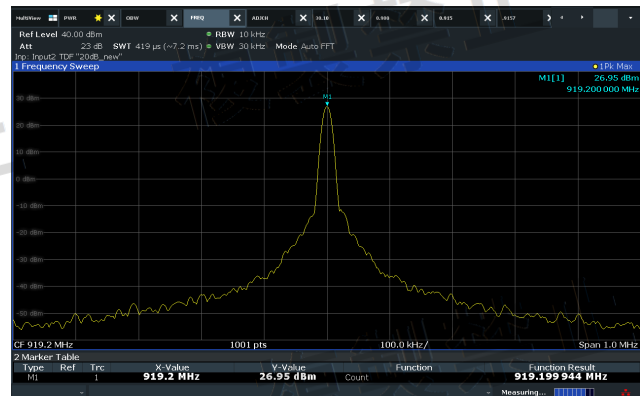
CH Low



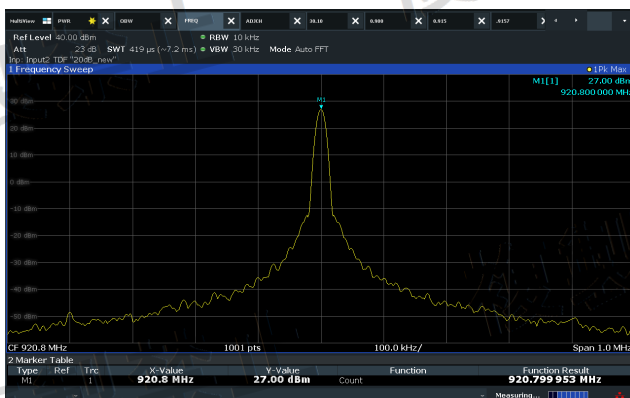
CH Middle



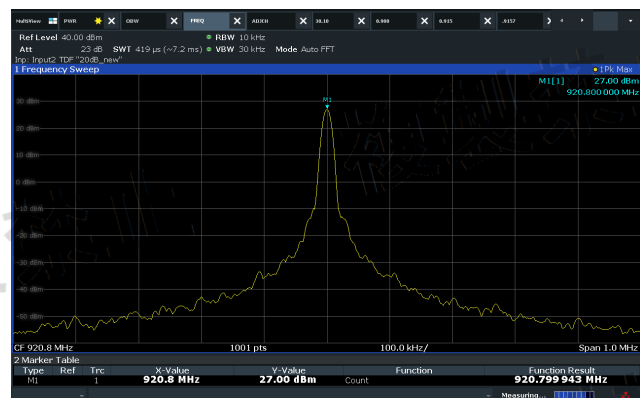
CH Middle



CH High

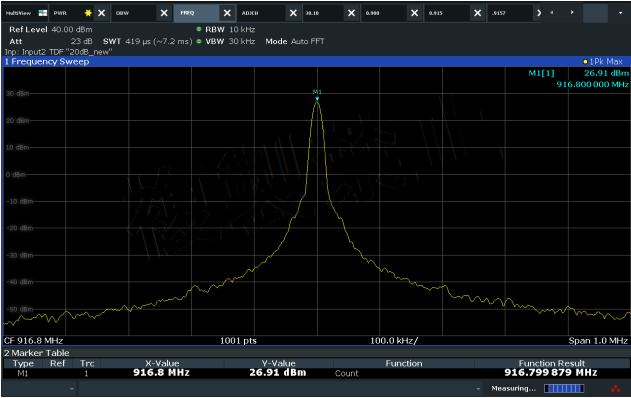


CH High

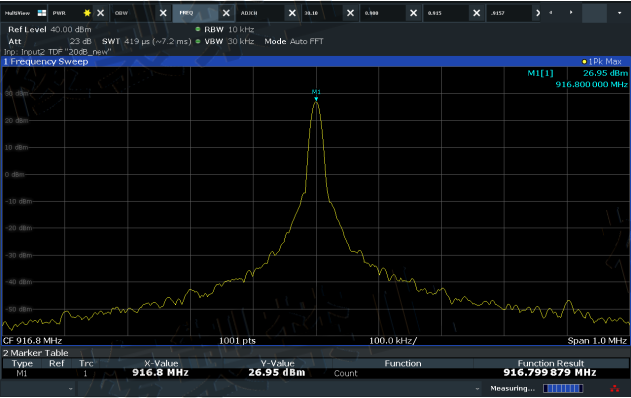




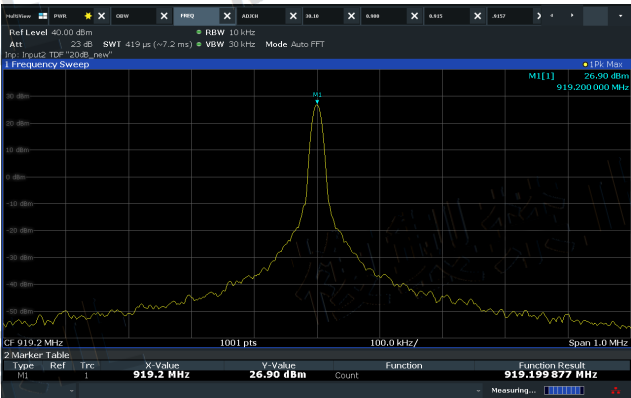
Ant3
CH Low



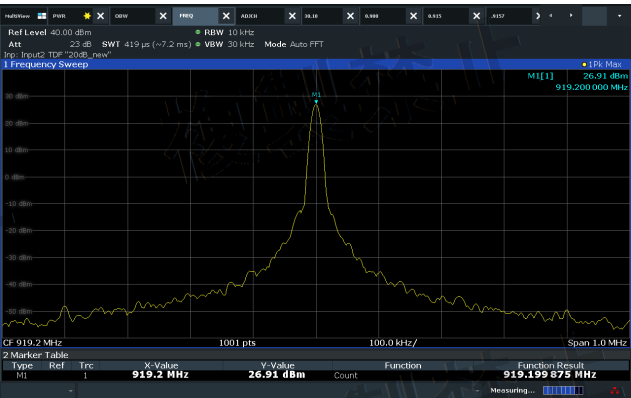
Ant4
CH Low



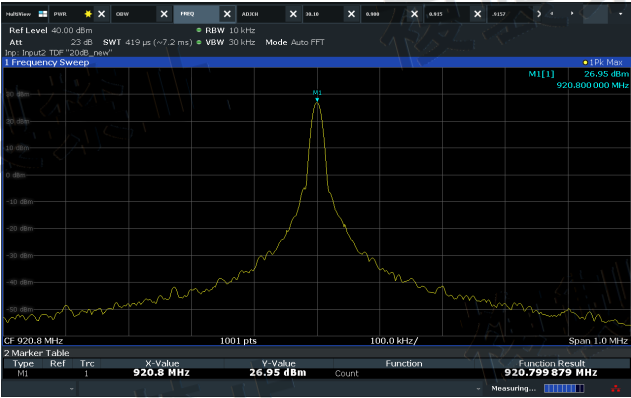
CH Middle



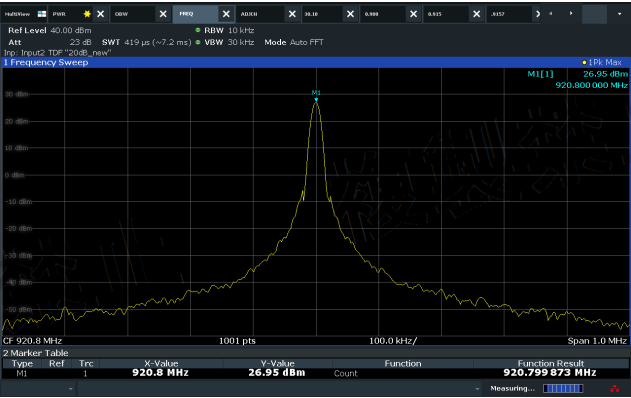
CH Middle



CH High



CH High



5.2 Occupied bandwidth

5.2.1 Measurement Procedure

The transmitter output is connected to the Spectrum analyzer.
Setting the spectrum analyzer is as follows.

Center frequency: Operating frequency

Resolution BW: 3 kHz

Video BW: 3 kHz

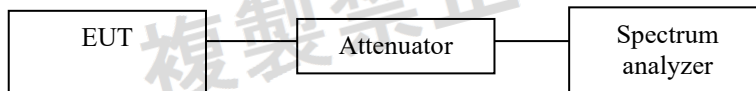
Span: 600 kHz

Sweep time: Auto

Detector mode: Positive Peak

Trace mode: Max hold

5.2.2 Test setup



5.2.3 Limit

200 kHz or below

5.2.4 Test environment conditions

- Ambient temperature : (20 ~ 22) °C
- Relative Humidity : (38 ~ 42) % R.H.

5.2.5 Measurement Result

Ant1

Frequency	99% Occupied bandwidth	Limit	Test results
[MHz]	[kHz]	[kHz]	
916.8	94.22	200	Compliance
919.2	94.33		Compliance
920.8	88.20		Compliance

Ant2

Frequency	99% Occupied bandwidth	Limit	Test results
[MHz]	[kHz]	[kHz]	
916.8	94.11	200	Compliance
919.2	92.41		Compliance
920.8	89.52		Compliance

Ant3

Frequency	99% Occupied bandwidth	Limit	Test results
[MHz]	[kHz]	[kHz]	
916.8	93.88	200	Compliance
919.2	94.52		Compliance
920.8	93.19		Compliance

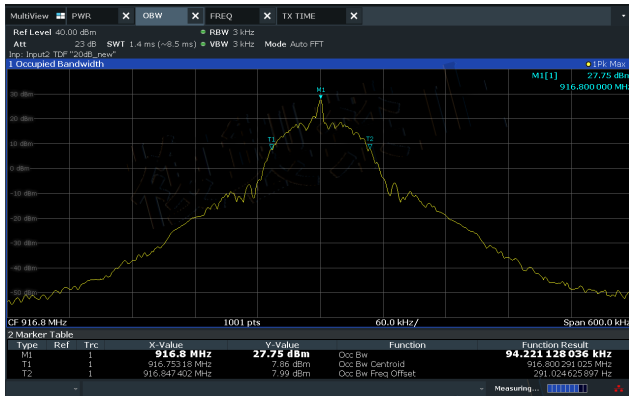
Ant4

Frequency	99% Occupied bandwidth	Limit	Test results
[MHz]	[kHz]	[kHz]	
916.8	92.86	200	Compliance
919.2	89.62		Compliance
920.8	91.12		Compliance

5.2.6 Test Plot

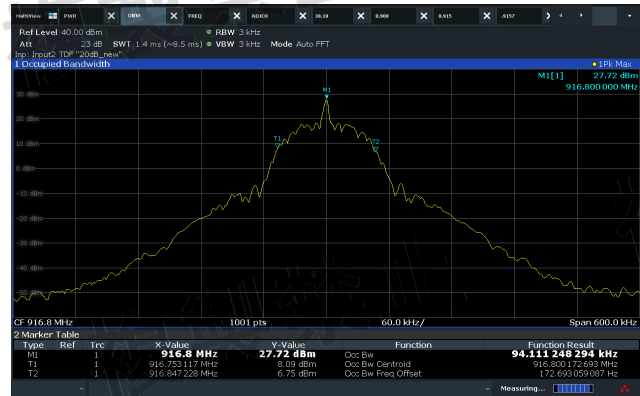
Ant1

CH Low



Ant2

CH Low



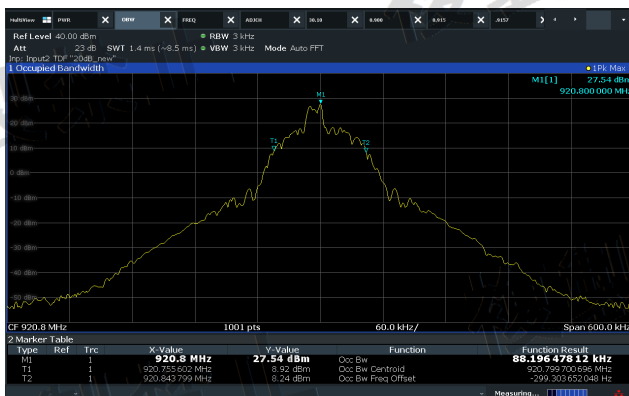
CH Middle



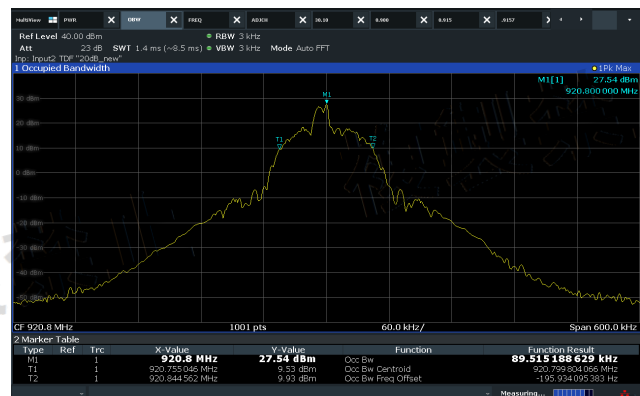
CH Middle



CH High



CH High





Ant3
CH Low



Ant4
CH Low



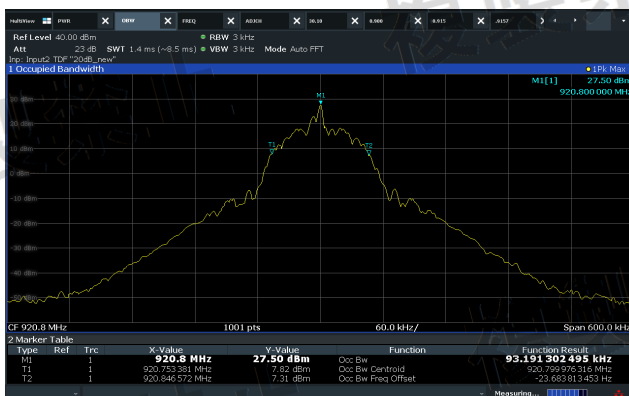
CH Middle



CH Middle



CH High



CH High



5.3 RF Output Power

5.3.1 Measurement Procedure

The transmitter output is connected to the Spectrum analyzer.
Setting the spectrum analyzer is as follows.

Center frequency: Operating frequency

Resolution BW: 1 MHz

Video BW: 3 MHz

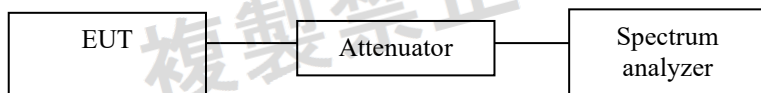
Span: 600 kHz

Sweep time: Auto

Detector mode: Positive Peak

Trace mode: Max hold

5.3.2 Test setup



5.3.3 Limit

1 W or below

5.3.4 Test environment conditions

- Ambient temperature : (20 ~ 22) °C
- Relative Humidity : (38 ~ 42) % R.H.

5.3.5 Measurement Result

Ant1

Frequency	Measure value		EIRP	Tolerance	Test results
[MHz]	[dBm]	[mW]	[dBm]	[%]	
916.8	27.84	608.14	33.14	-39.19	Compliance
919.2	27.56	570.16	32.86	-42.98	Compliance
920.8	27.67	584.79	32.97	-41.52	Compliance
Declared power [mW]			1 000		
Declared ERIP [dBm]			36		
Tolerance limit [%]			-80 ~ 20		
Antenna gain [dBi]			5.3		

Ant2

Frequency	Measure value		EIRP	Tolerance	Test results
[MHz]	[dBm]	[mW]	[dBm]	[%]	
916.8	27.80	602.56	33.10	-39.74	Compliance
919.2	27.87	612.35	33.17	-38.77	Compliance
920.8	27.65	582.10	32.95	-41.79	Compliance
Declared power [mW]			1 000		
Declared ERIP [dBm]			36		
Tolerance limit [%]			-80 ~ 20		
Antenna gain [dBi]			5.3		

Ant3

Frequency	Measure value		EIRP	Tolerance	Test results
[MHz]	[dBm]	[mW]	[dBm]	[%]	
916.8	27.73	592.93	33.03	-40.71	Compliance
919.2	27.67	584.79	32.97	-41.52	Compliance
920.8	27.78	599.79	33.08	-40.02	Compliance
Declared power [mW]			1 000		
Declared ERIP [dBm]			36		
Tolerance limit [%]			-80 ~ 20		
Antenna gain [dBi]			5.3		

Ant4

Frequency	Measure value		EIRP	Tolerance	Test results
[MHz]	[dBm]	[mW]	[dBm]	[%]	
916.8	27.88	613.76	33.18	-38.62	Compliance
919.2	27.66	583.45	32.96	-41.66	Compliance
920.8	27.61	576.77	32.91	-42.32	Compliance
Declared power [mW]			1 000		
Declared ERIP [dBm]			36		
Tolerance limit [%]			-80 ~ 20		
Antenna gain [dBi]			5.3		

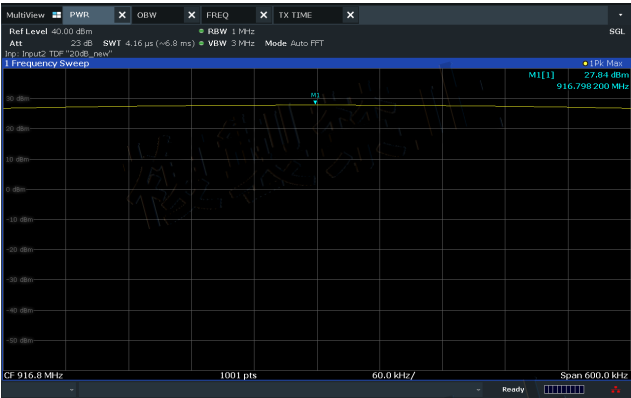
Power tolerance (%) = [(Measure value – Declared power) / Declared power] x 100



5.3.6 Test Plot

Ant1

CH Low

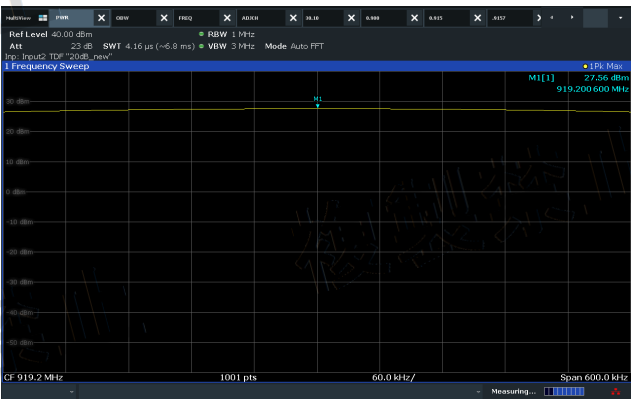


Ant2

CH Low



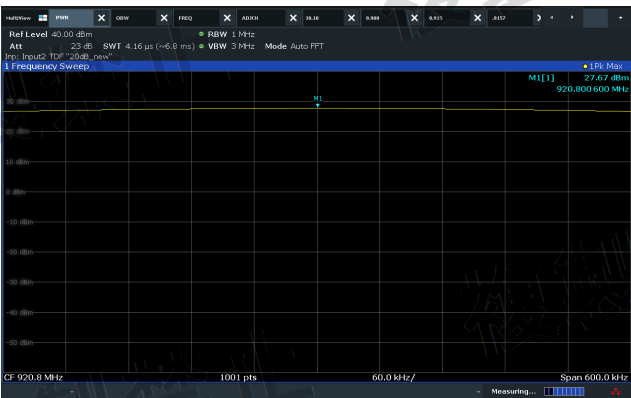
CH Middle



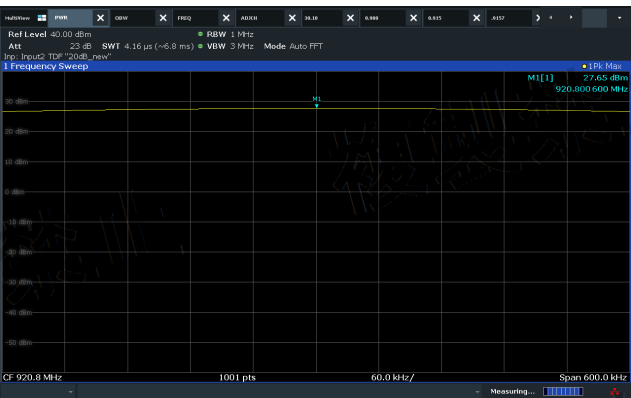
CH Middle



CH High

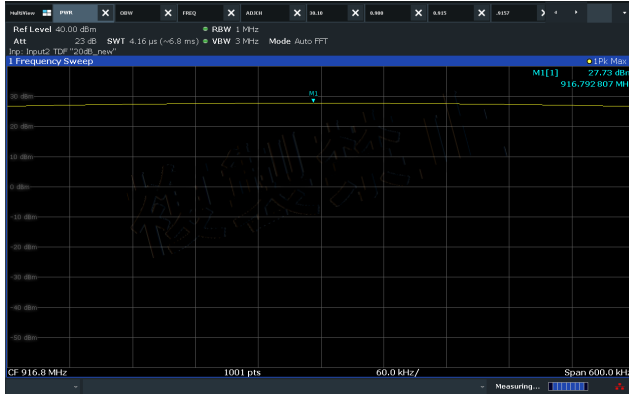


CH High

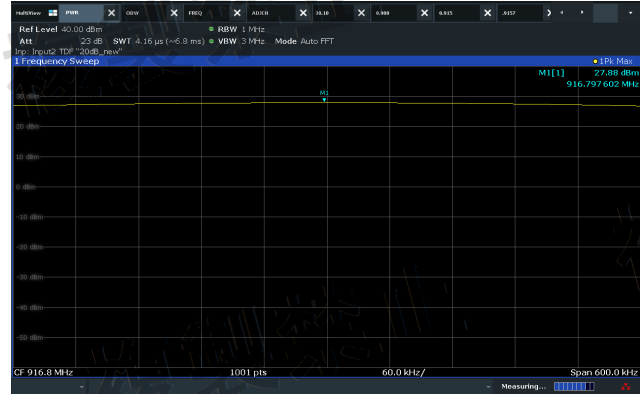




Ant3
CH Low



Ant4
CH Low



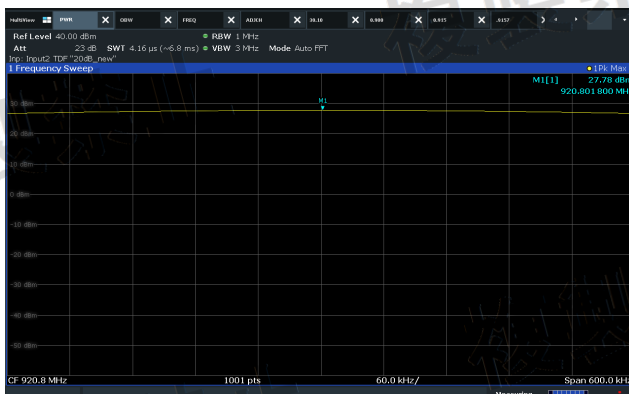
CH Middle



CH Middle



CH High



CH High



5.4 Adjacent Channel Leakage power

5.4.1 Measurement Procedure

The transmitter output is connected to the Spectrum analyzer.
Setting the spectrum analyzer is as follows.

Center frequency: Operating frequency

Resolution BW: 1 kHz

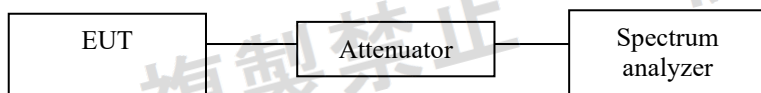
Video BW: 3 kHz

Sweep time: Auto

Detector mode: Average

Trace mode: Max hold

5.4.2 Test setup



5.4.3 Limit

0.5 dBm or below

5.4.4 Test environment conditions

• Ambient temperature : (20 ~ 22) °C • Relative Humidity : (38 ~ 42) % R.H.

5.4.5 Measurement Result

Ant1

Frequency	Lower CH	Reading	Upper CH	Reading	Limit	Test results
[MHz]	[MHz]	[dBm]	[MHz]	[dBm]	[dBm]	
916.8	916.6	-7.97	917.0	-7.15	0.5	Compliance
919.2	919.0	-9.37	919.4	-9.30	0.5	Compliance
920.8	920.6	-9.20	921.0	-8.74	0.5	Compliance

Ant2

Frequency	Lower CH	Reading	Upper CH	Reading	Limit	Test results
[MHz]	[MHz]	[dBm]	[MHz]	[dBm]	[dBm]	
916.8	916.6	-8.19	917.0	-7.45	0.5	Compliance
919.2	919.0	-9.02	919.4	-9.00	0.5	Compliance
920.8	920.6	-9.37	921.0	-8.80	0.5	Compliance

Ant3

Frequency	Lower CH	Reading	Upper CH	Reading	Limit	Test results
[MHz]	[MHz]	[dBm]	[MHz]	[dBm]	[dBm]	
916.8	916.6	-9.69	917.0	-9.09	0.5	Compliance
919.2	919.0	-9.59	919.4	-9.04	0.5	Compliance
920.8	920.6	-8.96	921.0	-8.56	0.5	Compliance

Ant4

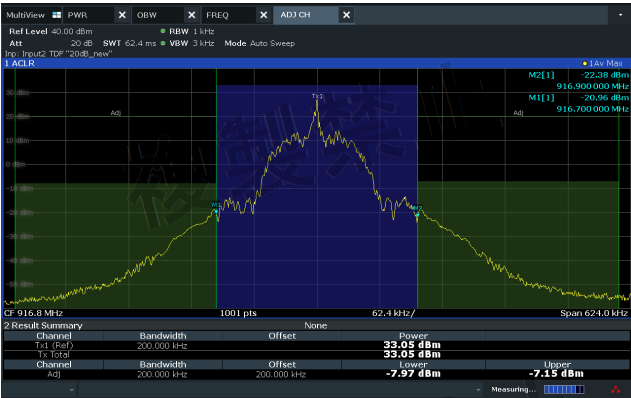
Frequency	Lower CH	Reading	Upper CH	Reading	Limit	Test results
[MHz]	[MHz]	[dBm]	[MHz]	[dBm]	[dBm]	
916.8	916.6	-9.19	917.0	-8.36	0.5	Compliance
919.2	919.0	-9.97	919.4	-10.20	0.5	Compliance
920.8	920.6	-9.22	921.0	-8.81	0.5	Compliance



5.4.6 Test Plot

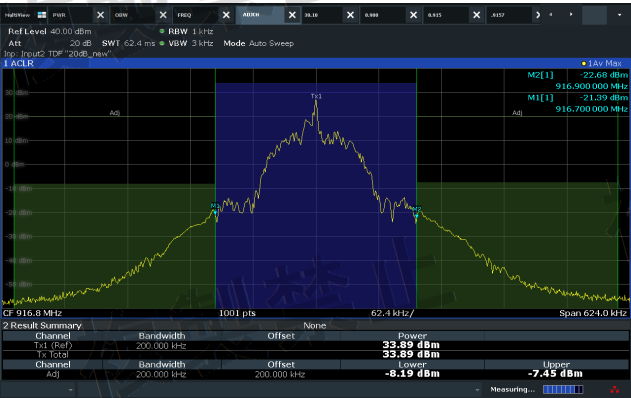
Ant1

CH Low

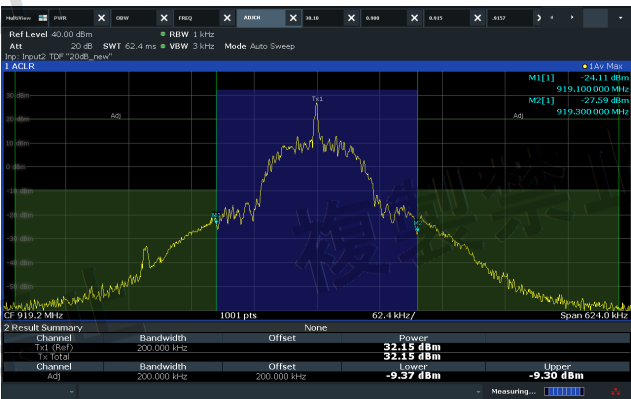


Ant2

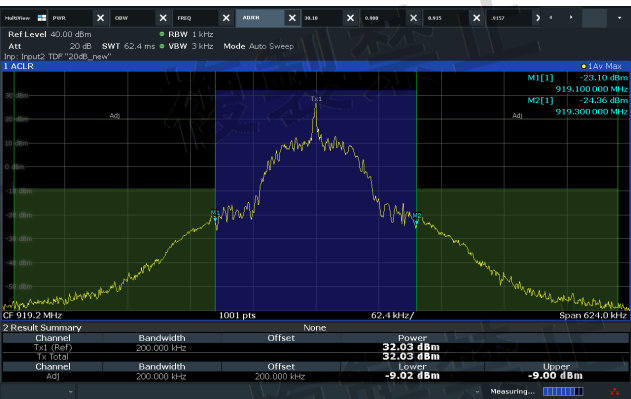
CH Low



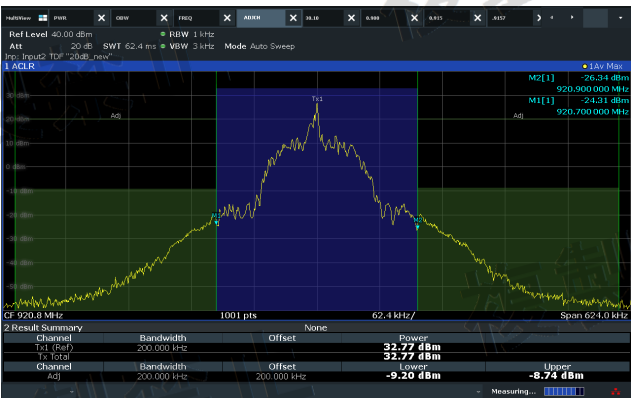
CH Middle



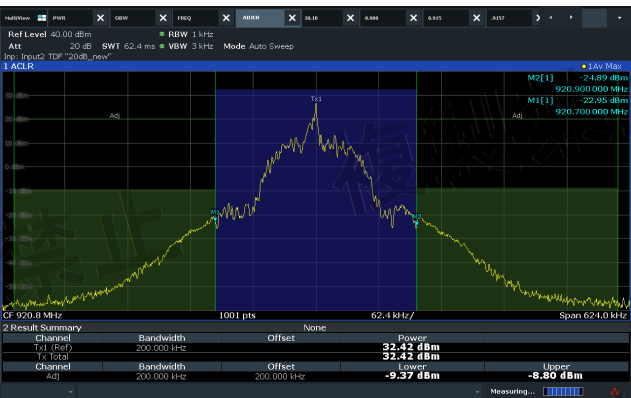
CH Middle



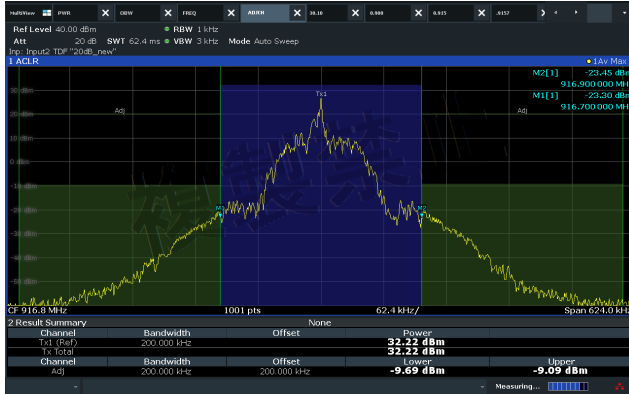
CH High



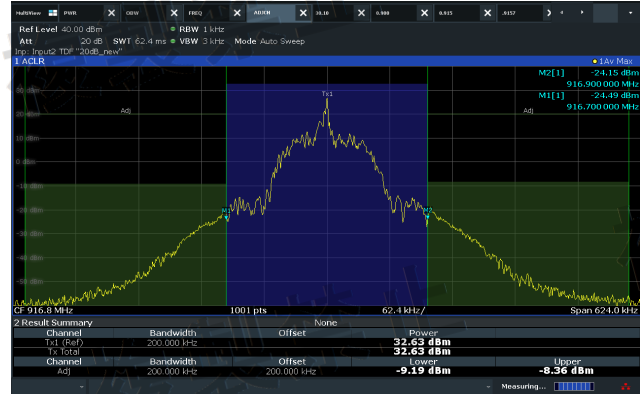
CH High



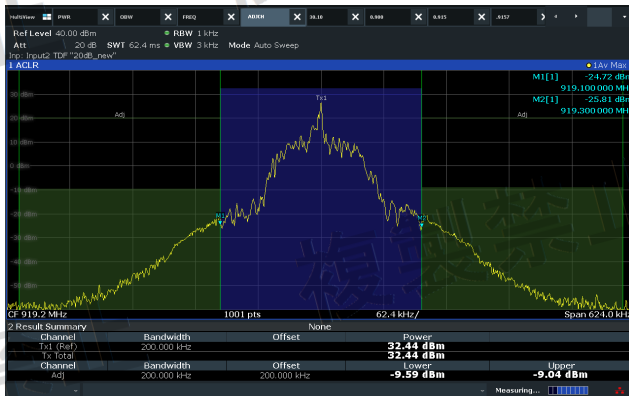
Ant3
CH Low



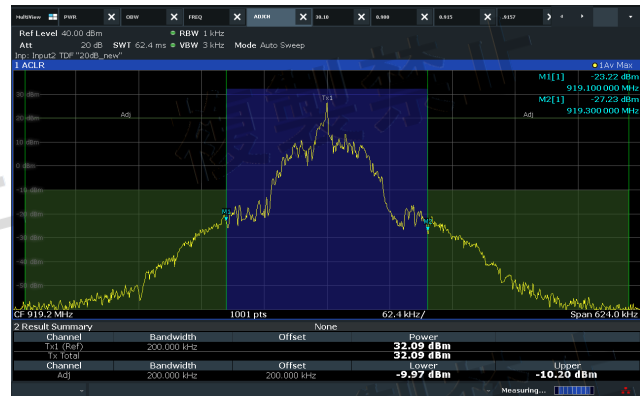
Ant4
CH Low



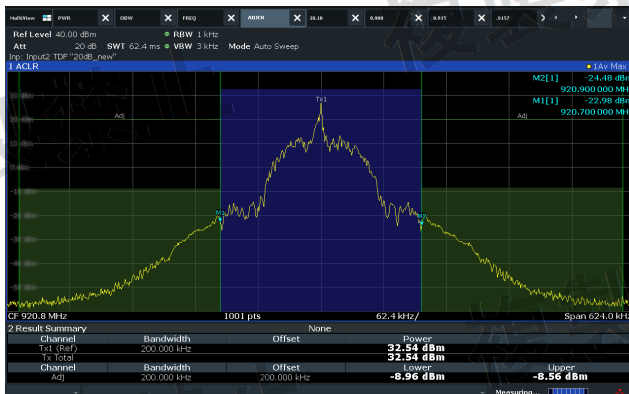
CH Middle



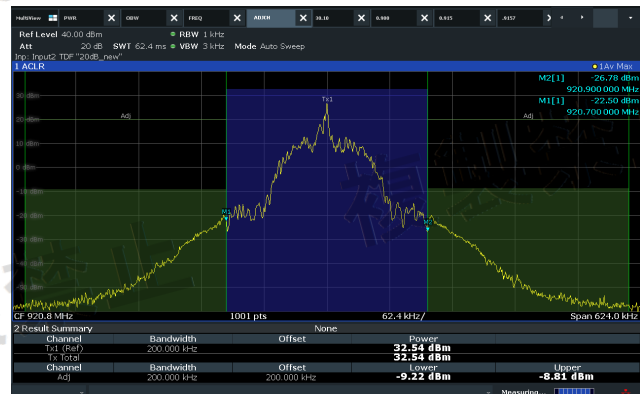
CH Middle



CH High



CH High



5.5 Unwanted (Spurious) Emission Strength

5.5.1 Measurement Procedure

Connect transmitter output to the spectrum analyzer input port.

Unwanted (Spurious) emission strength is measured by following setting:

Set the spectrum analyzer RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto
Start: 30 MHz, Stop: 710 MHz. Sweep mode: auto and mark highest level.

Set the spectrum analyzer RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto
Start: 710 MHz, Stop: 900 MHz. Sweep mode: auto and mark highest level.

Set the spectrum analyzer RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto
Start: 900 MHz, Stop: 915 MHz. Sweep mode: auto and mark highest level.

Set the spectrum analyzer RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto
Start: 915 MHz, Stop: 915.7 MHz. Sweep mode: auto and mark highest level.

Set the spectrum analyzer RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto
Start: 915.7 MHz, Stop: 923.5 MHz. Sweep mode: auto and mark highest level.
(except for $|f-f_c| \pm 300$ kHz)

Set the spectrum analyzer RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto
Start: 923.5 MHz, Stop: 930 MHz. Sweep mode: auto and mark highest level.

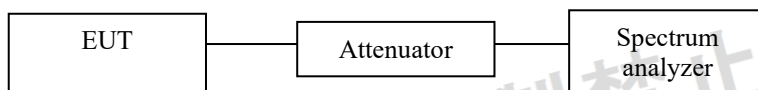
Set the spectrum analyzer RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto
Start: 930 MHz, Stop: 1 000 MHz. Sweep mode: auto and mark highest level.

Set the spectrum analyzer RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto
Start: 1 000 MHz, Stop: 1 215 MHz. Sweep mode: auto and mark highest level.

Set the spectrum analyzer RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto
Start: 1 215 MHz, Stop: 5 000 MHz. Sweep mode: auto and mark highest level.

Detector mode : Positive Peak
Trace mode: Max hold

5.5.2 Test setup



5.5.3 Limit

Start: 30 MHz, Stop: 710 MHz: -36 dBm/100 kHz
Start: 710 MHz, Stop: 900 MHz: -58 dBm/1 MHz
Start: 900 MHz, Stop: 915 MHz: -58 dBm/100 kHz
Start: 915 MHz, Stop: 915.7 MHz: -39 dBm/100 kHz
Start: 915.7 MHz, Stop: 923.5 MHz: -29 dBm/100 kHz
Start: 923.5 MHz, Stop: 930 MHz: -39 dBm/100 kHz
Start: 930 MHz, Stop: 1 000 MHz: -58 dBm/100 kHz
Start: 1 000 MHz, Stop: 1 215 MHz: -48 dBm/1 MHz
Start: 1 215 MHz, Stop: 5 000 MHz: -30 dBm/1 MHz

5.5.4 Test environment conditions

• Ambient temperature : (20 ~ 22) °C • Relative Humidity : (38 ~ 42) % R.H.

5.5.5 Measurement Result

Ant1

Frequency range	Measure value		Limit	Test results
[MHz]	[MHz]	[dBm]	[dBm]	
Low Channel [916.8 MHz]				
30 ~ 710	36.450	-56.41	-36 dBm/100 kHz	Compliance
710 ~ 900*	875.040	-60.67	-58 dBm/1 MHz	Compliance
900 ~ 915*	900.427	-71.22	-58 dBm/100 kHz	Compliance
915 ~ 915.7	915.291	-59.96	-39 dBm/100 kHz	Compliance
915.7 ~ 923.7	917.137	-36.06	-29 dBm/100 kHz	Compliance
923.5 ~ 930	927.412	-63.21	-39 dBm/100 kHz	Compliance
930 ~ 1 000	963.182	-65.35	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 168.930	-54.36	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	1 833.200	-34.78	-30 dBm/1 MHz	Compliance
Middle Channel [919.2 MHz]				
30 ~ 710	65.664	-56.63	-36 dBm/100 kHz	Compliance
710 ~ 900*	876.938	-59.57	-58 dBm/1 MHz	Compliance
900 ~ 915*	914.093	-71.87	-58 dBm/100 kHz	Compliance
915 ~ 915.7	915.459	-63.98	-39 dBm/100 kHz	Compliance
915.7 ~ 923.7	918.875	-38.17	-29 dBm/100 kHz	Compliance
923.5 ~ 930	929.555	-47.13	-39 dBm/100 kHz	Compliance
930 ~ 1 000	937.447	-65.10	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 101.701	-52.92	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	1 837.010	-39.59	-30 dBm/1 MHz	Compliance
High Channel [920.8 MHz]				
30 ~ 710	132.238	-55.72	-36 dBm/100 kHz	Compliance
710 ~ 900*	876.748	-60.71	-58 dBm/1 MHz	Compliance
900 ~ 915*	902.375	-71.87	-58 dBm/100 kHz	Compliance
915 ~ 915.7	915.298	-62.65	-39 dBm/100 kHz	Compliance
915.7 ~ 923.7	921.111	-32.22	-29 dBm/100 kHz	Compliance
923.5 ~ 930	926.068	-47.52	-39 dBm/100 kHz	Compliance
930 ~ 1 000	931.2937	-65.35	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 103.419	-52.21	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	1 840.790	-35.25	-30 dBm/1 MHz	Compliance

Ant2

Frequency range	Measure value		Limit	Test results
[MHz]	[MHz]	[dBm]	[dBm]	
Low Channel [916.8 MHz]				
30 ~ 710	139.031	-56.10	-36 dBm/100 kHz	Compliance
710 ~ 900*	812.972	-60.01	-58 dBm/1 MHz	Compliance
900 ~ 915*	902.195	-71.85	-58 dBm/100 kHz	Compliance
915 ~ 915.7	915.292	-52.58	-39 dBm/100 kHz	Compliance
915.7 ~ 923.7	917.106	-34.70	-29 dBm/100 kHz	Compliance
923.5 ~ 930	927.418	-64.12	-39 dBm/100 kHz	Compliance
930 ~ 1 000	945.490	-64.93	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 184.610	-55.10	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	1 833.200	-36.07	-30 dBm/1 MHz	Compliance
Middle Channel [919.2 MHz]				
30 ~ 710	45.964	-56.67	-36 dBm/100 kHz	Compliance
710 ~ 900*	883.202	-60.22	-58 dBm/1 MHz	Compliance
900 ~ 915*	906.975	-71.87	-58 dBm/100 kHz	Compliance
915 ~ 915.7	915.454	-63.67	-39 dBm/100 kHz	Compliance
915.7 ~ 923.7	919.506	-34.85	-29 dBm/100 kHz	Compliance
923.5 ~ 930	929.522	-46.93	-39 dBm/100 kHz	Compliance
930 ~ 1 000	938.706	-65.87	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 161.411	-55.04	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	1 837.010	-36.86	-30 dBm/1 MHz	Compliance
High Channel [920.8 MHz]				
30 ~ 710	111.179	-56.99	-36 dBm/100 kHz	Compliance
710 ~ 900*	821.703	-60.65	-58 dBm/1 MHz	Compliance
900 ~ 915*	901.386	-71.56	-58 dBm/100 kHz	Compliance
915 ~ 915.7	915.619	-64.63	-39 dBm/100 kHz	Compliance
915.7 ~ 923.7	921.119	-35.73	-29 dBm/100 kHz	Compliance
923.5 ~ 930	929.730	-46.80	-39 dBm/100 kHz	Compliance
930 ~ 1 000	956.188	-64.85	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 182.030	-54.80	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	1 840.790	-35.01	-30 dBm/1 MHz	Compliance

Ant3

Frequency range	Measure value		Limit	Test results
[MHz]	[MHz]	[dBm]	[dBm]	
Low Channel [916.8 MHz]				
30 ~ 710	37.133	-55.70	-36 dBm/100 kHz	Compliance
710 ~ 900*	864.790	-60.83	-58 dBm/1 MHz	Compliance
900 ~ 915*	904.562	-71.74	-58 dBm/100 kHz	Compliance
915 ~ 915.7	915.298	-52.63	-39 dBm/100 kHz	Compliance
915.7 ~ 923.7	917.137	-34.74	-29 dBm/100 kHz	Compliance
923.5 ~ 930	924.860	-63.78	-39 dBm/100 kHz	Compliance
930 ~ 1 000	945.839	-64.88	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 130.700	-54.64	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	1 833.200	-36.24	-30 dBm/1 MHz	Compliance
Middle Channel [919.2 MHz]				
30 ~ 710	58.192	-57.29	-36 dBm/100 kHz	Compliance
710 ~ 900*	874.281	-59.24	-58 dBm/1 MHz	Compliance
900 ~ 915*	909.043	-72.47	-58 dBm/100 kHz	Compliance
915 ~ 915.7	915.583	-64.31	-39 dBm/100 kHz	Compliance
915.7 ~ 923.7	919.522	-40.34	-29 dBm/100 kHz	Compliance
923.5 ~ 930	927.659	-46.83	-39 dBm/100 kHz	Compliance
930 ~ 1 000	941.783	-65.25	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 101.701	-53.90	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	1 837.010	-37.27	-30 dBm/1 MHz	Compliance
High Channel [920.8 MHz]				
30 ~ 710	41.888	-56.84	-36 dBm/100 kHz	Compliance
710 ~ 900*	863.272	-60.75	-58 dBm/1 MHz	Compliance
900 ~ 915*	914.348	-67.61	-58 dBm/100 kHz	Compliance
915 ~ 915.7	915.193	-63.35	-39 dBm/100 kHz	Compliance
915.7 ~ 923.7	921.135	-38.13	-29 dBm/100 kHz	Compliance
923.5 ~ 930	929.691	-47.20	-39 dBm/100 kHz	Compliance
930 ~ 1 000	933.881	-64.78	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 103.419	-54.30	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	1 840.790	-36.16	-30 dBm/1 MHz	Compliance

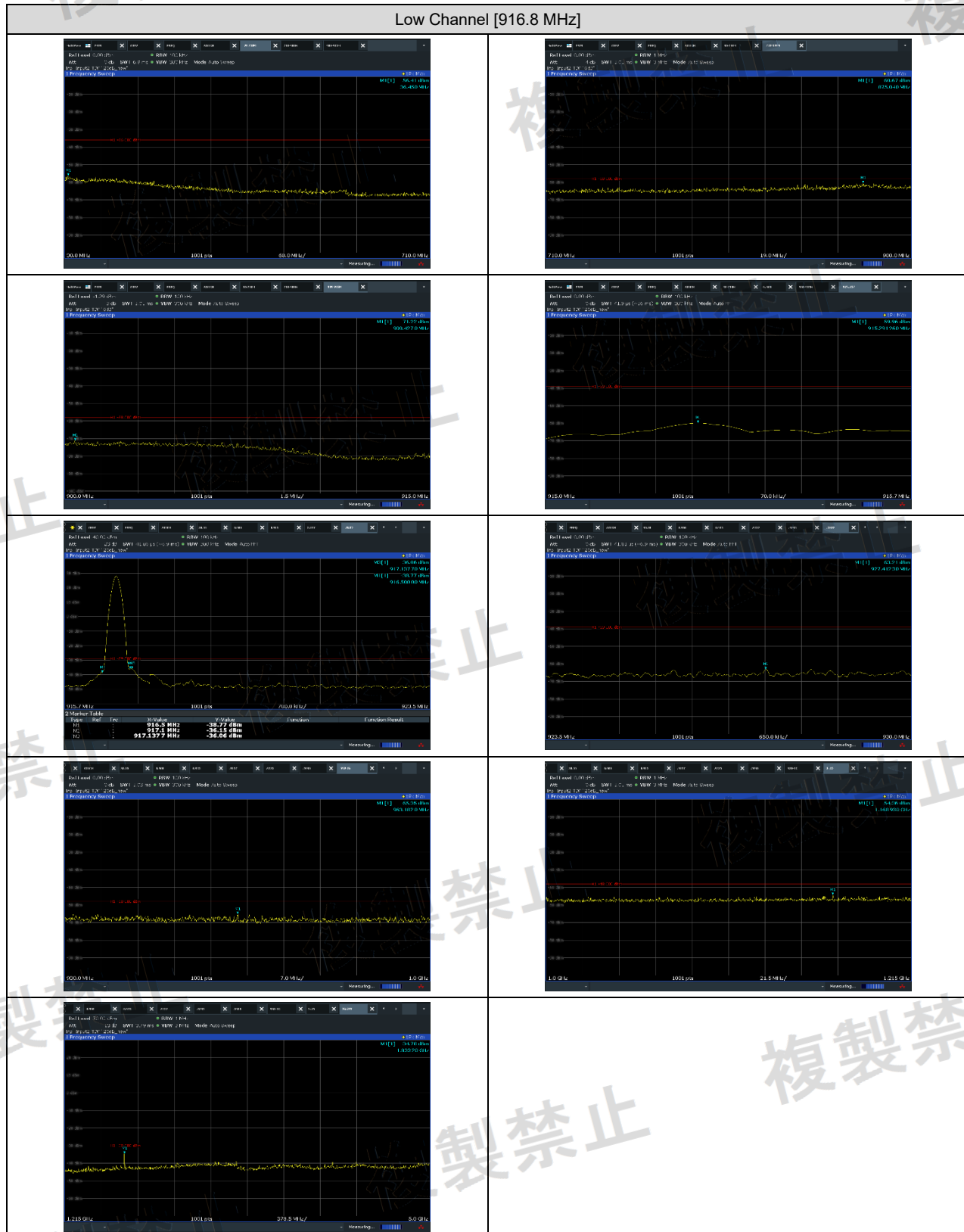
Ant4

Frequency range	Measure value		Limit	Test results
[MHz]	[MHz]	[dBm]	[dBm]	
Low Channel [916.8 MHz]				
30 ~ 710	161.449	-56.58	-36 dBm/100 kHz	30 ~ 710
710 ~ 900*	866.119	-60.71	-58 dBm/1 MHz	710 ~ 900*
900 ~ 915*	902.300	-72.05	-58 dBm/100 kHz	900 ~ 915*
915 ~ 915.7	915.319	-53.50	-39 dBm/100 kHz	915 ~ 915.7
915.7 ~ 923.7	917.106	-38.34	-29 dBm/100 kHz	915.7 ~ 923.7
923.5 ~ 930	925.237	-63.86	-39 dBm/100 kHz	923.5 ~ 930
930 ~ 1 000	935.839	-65.12	-58 dBm/100 kHz	930 ~ 1 000
1 000 ~ 1 215	1 186.970	-54.26	-48 dBm/1 MHz	1 000 ~ 1 215
1 215 ~ 5 000	1 833.200	-36.36	-30 dBm/1 MHz	1 215 ~ 5 000
Middle Channel [919.2 MHz]				
30 ~ 710	109.141	-56.23	-36 dBm/100 kHz	Compliance
710 ~ 900*	883.771	-60.08	-58 dBm/1 MHz	Compliance
900 ~ 915*	901.820	-71.07	-58 dBm/100 kHz	Compliance
915 ~ 915.7	915.073	-64.81	-39 dBm/100 kHz	Compliance
915.7 ~ 923.7	918.883	-35.19	-29 dBm/100 kHz	Compliance
923.5 ~ 930	928.496	-47.16	-39 dBm/100 kHz	Compliance
930 ~ 1 000	946.678	-66.00	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 101.701	-54.59	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	1 837.010	-35.89	-30 dBm/1 MHz	Compliance
High Channel [920.8 MHz]				
30 ~ 710	38.492	-57.02	-36 dBm/100 kHz	Compliance
710 ~ 900*	875.420	-60.35	-58 dBm/1 MHz	Compliance
900 ~ 915*	901.146	-71.85	-58 dBm/100 kHz	Compliance
915 ~ 915.7	915.539	-63.77	-39 dBm/100 kHz	Compliance
915.7 ~ 923.7	920.387	-33.87	-29 dBm/100 kHz	Compliance
923.5 ~ 930	927.243	-47.11	-39 dBm/100 kHz	Compliance
930 ~ 1 000	942.412	-64.83	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 103.419	-54.70	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	1 840.790	-35.25	-30 dBm/1 MHz	Compliance

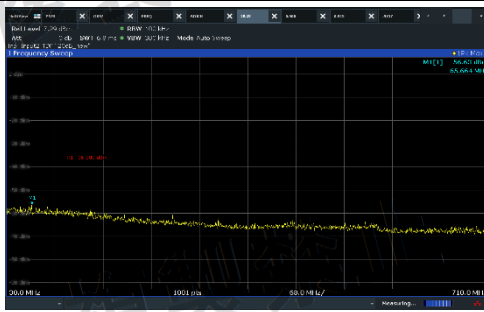
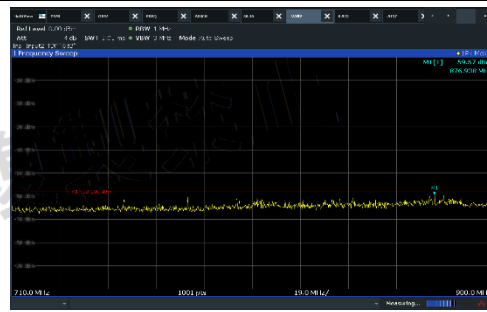
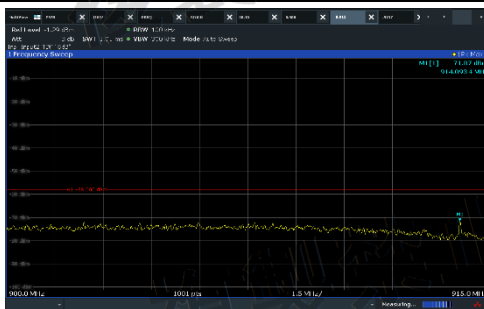
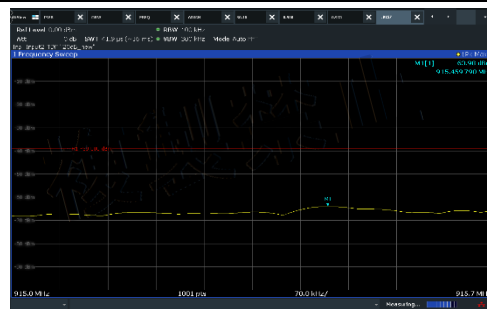
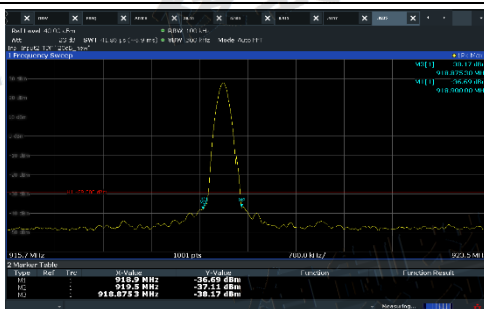
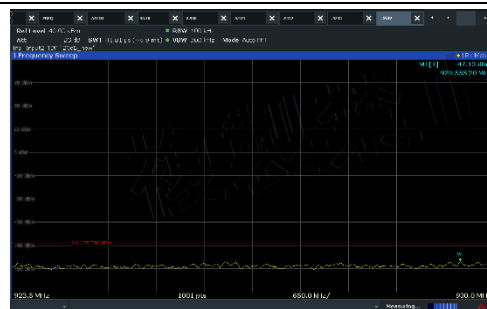
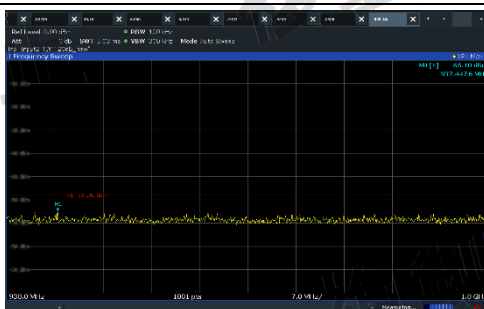
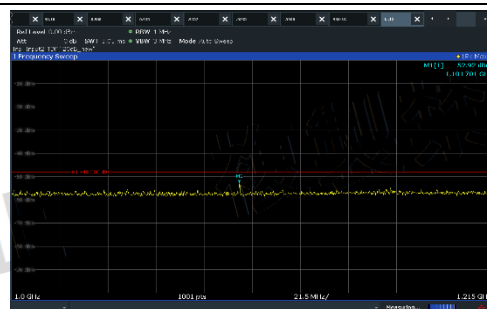
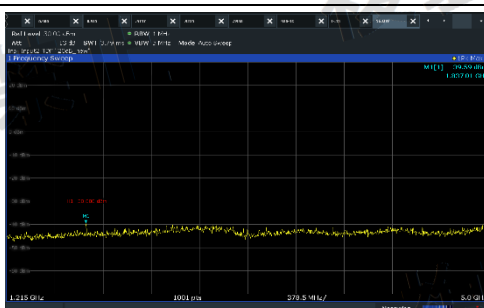
* Notch filter used

5.5.6 Test Plot

Ant1

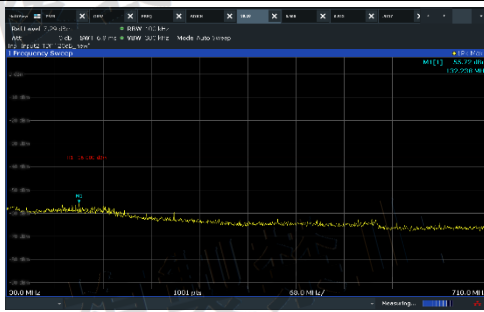
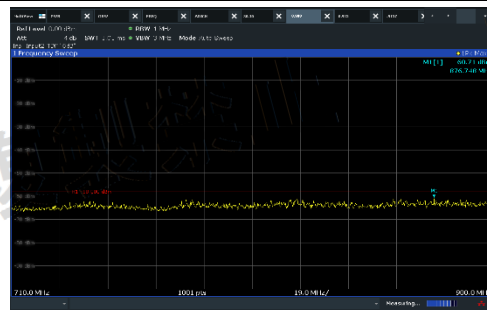
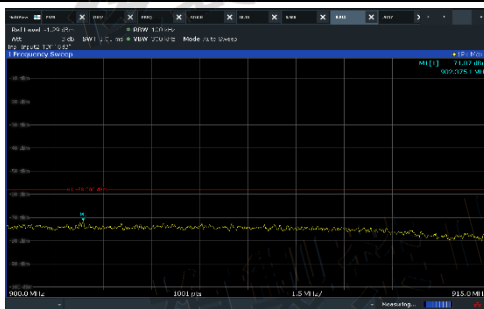
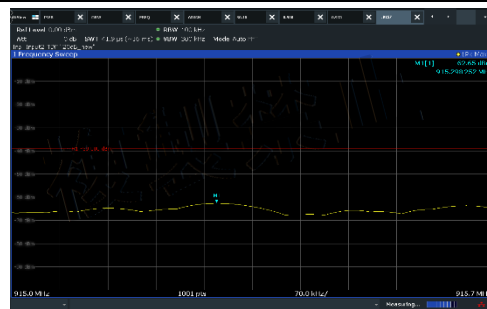
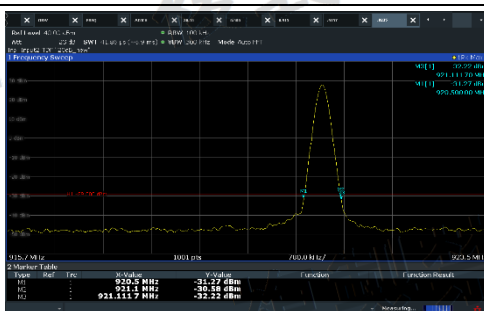
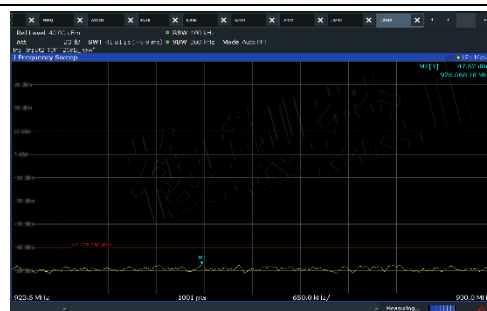
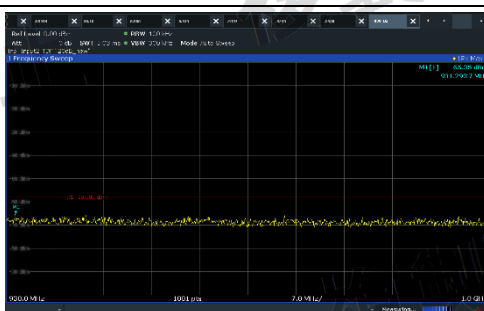
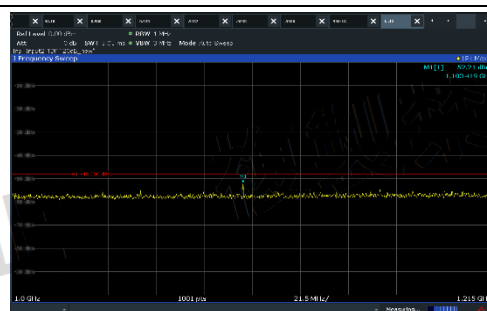
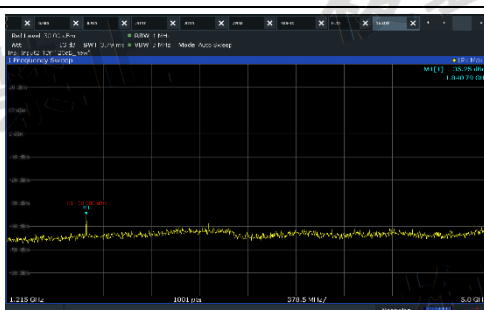


Middle Channel [919.2 MHz]

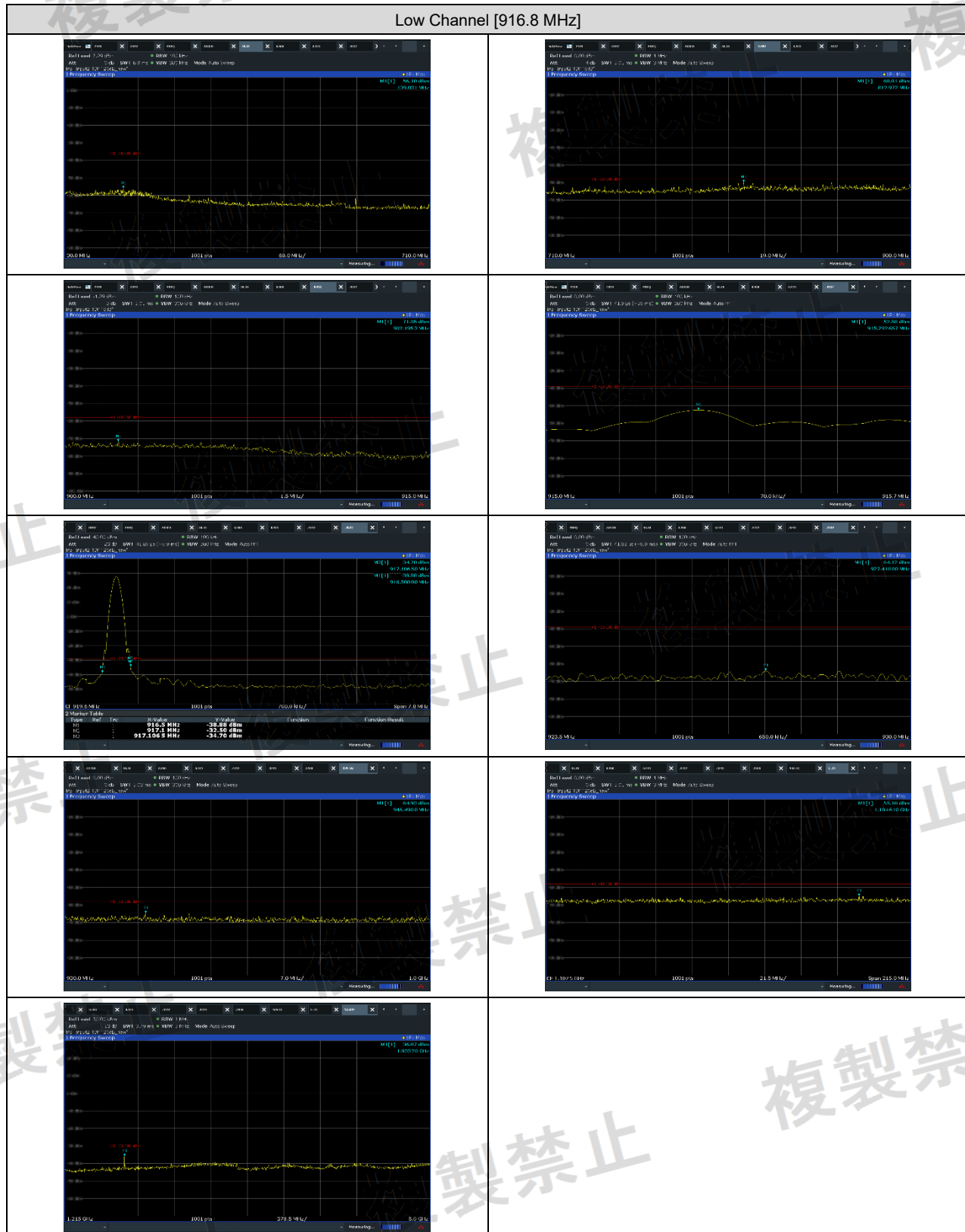


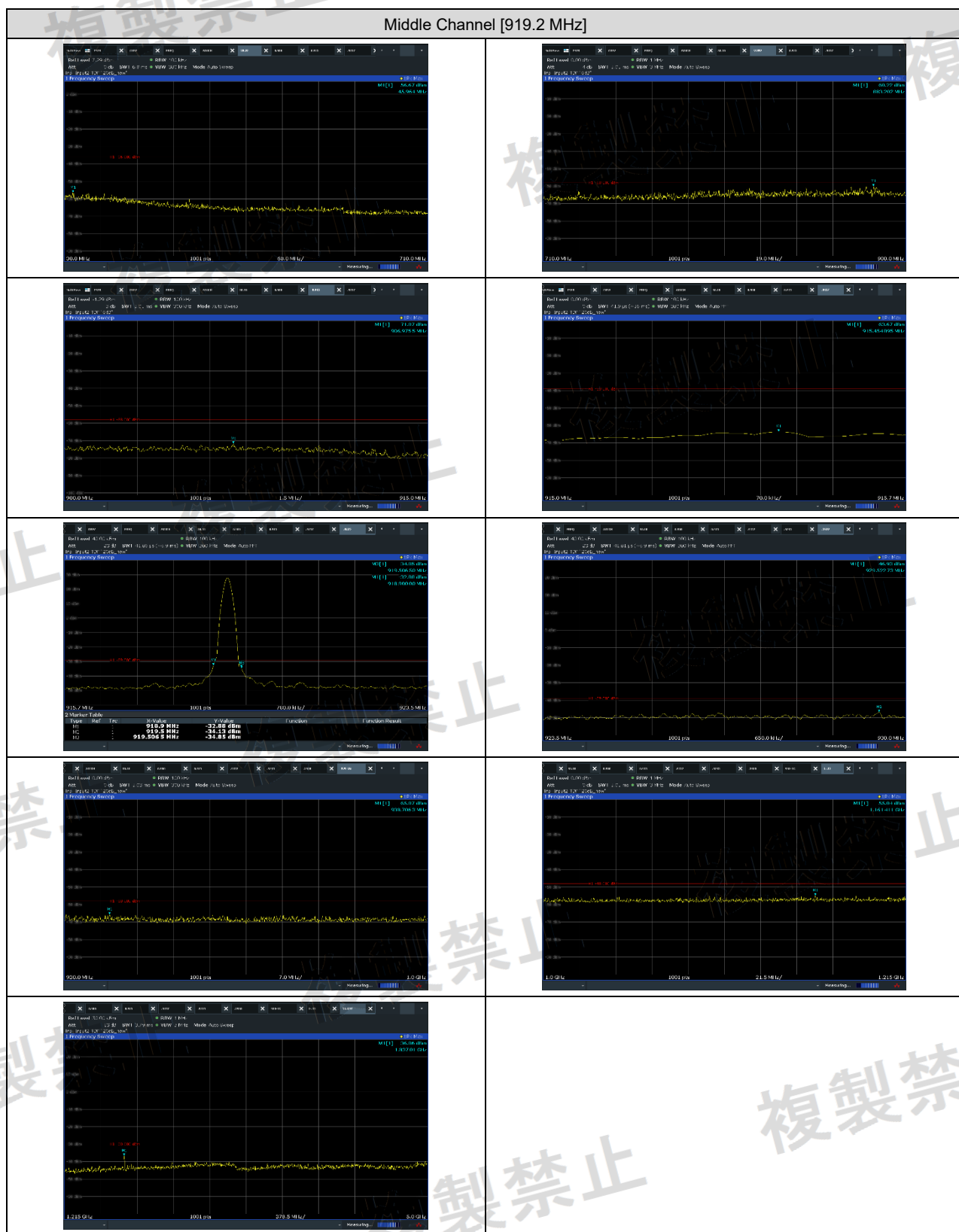
複製禁止

High Channel [920.8 MHz]

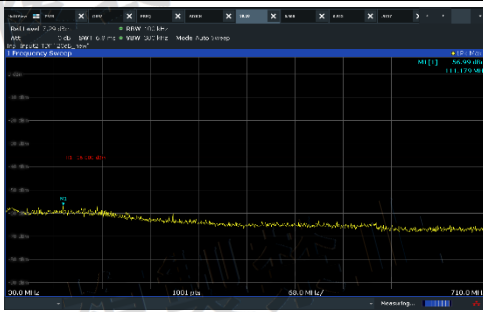
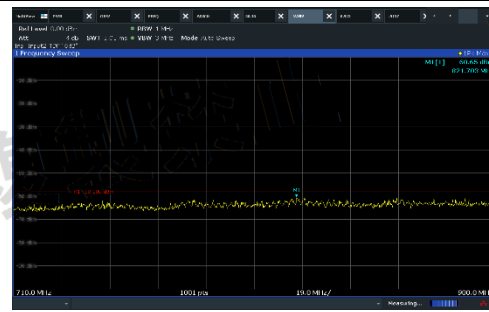
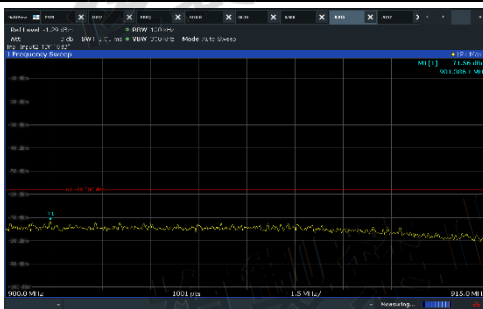
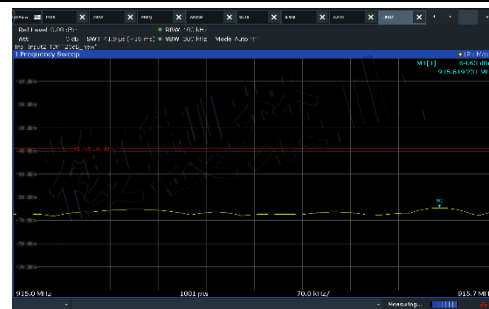
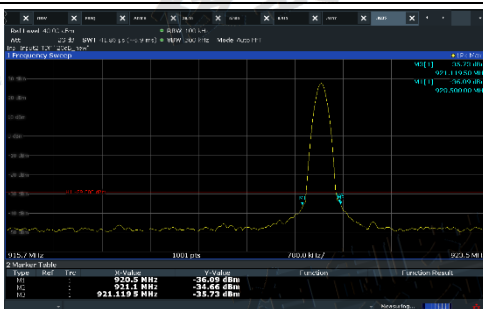
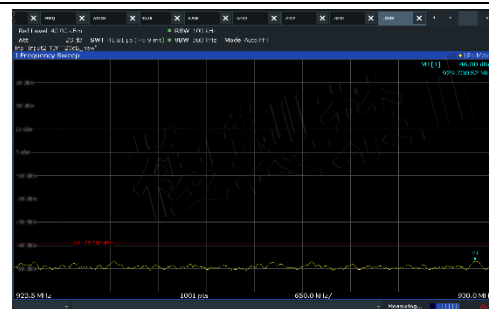
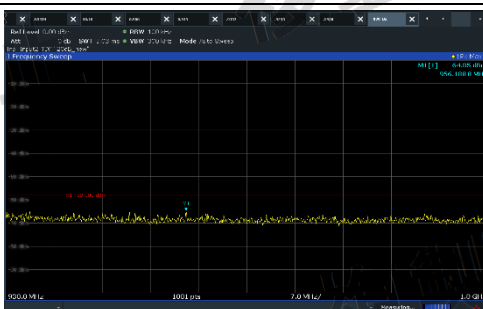
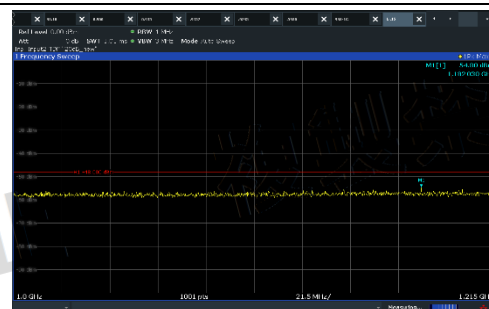
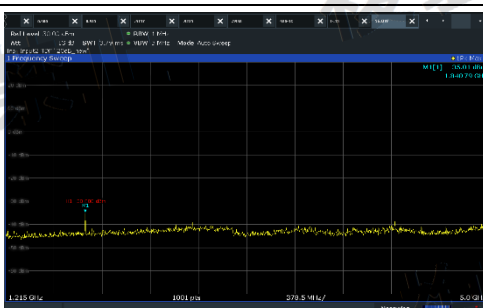


Ant2



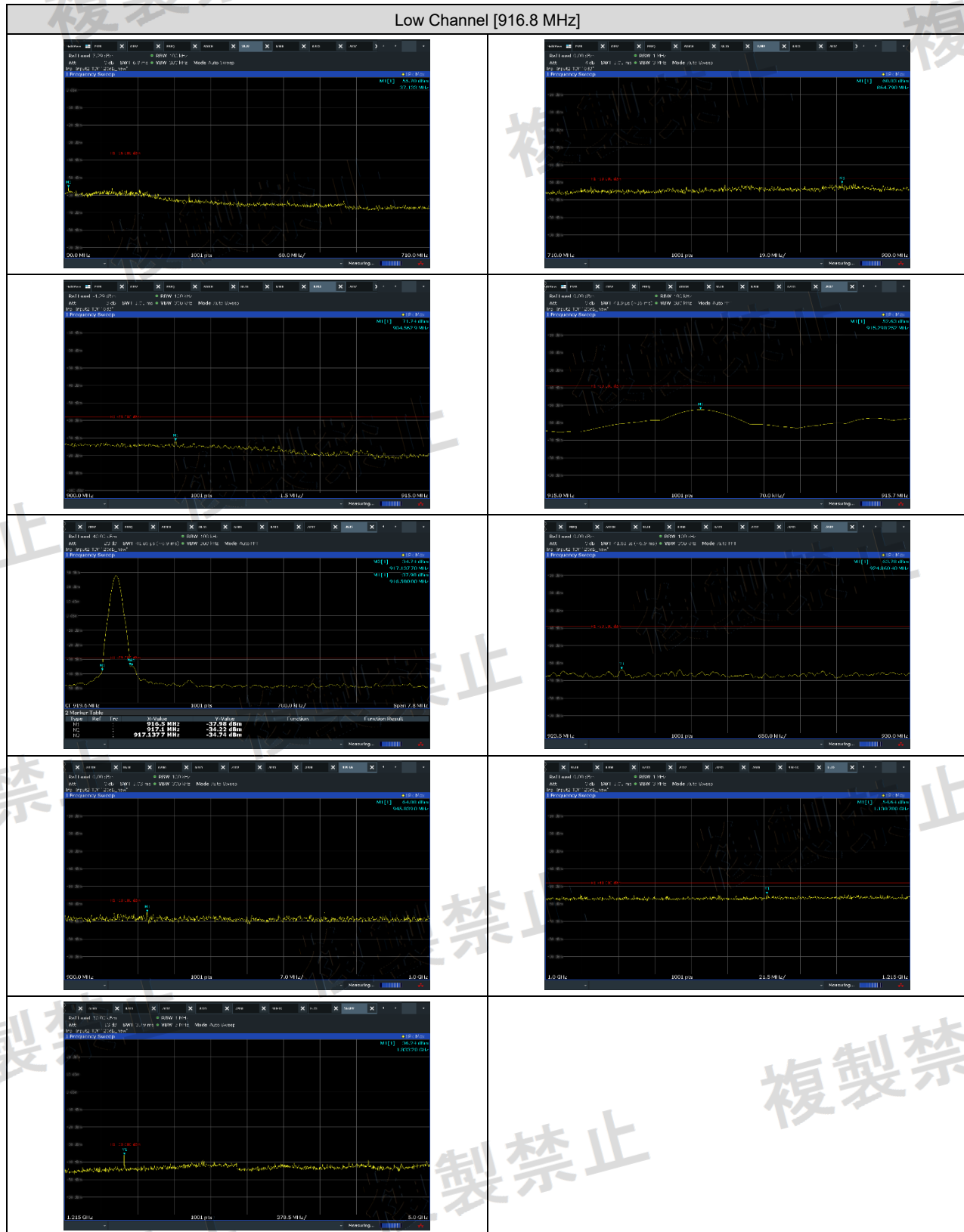


High Channel [920.8 MHz]

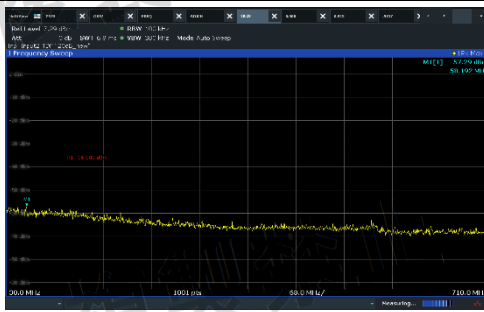
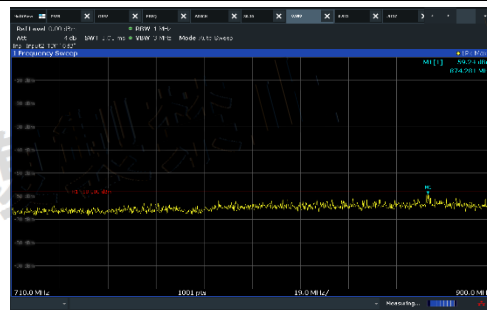
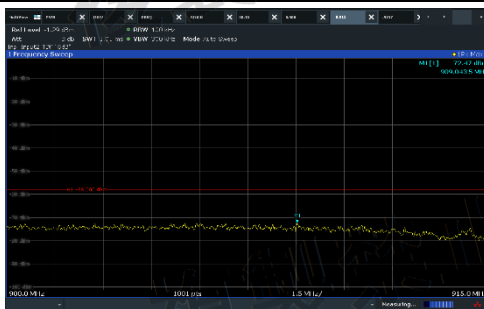
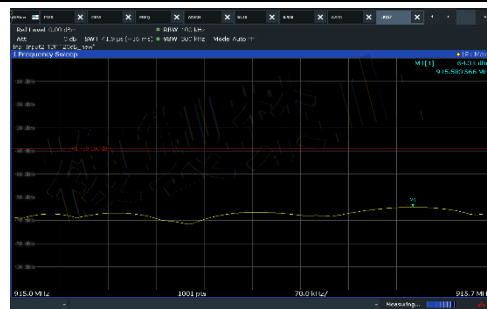
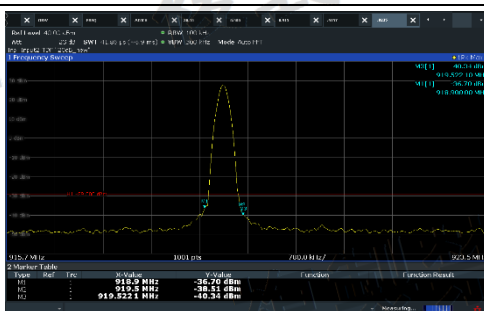
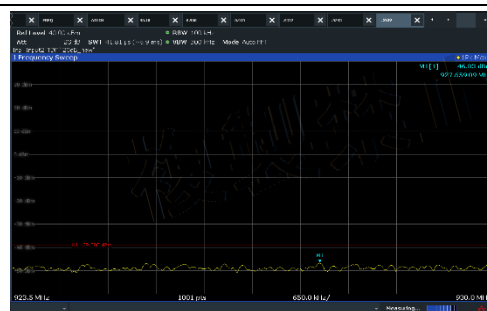
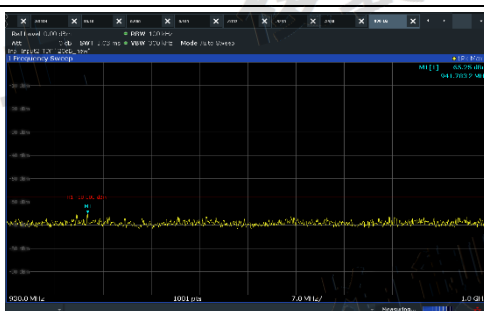
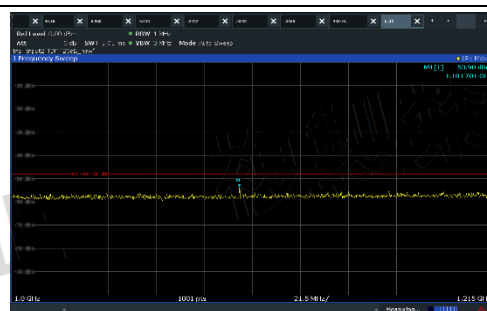
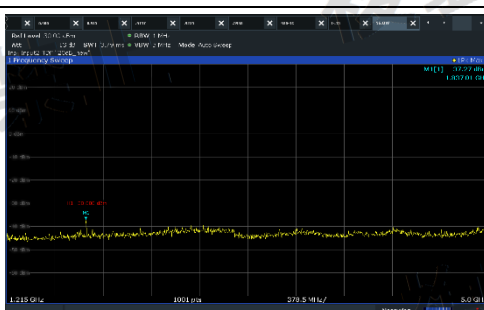


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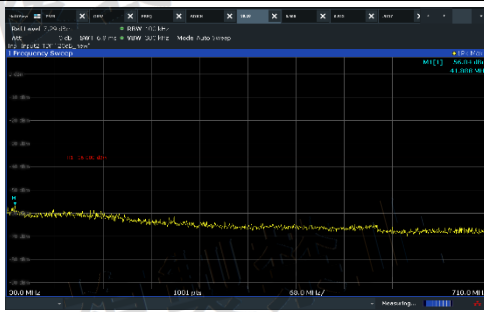
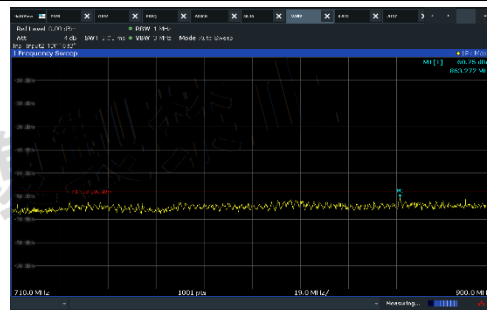
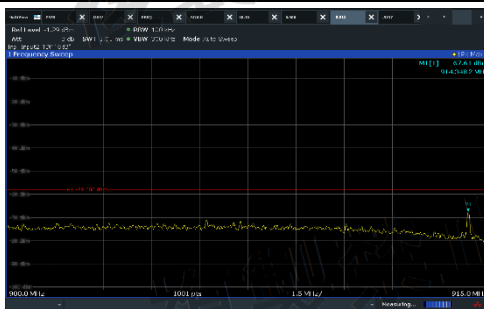
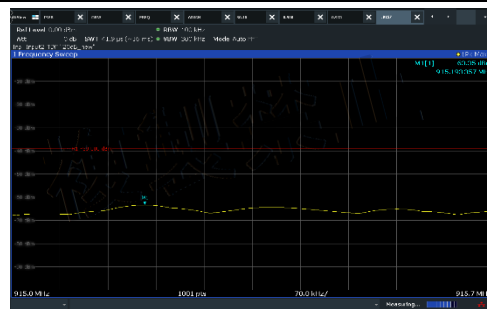
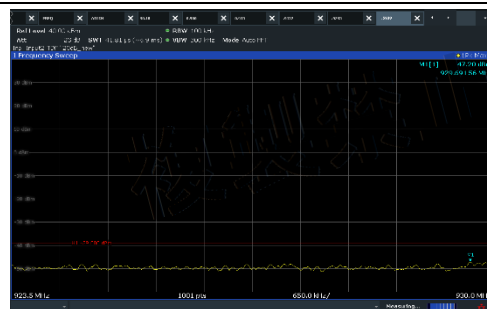
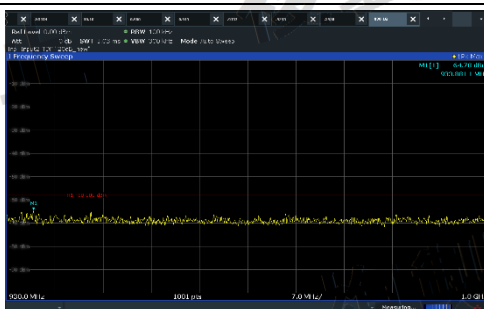
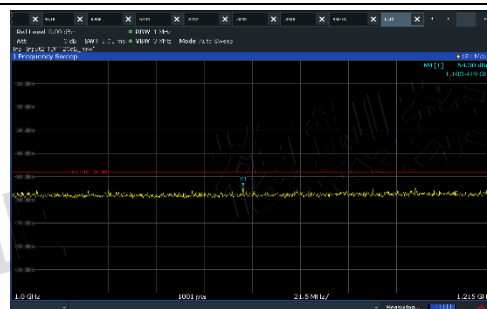
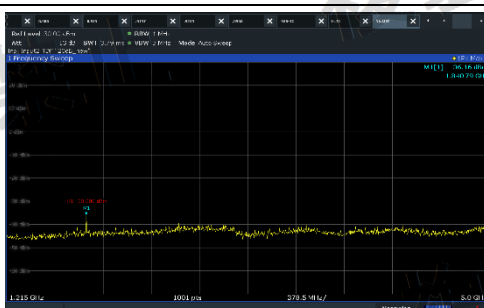
Ant3



Middle Channel [919.2 MHz]

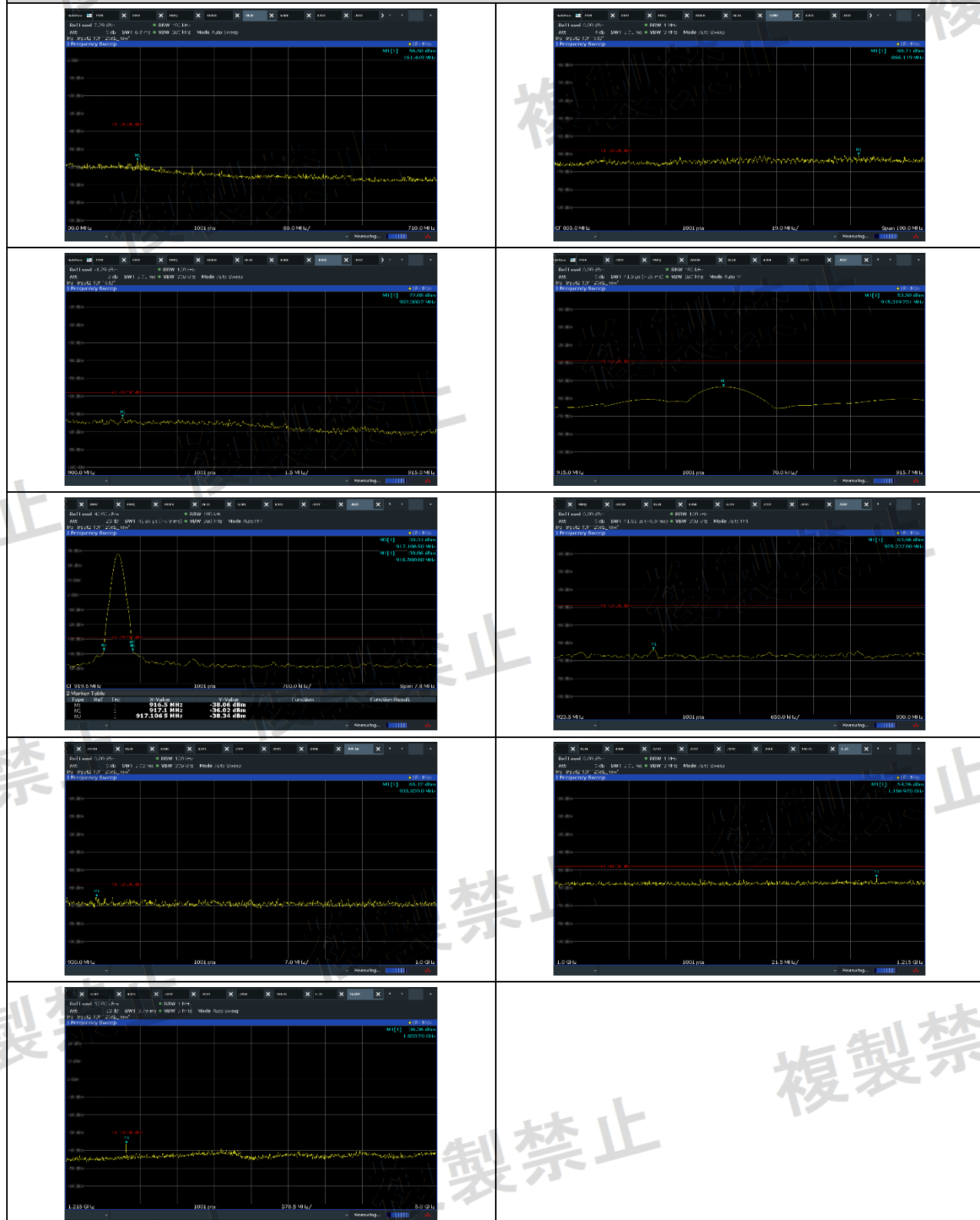


High Channel [920.8 MHz]

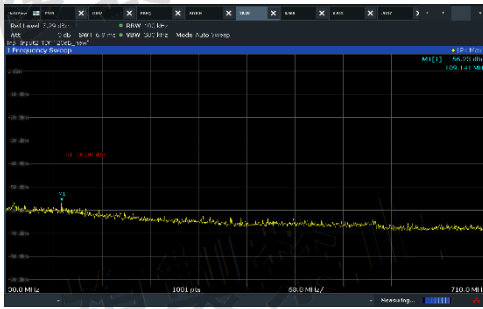
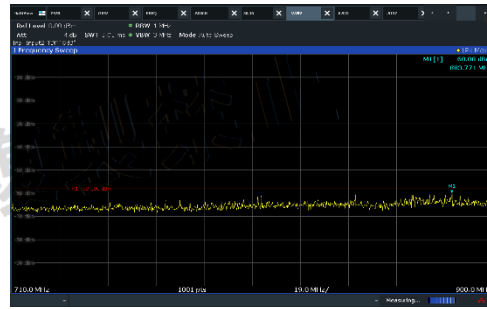
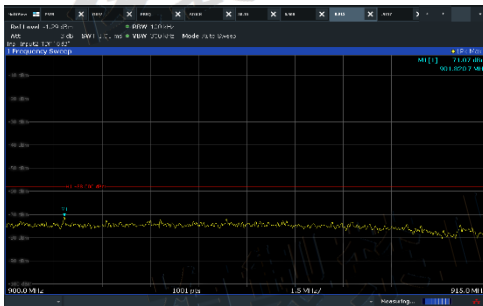
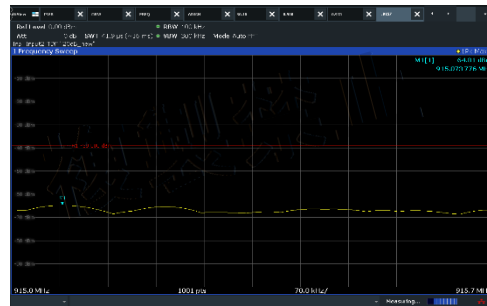
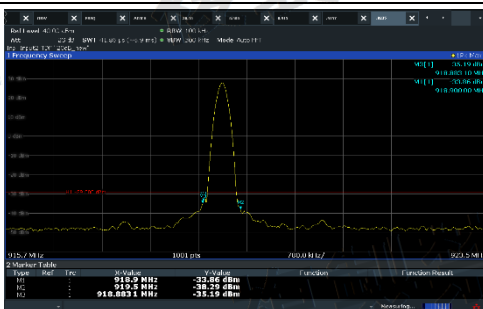
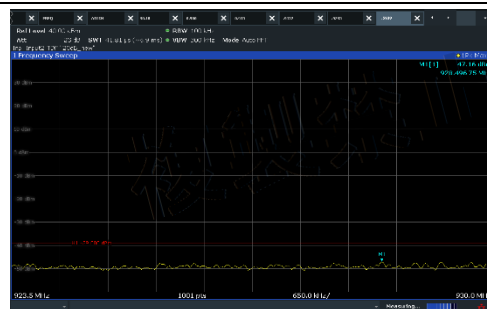
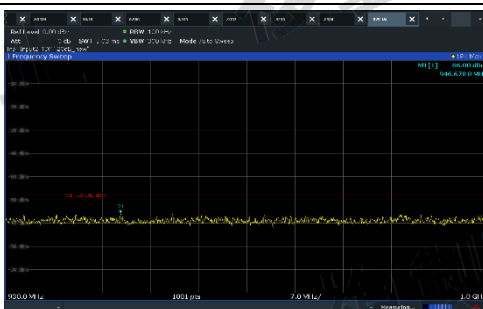
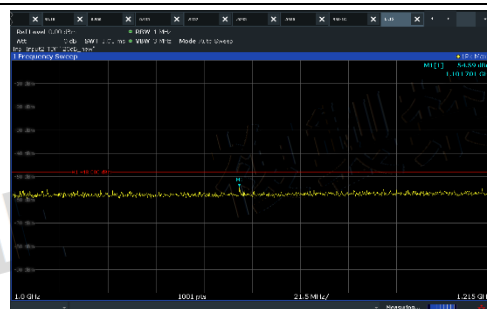
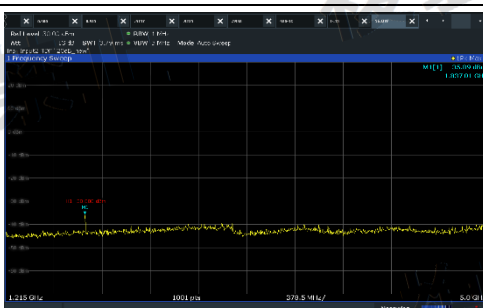


Ant4

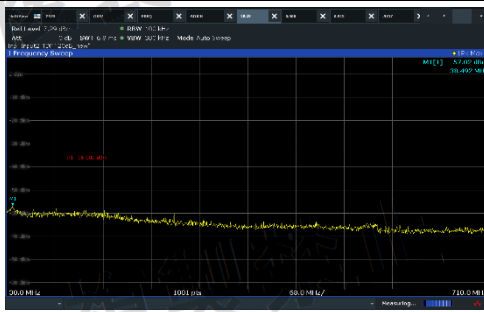
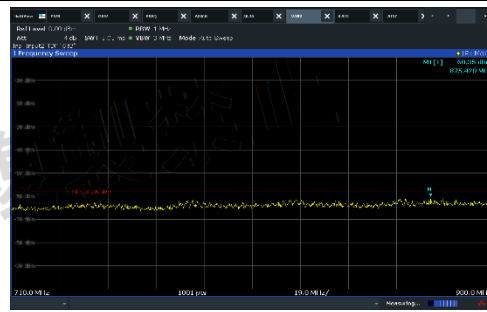
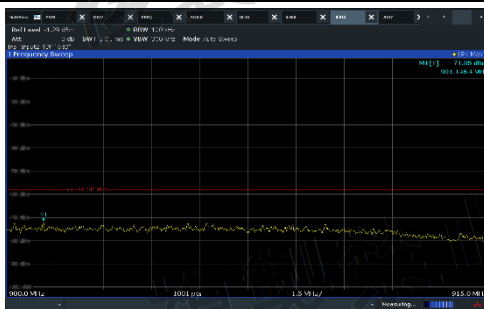
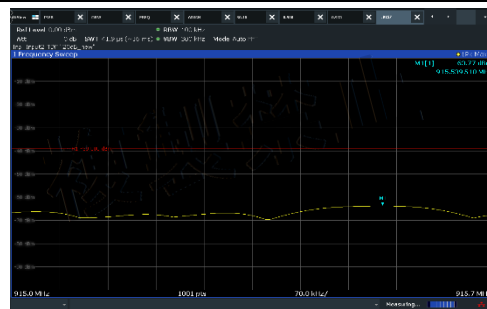
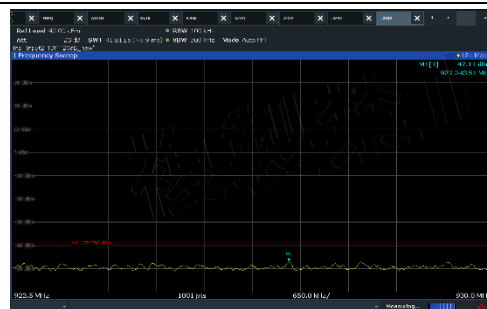
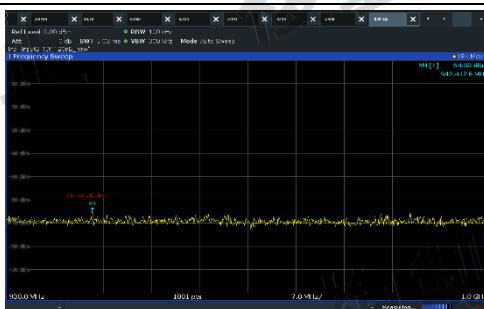
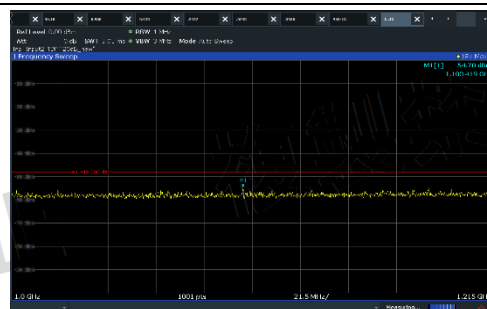
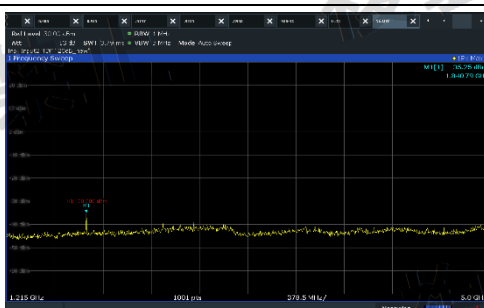
Low Channel [916.8 MHz]



Middle Channel [919.2 MHz]



High Channel [920.8 MHz]



5.6 Secondarily Emitted Radio Wave Strength(RX Spurious Emission)

5.6.1 Measurement Procedure

Connect transmitter output to the spectrum analyzer input port.

Unwanted emission strength is measured by following setting:

Set the spectrum analyzer RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto
Start: 30 MHz, Stop: 710 MHz. Sweep mode: auto and mark highest level.

Set the spectrum analyzer RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto
Start: 710 MHz, Stop: 900 MHz. Sweep mode: auto and mark highest level.

Set the spectrum analyzer RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto
Start: 900 MHz, Stop: 915 MHz. Sweep mode: auto and mark highest level.

Set the spectrum analyzer RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto
Start: 915 MHz, Stop: 930 MHz. Sweep mode: auto and mark highest level.

Set the spectrum analyzer RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto
Start: 930 MHz, Stop: 1 000 MHz. Sweep mode: auto and mark highest level.

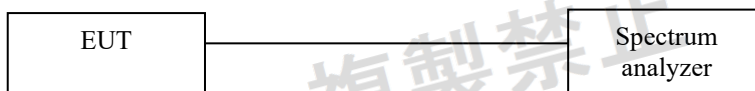
Set the spectrum analyzer RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto
Start: 1 000 MHz, Stop: 1 215 MHz. Sweep mode: auto and mark highest level.

Set the spectrum analyzer RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto
Start: 1 215 MHz, Stop: 5 000 MHz. Sweep mode: auto and mark highest level.

Detector mode : Positive Peak

Trace mode: Max hold

5.6.2 Test setup



5.6.3 Limit

Start: 30 MHz, Stop: 710 MHz: -54 dBm/100 kHz

Start: 710 MHz, Stop: 900 MHz: -58 dBm/1 MHz

Start: 900 MHz, Stop: 915 MHz: -58 dBm/100 kHz

Start: 915 MHz, Stop: 930 MHz: -54 dBm/100 kHz

Start: 930 MHz, Stop: 1 000 MHz: -58 dBm/100 kHz

Start: 1 000 MHz, Stop: 1 215 MHz: -48 dBm/1 MHz

Start: 1 215 MHz, Stop: 5 000 MHz: -47 dBm/1 MHz

5.6.4 Test environment conditions

• Ambient temperature : (20 ~ 22) °C • Relative Humidity : (38 ~ 42) % R.H.

5.6.5 Measurement Result

Ant1

Frequency range	Measure value		Limit	Test results
[MHz]	[MHz]	[dBm]	[dBm]	
Low Channel [916.8 MHz]				
30 ~ 710	31.698	-83.91	-54 dBm/100 kHz	Compliance
710 ~ 900	890.415	-79.05	-58 dBm/1 MHz	Compliance
900 ~ 915	904.772	-87.84	-58 dBm/100 kHz	Compliance
915 ~ 930	927.175	-91.94	-54 dBm/100 kHz	Compliance
930 ~ 1 000	963.182	-93.14	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 200.500	-81.10	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	2 600.800	-65.59	-47 dBm/1 MHz	Compliance
Middle Channel [919.2 MHz]				
30 ~ 710	31.700	-83.02	-54 dBm/100 kHz	Compliance
710 ~ 900	715.789	-75.27	-58 dBm/1 MHz	Compliance
900 ~ 915	910.212	-89.18	-58 dBm/100 kHz	Compliance
915 ~ 930	928.434	-93.10	-54 dBm/100 kHz	Compliance
930 ~ 1 000	971.153	-93.49	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 134.348	-82.14	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	2 789.880	-65.74	-47 dBm/1 MHz	Compliance
High Channel [920.8 MHz]				
30 ~ 710	30.340	-82.70	-54 dBm/100 kHz	Compliance
710 ~ 900	862.512	-75.23	-58 dBm/1 MHz	Compliance
900 ~ 915	911.891	-89.25	-58 dBm/100 kHz	Compliance
915 ~ 930	929.572	-92.66	-54 dBm/100 kHz	Compliance
930 ~ 1 000	960.734	-93.19	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 197.280	-81.99	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	2 816.35	-65.92	-47 dBm/1 MHz	Compliance

Ant2

Frequency range	Measure value		Limit	Test results
[MHz]	[MHz]	[dBm]	[dBm]	
Low Channel [916.8 MHz]				
30 ~ 710	31.698	-83.96	-54 dBm/100 kHz	Compliance
710 ~ 900	724.141	-74.61	-58 dBm/1 MHz	Compliance
900 ~ 915	908.384	-88.84	-58 dBm/100 kHz	Compliance
915 ~ 930	920.686	-92.21	-54 dBm/100 kHz	Compliance
930 ~ 1 000	968.566	-92.95	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 169.790	-81.39	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	2 778.500	-65.74	-47 dBm/1 MHz	Compliance
Middle Channel [919.2 MHz]				
30 ~ 710	30.340	-83.35	-54 dBm/100 kHz	Compliance
710 ~ 900	732.682	-75.69	-58 dBm/1 MHz	Compliance
900 ~ 915	907.500	-89.17	-58 dBm/100 kHz	Compliance
915 ~ 930	923.593	-92.34	-54 dBm/100 kHz	Compliance
930 ~ 1 000	975.629	-92.44	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 175.372	-81.25	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	2 479.820	-64.43	-47 dBm/1 MHz	Compliance
High Channel [920.8 MHz]				
30 ~ 710	31.700	-84.66	-54 dBm/100 kHz	Compliance
710 ~ 900	876.179	-74.68	-58 dBm/1 MHz	Compliance
900 ~ 915	905.492	-89.41	-58 dBm/100 kHz	Compliance
915 ~ 930	915.666	-93.24	-54 dBm/100 kHz	Compliance
930 ~ 1 000	976.748	-93.07	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 177.950	-81.51	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	2 426.880	-66.35	-47 dBm/1 MHz	Compliance

Ant3

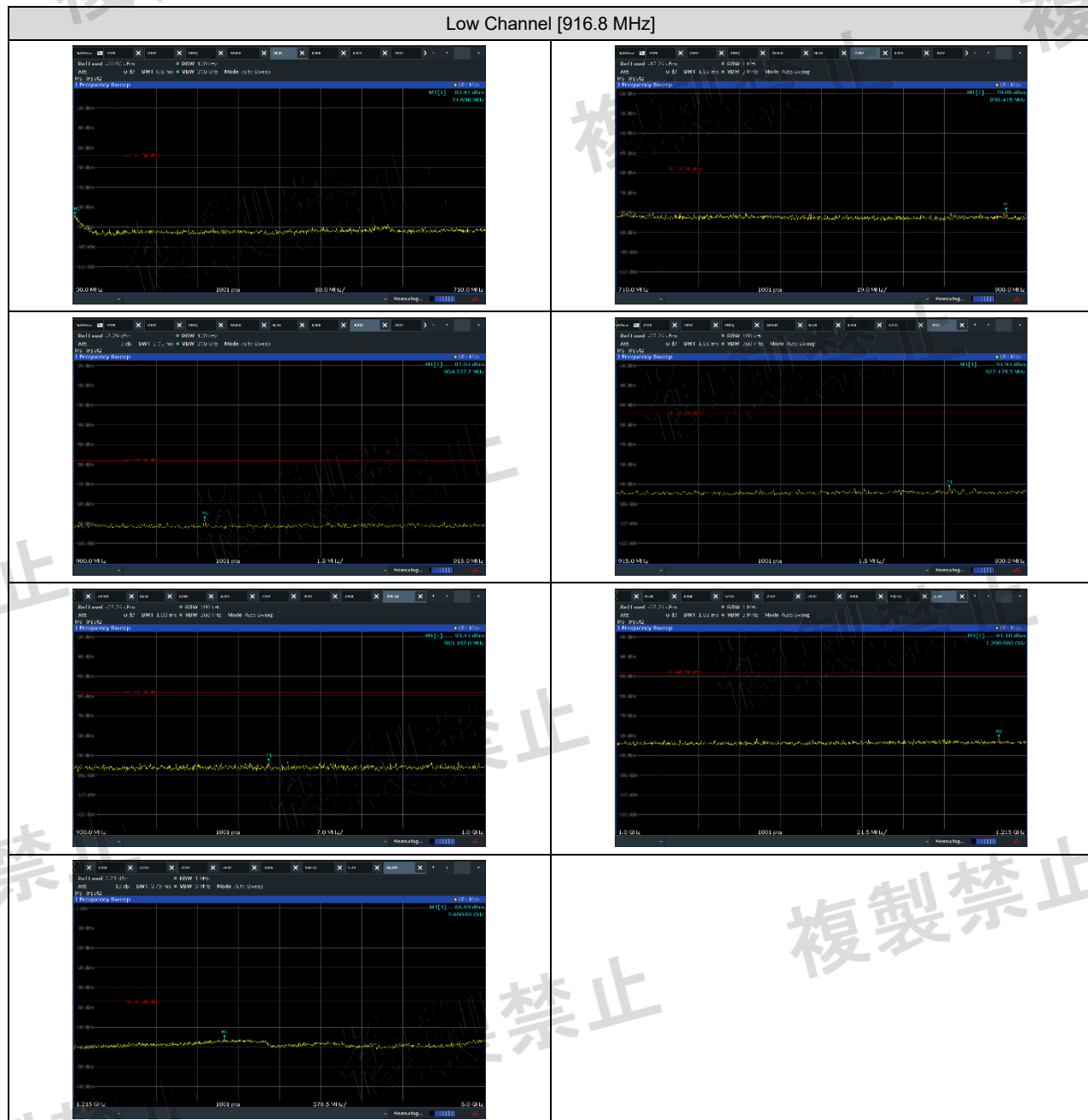
Frequency range	Measure value		Limit	Test results
[MHz]	[MHz]	[dBm]	[dBm]	
Low Channel [916.8 MHz]				
30 ~ 710	32.378	-83.62	-54 dBm/100 kHz	Compliance
710 ~ 900	724.331	-75.43	-58 dBm/1 MHz	Compliance
900 ~ 915	909.567	-88.24	-58 dBm/100 kHz	Compliance
915 ~ 930	923.653	-91.49	-54 dBm/100 kHz	Compliance
930 ~ 1 000	970.594	-93.23	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 134.990	-81.43	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	2 479.800	-65.00	-47 dBm/1 MHz	Compliance
Middle Channel [919.2 MHz]				
30 ~ 710	32.378	-84.03	-54 dBm/100 kHz	Compliance
710 ~ 900	831.384	-75.33	-58 dBm/1 MHz	Compliance
900 ~ 915	908.264	-89.29	-58 dBm/100 kHz	Compliance
915 ~ 930	927.460	-92.62	-54 dBm/100 kHz	Compliance
930 ~ 1 000	970.455	-92.86	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 162.270	-82.16	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	2 612.160	-69.10	-47 dBm/1 MHz	Compliance
High Channel [920.8 MHz]				
30 ~ 710	32.380	-84.04	-54 dBm/100 kHz	Compliance
710 ~ 900	748.437	-75.80	-58 dBm/1 MHz	Compliance
900 ~ 915	907.605	-89.27	-58 dBm/100 kHz	Compliance
915 ~ 930	920.447	-92.48	-54 dBm/100 kHz	Compliance
930 ~ 1 000	989.475	-93.82	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 168.499	-81.37	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	2 426.880	-62.83	-47 dBm/1 MHz	Compliance

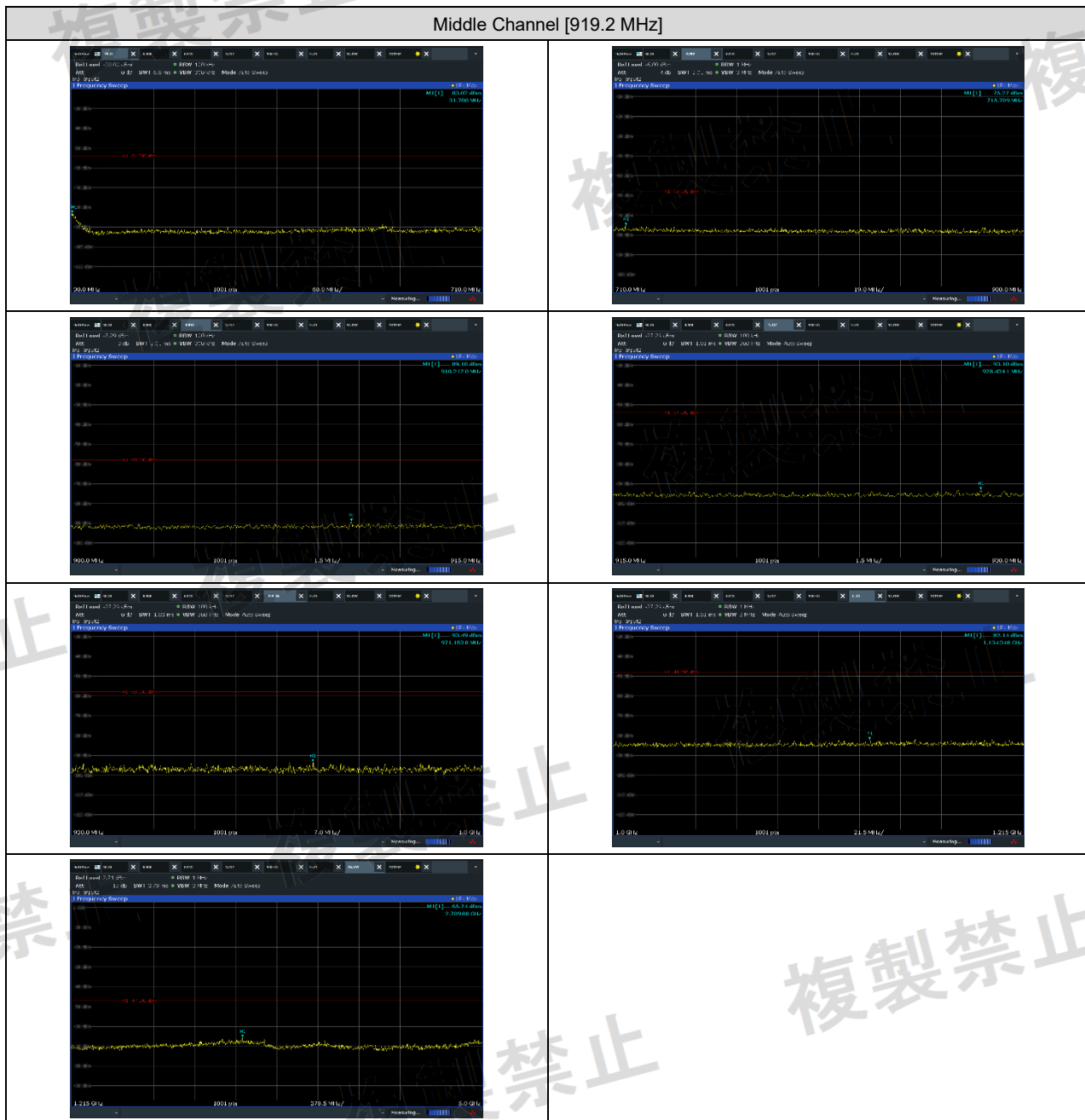
Ant4

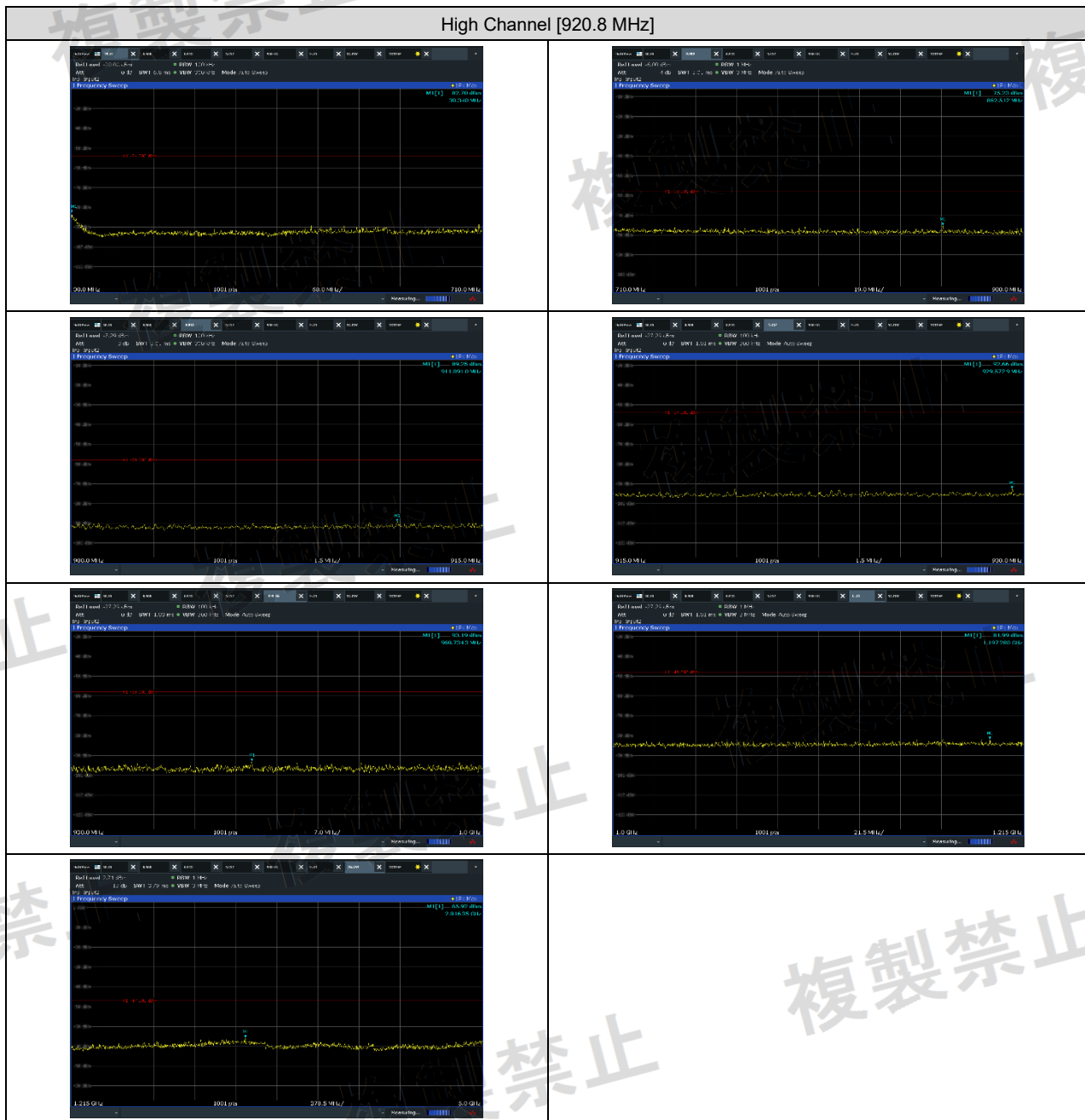
Frequency range	Measure value		Limit	Test results
[MHz]	[MHz]	[dBm]	[dBm]	
Low Channel [916.8 MHz]				
30 ~ 710	34.416	-83.60	-54 dBm/100 kHz	Compliance
710 ~ 900	716.169	-74.78	-58 dBm/1 MHz	Compliance
900 ~ 915	910.182	-89.00	-58 dBm/100 kHz	Compliance
915 ~ 930	920.147	-92.96	-54 dBm/100 kHz	Compliance
930 ~ 1 000	985.979	-91.62	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 181.390	-81.16	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	2 668.900	-65.42	-47 dBm/1 MHz	Compliance
Middle Channel [919.2 MHz]				
30 ~ 710	32.378	-82.77	-54 dBm/100 kHz	Compliance
710 ~ 900	798.736	-75.41	-58 dBm/1 MHz	Compliance
900 ~ 915	911.590	-89.56	-58 dBm/100 kHz	Compliance
915 ~ 930	922.889	-92.45	-54 dBm/100 kHz	Compliance
930 ~ 1 000	959.965	-92.70	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 168.929	-82.18	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	2 816.350	-68.87	-47 dBm/1 MHz	Compliance
High Channel [920.8 MHz]				
30 ~ 710	33.060	-79.68	-54 dBm/100 kHz	Compliance
710 ~ 900	752.423	-74.73	-58 dBm/1 MHz	Compliance
900 ~ 915	914.648	-89.84	-58 dBm/100 kHz	Compliance
915 ~ 930	927.490	-91.93	-54 dBm/100 kHz	Compliance
930 ~ 1 000	959.965	-92.61	-58 dBm/100 kHz	Compliance
1 000 ~ 1 215	1 195.132	-81.76	-48 dBm/1 MHz	Compliance
1 215 ~ 5 000	2 850.380	-66.31	-47 dBm/1 MHz	Compliance

5.6.6 Test Plot

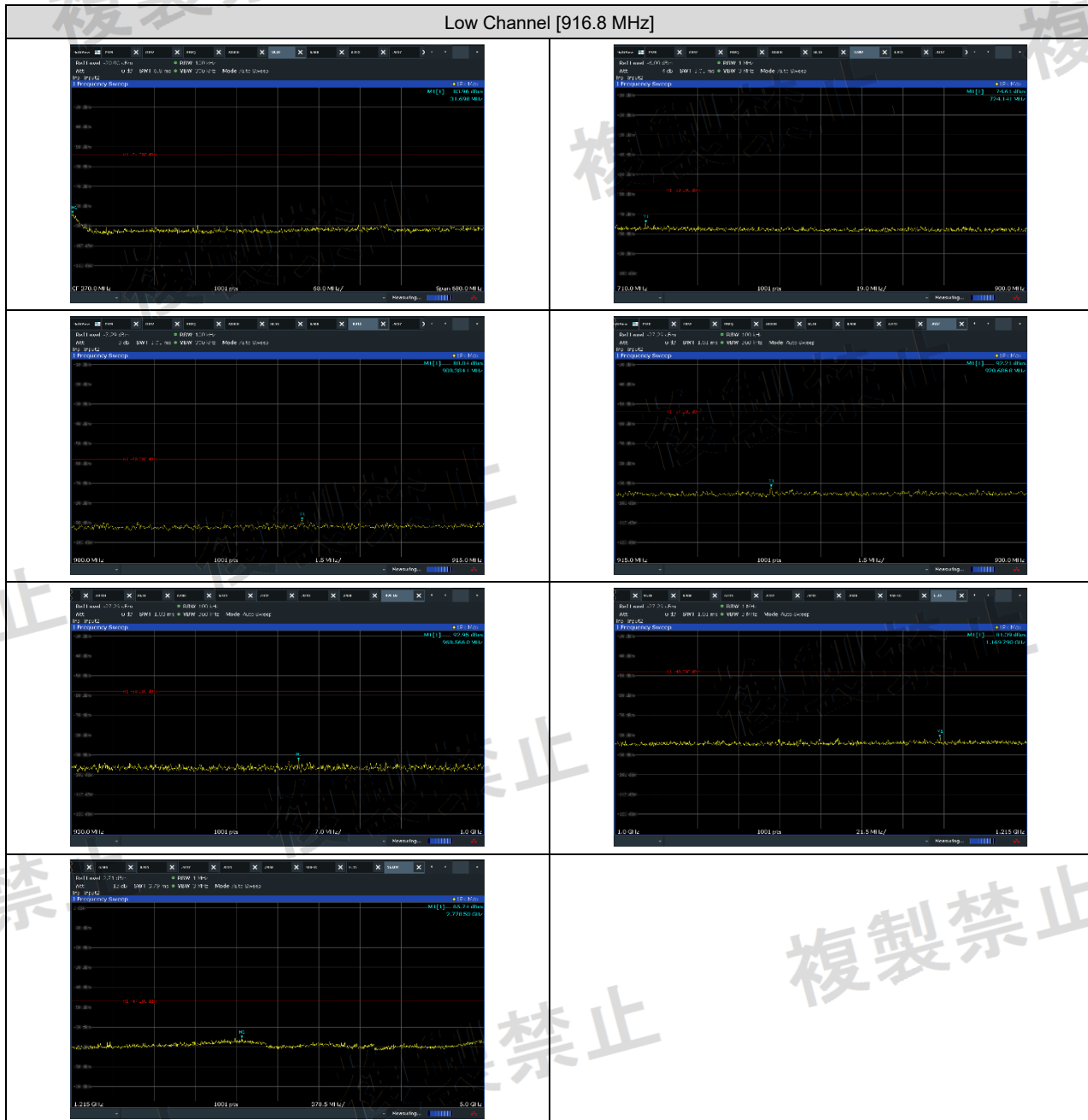
Ant1

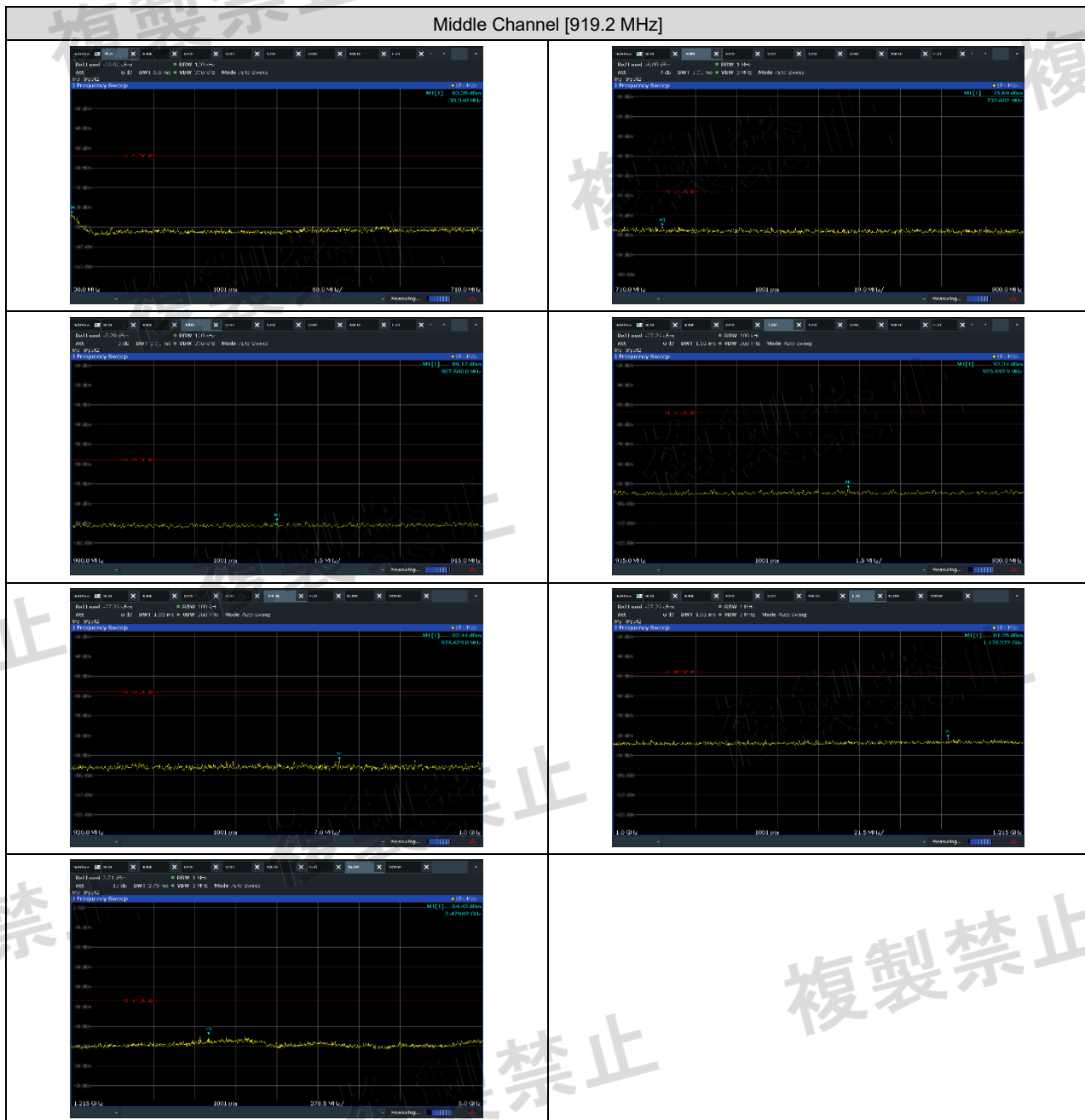


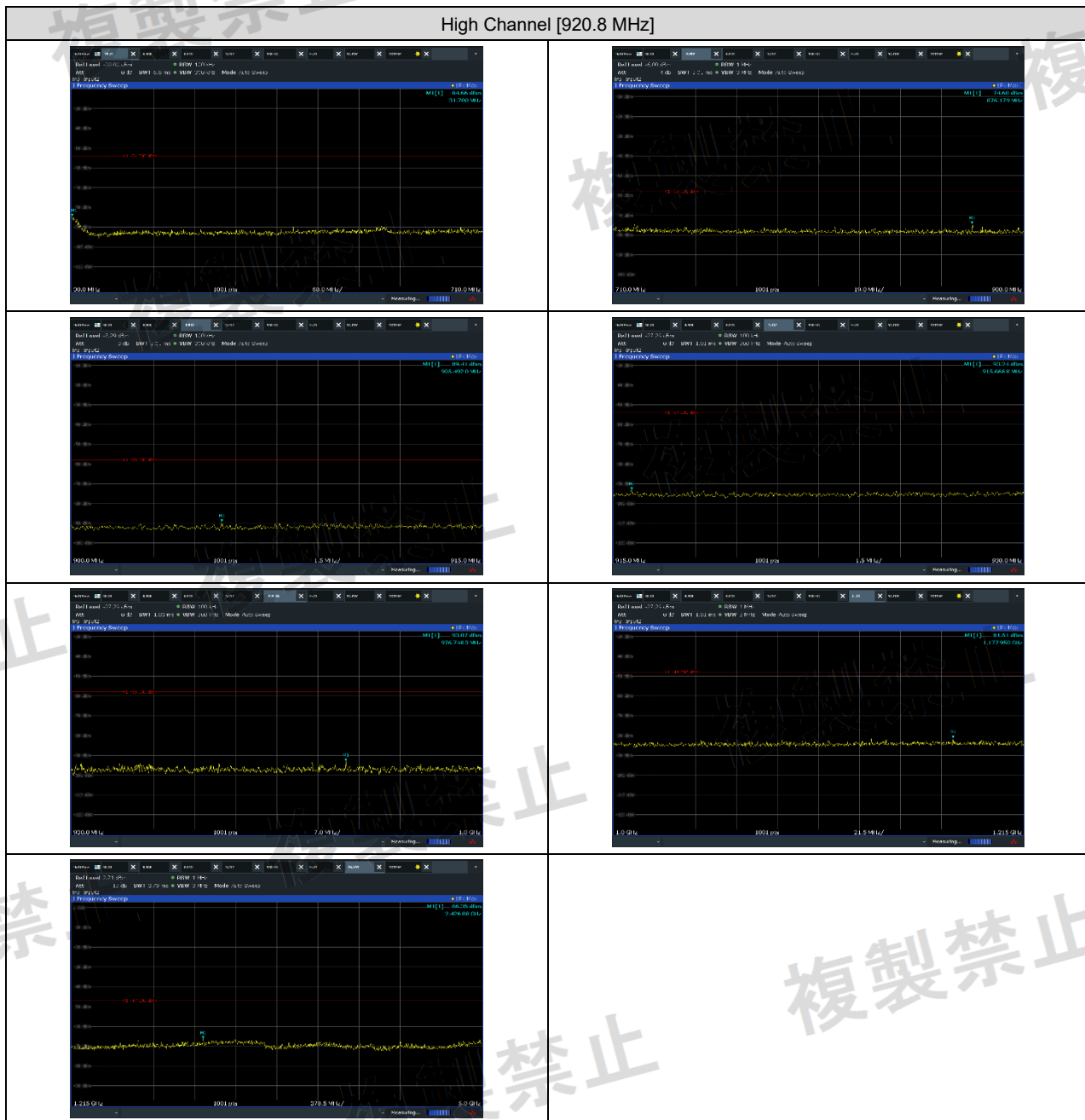




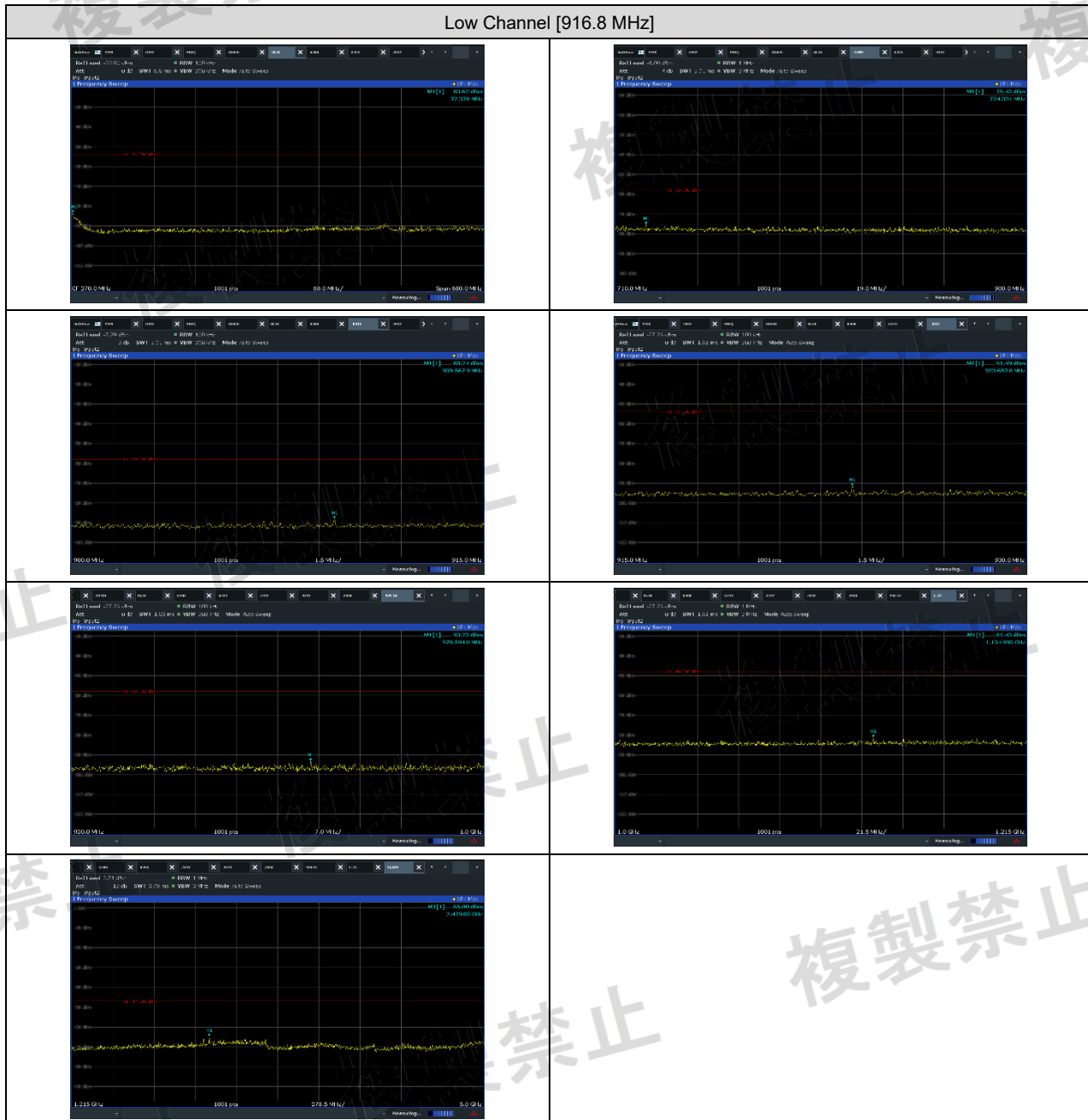
Ant2

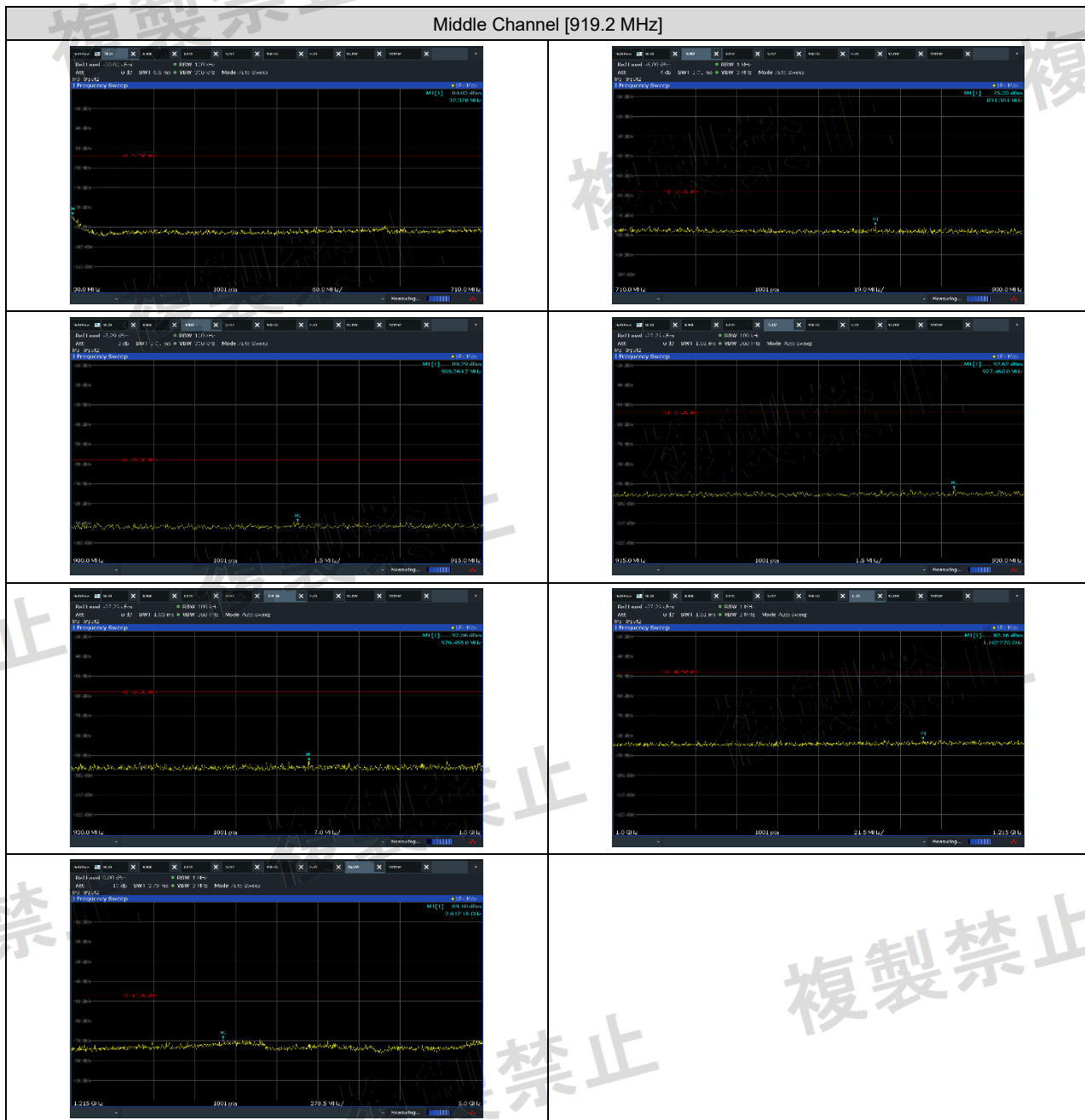


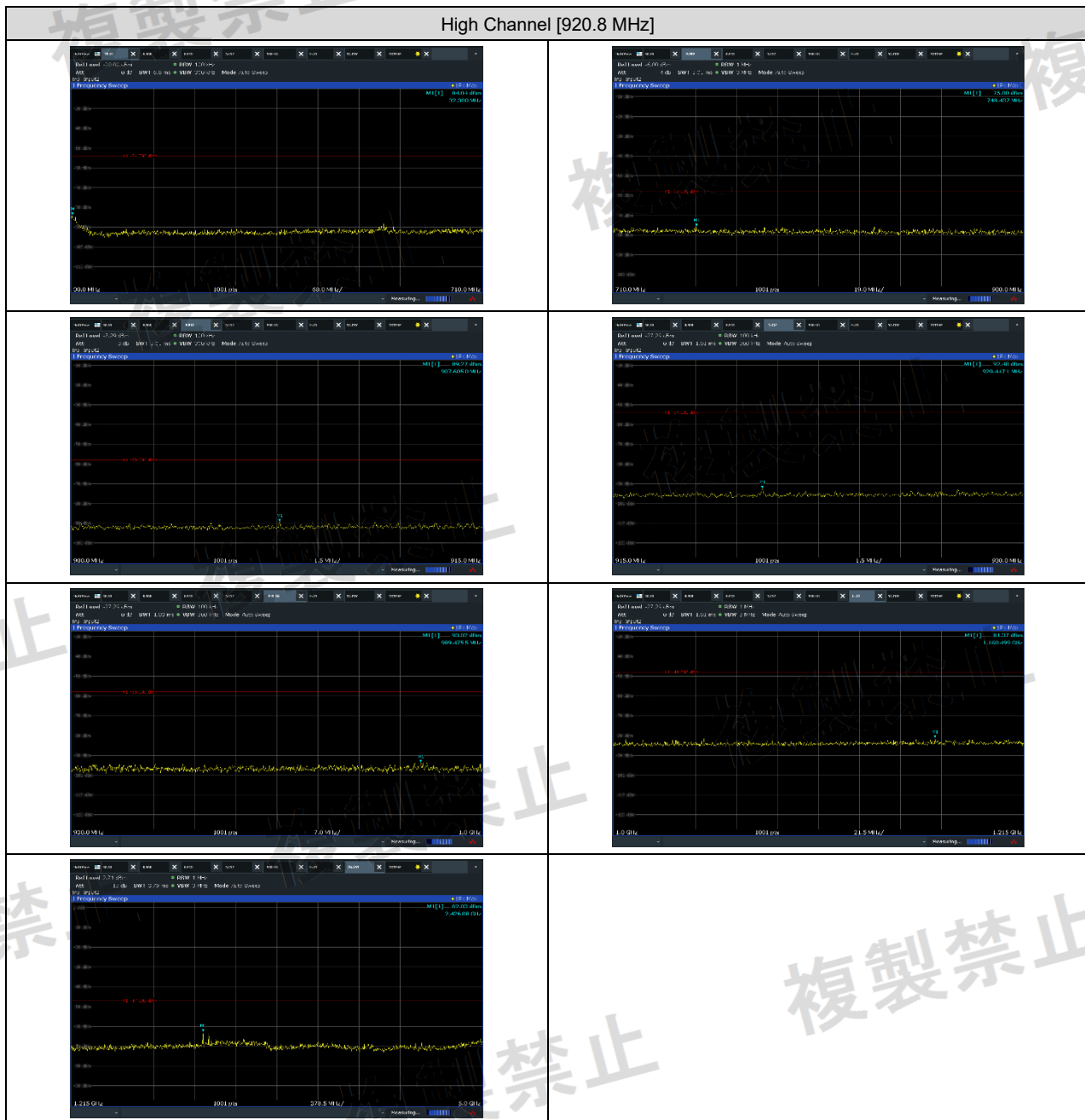




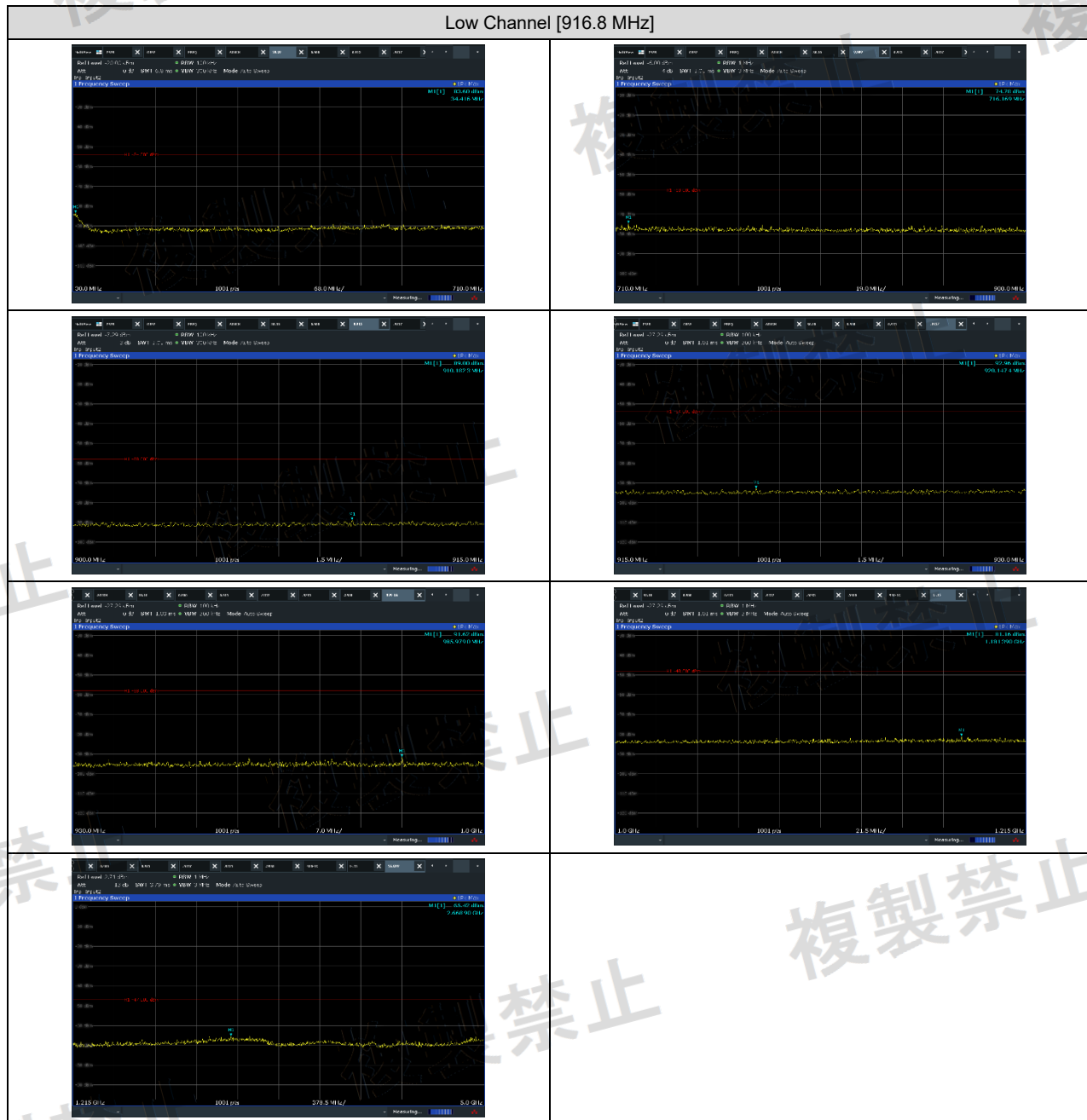
Ant3

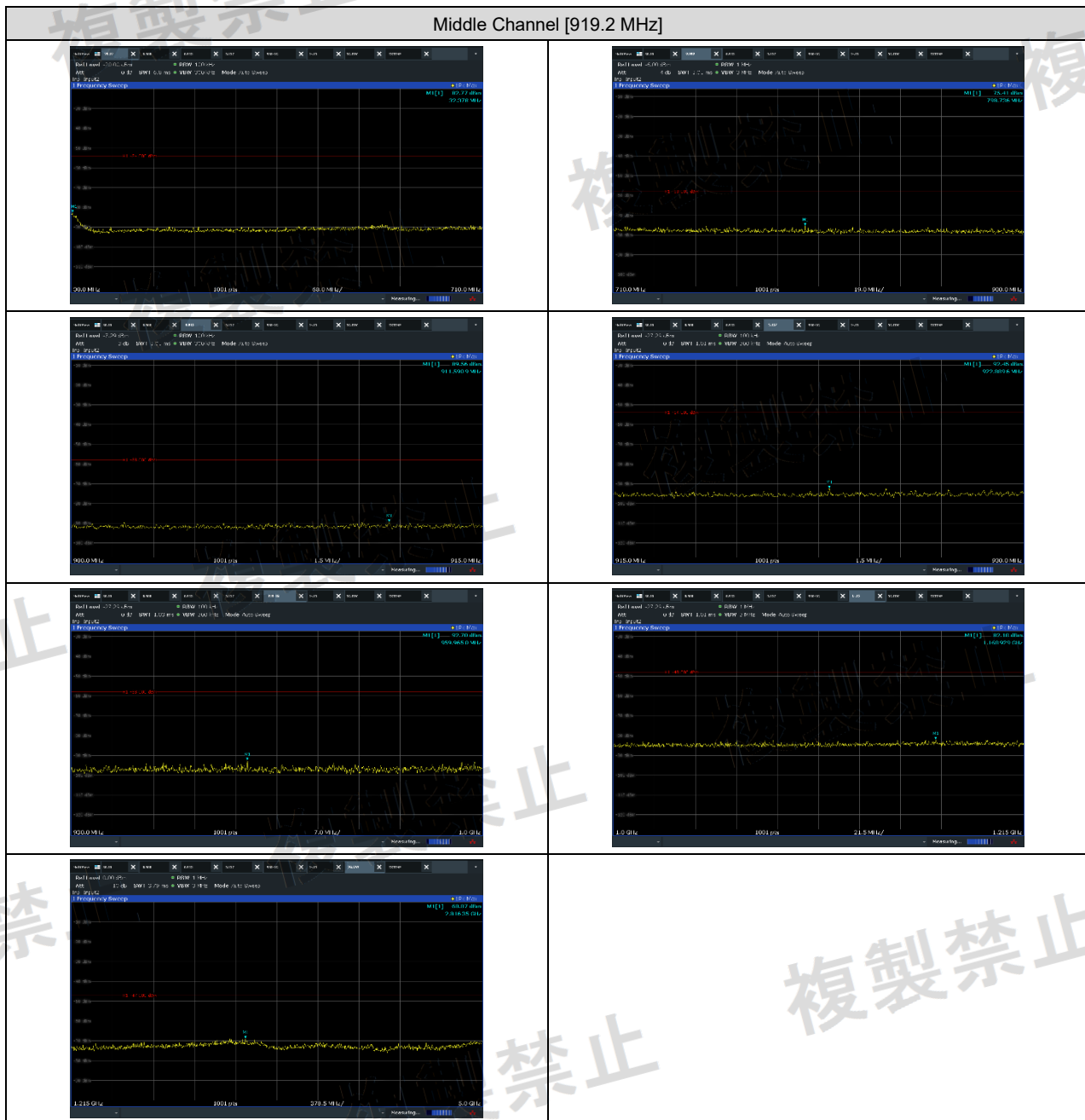


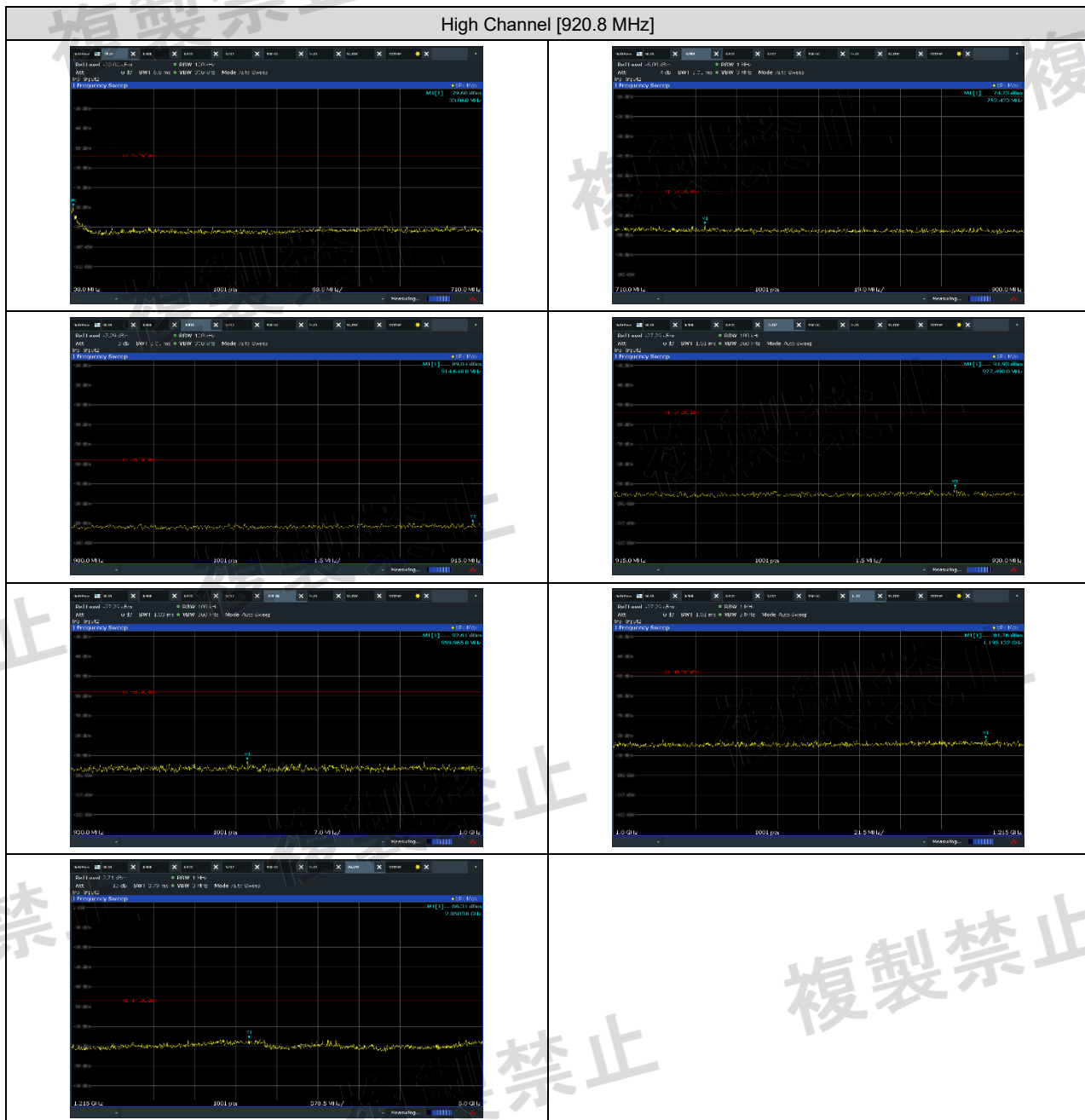




Ant4







5.7 Transmssion Time

5.7.1 Measurement Procedure

The transmitter output is connected to the Spectrum analyzer.
Setting the spectrum analyzer is as follows.

Center frequency: Operating frequency

Resolution BW: 100 kHz

Video BW: 300 kHz

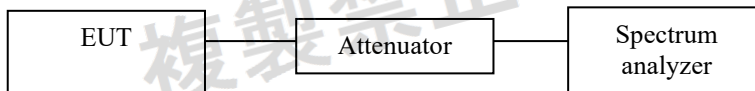
Span: 0 Hz

Sweep time: 2 s

Detector mode: Positive Peak

Trace mode: Max hold

5.7.2 Test setup



5.7.3 Limit

The controller shall cease emission of radio waves within 4 seconds after starting of emission. It shall pause emission for 50 ms or more until the next emission.

5.7.4 Test environment conditions

- Ambient temperature : (20 ~ 22) °C
- Relative Humidity : (38 ~ 42) % R.H.

5.7.5 Measurement Result

Ant1

Frequency	Transmission time	Limit	Suspend time	Limit	Test results
[MHz]	[s]	[s]	[ms]	[ms]	
919.2	0.067	4	188.27	50	Compliance

Ant2

Frequency	Transmission time	Limit	Suspend time	Limit	Test results
[MHz]	[s]	[s]	[ms]	[ms]	
919.2	0.065	4	188.27	50	Compliance

Ant3

Frequency	Transmission time	Limit	Suspend time	Limit	Test results
[MHz]	[s]	[s]	[ms]	[ms]	
919.2	0.017	4	172.27	50	Compliance

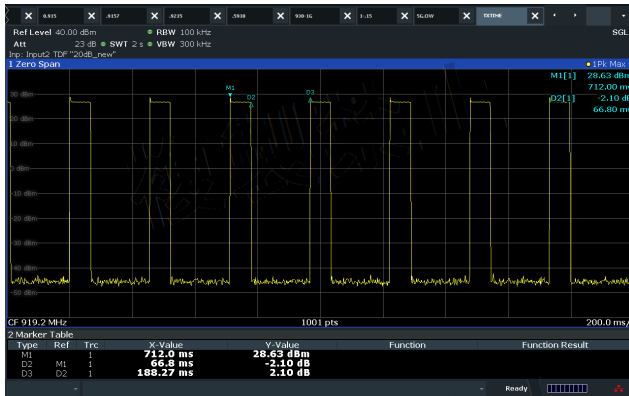
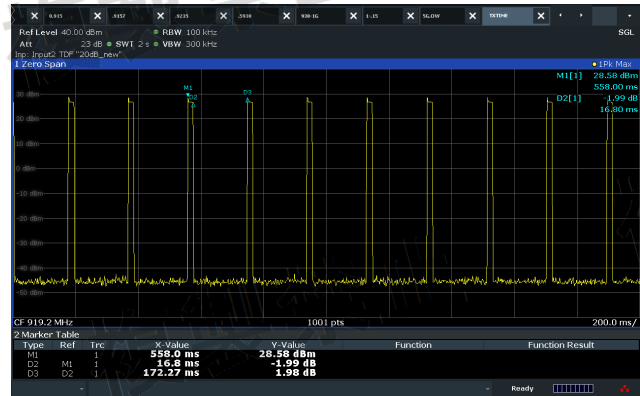
Ant4

Frequency	Transmission time	Limit	Suspend time	Limit	Test results
[MHz]	[s]	[s]	[ms]	[ms]	
919.2	0.017	4	172.27	50	Compliance

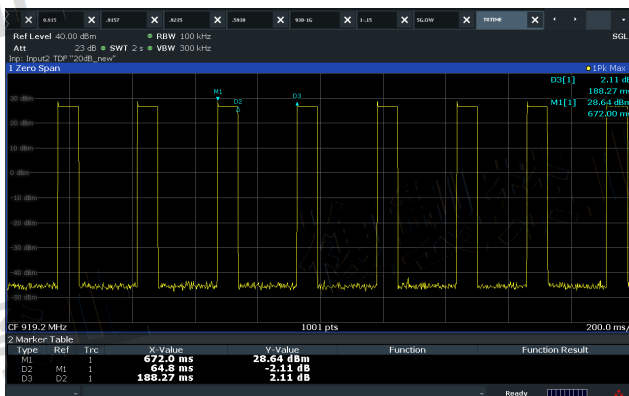
5.7.6 Test Plot

Ant1

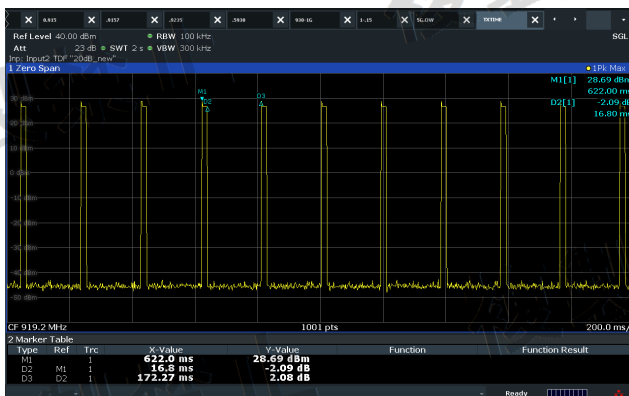
Ant4



Ant2



Ant3



5.8 Carrier Sense Function

5.8.1 Measurement Procedure

The transmitter output is connected to the Spectrum analyzer.
Setting the spectrum analyzer is as follows.

Center frequency: Operating frequency

Resolution BW: 100 kHz

Video BW: 100 kHz

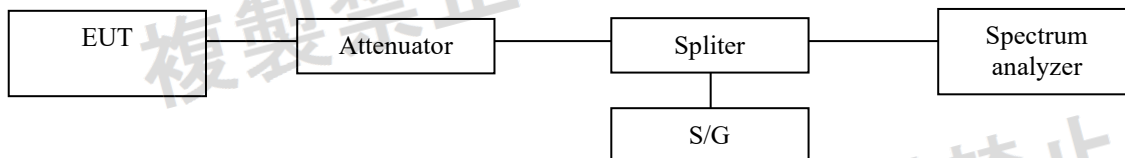
Span: 0 Hz

Sweep time: 5 s

Detector mode: Positive Peak

Trace mode: Clear write

5.8.2 Test setup



5.8.3 Limit

5 ms or above

5.8.4 Test environment conditions

• Ambient temperature : (20 ~ 22) °C • Relative Humidity : (38 ~ 42) % R.H.

5.8.5 Measurement Result

Ant1

Frequency	Non-occupancy time	Limit	Test results
[MHz]	[ms]	[ms]	
919.2	485	5	Compliance

Ant2

Frequency	Non-occupancy time	Limit	Test results
[MHz]	[ms]	[ms]	
919.2	370	5	Compliance

Ant3

Frequency	Non-occupancy time	Limit	Test results
[MHz]	[ms]	[ms]	
919.2	615	5	Compliance

Ant4

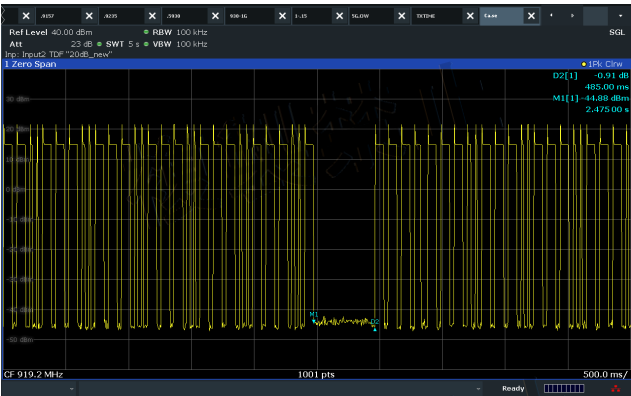
Frequency	Non-occupancy time	Limit	Test results
[MHz]	[ms]	[ms]	
919.2	610	5	Compliance

The time duration of the interference signal is less than 5 second.

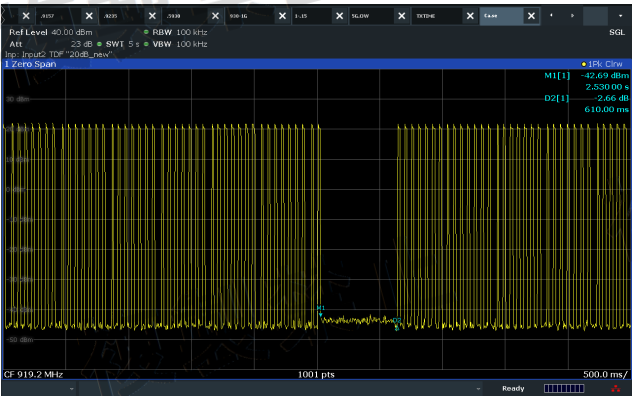


5.8.6 Test Plot

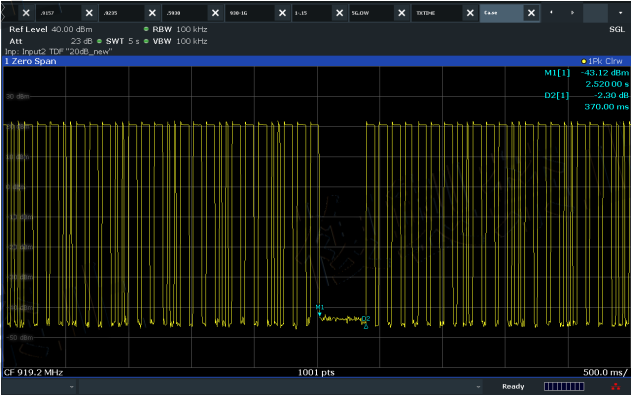
Ant1



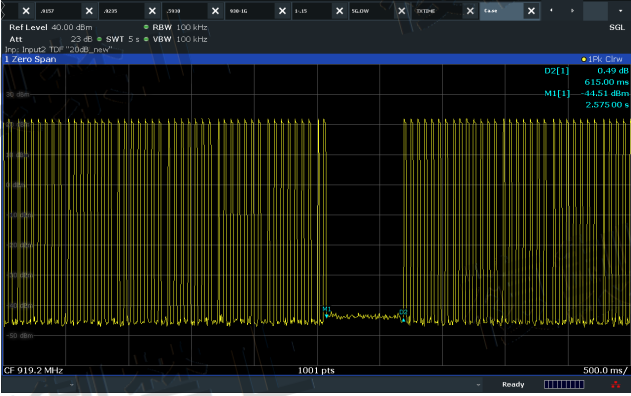
Ant4



Ant2



Ant3



5.9 Cabinet

5.9.1 Limit

The high frequency circuit and modulation modules except for antenna shall be structured not to be opened easily.

5.9.2 Confirmation method

The RF and modulation portions are protected against illegal modification as following method:

Tick the appropriate box	
1. Sealed with special screws.	☐
2. Plastic chassis is being welded using ultrasonic waves.	☐
3. Chassis is glued using a special adhesive.	☐
4. Metal covers are spot-fused.	☒
5. Cover is specially interlocked.	☐
6. RF and Modulation components are covered with shielding case and this shielding case is soldered.	☐
7. Shield case is welded at RF and modulation parts, and ID-ROM is welded using the BGA Method.	☐
8. Shield case is welded at RF and modulation parts, and ID-ROM is glued at its lead with a special adhesive.	☐
9. Shield case is welded at RF and modulation parts, and ID-ROM is glued with a non-transparent laminating agent..	☐
10. RF and Modulation parts are mounted on PCB with surface mount technology, and there is no any adjustable part on PCB or adjustable parts are not exposed.	☐

5.10 Compliance of radiation protection

5.10.1 Measurement Procedure

power flux density S (mW/cm²) at a distance of R (m) from an antenna is calculated using the following formula.

$$S = (PG)/(40\pi R^2) \cdot K$$

where $P(W)$: Antenna power

G : Antenna gain (absolute gain)

K : Coefficient of reflection

a) No reflection $K = 1$

b) Taking account of the reflection from the ground $K = 2.56$

(Transmission Frequency ≥ 76 MHz)

c) In case of strong reflection is considered due to obstacles such as buildings, steel towers, metallic objects, 6dB shall be added to the calculated value.

Therefore a limited distance R for above power flux density S is given by the following formula.

$$R = (PGK/40\pi S)^{1/2}$$

5.10.2 Limit

Signal intensity means electric field strength, power flux density and magnetic field strength (hereinafter the same)..It is set forth as that the place at which the signal intensity coming from radio equipment exceeds the value shown in table 4-1, protection facilities are required to guard person who are there except for operator.

Frequency	Electric field strength	Magnetic field strength	Power flux density	Average Time
[MHz]	[V/m]	[A/m]	[mW/cm ²]	[m]
More than 300 and less 1 500	$1.585f^{1/2}$	$f^{1/2}/237.8$	$f/1500$	6

Note1: Unit of f is in MHz

Note2: Electric field strength and Magnetic field strength should be filled in effective values.

5.10.3 Measurement Result

Ant1

Frequency	Antenna power	Antenna gain numeric	Power flux density limit	Distance R
[MHz]	[W]		[mW/cm ²]	[m]
916.8	0.608 14	3.34	0.611 2	0.496 5
919.2	0.570 16	3.34	0.612 8	0.483 4
920.8	0.584 79	3.34	0.613 9	0.487 9
Maximum value of R (Worst case)				
Rated Power + 20%: 1.2 W		3.34	0.611 2	0.198 2

Ant2

Frequency	Antenna power	Antenna gain numeric	Power flux density limit	Distance R
[MHz]	[W]		[mW/cm ²]	[m]
916.8	0.602 56	3.34	0.611 2	0.553 9
919.2	0.612 35	3.34	0.612 8	0.553 0
920.8	0.582 10	3.34	0.613 9	0.526 7
Maximum value of R (Worst case)				
Rated Power + 20%: 1.2 W		3.34	0.611 2	0.198 2

Ant3

Frequency	Antenna power	Antenna gain numeric	Power flux density limit	Distance R
[MHz]	[W]		[mW/cm ²]	[m]
916.8	0.592 93	3.34	0.611 2	0.550 0
919.2	0.584 79	3.34	0.612 8	0.541 7
920.8	0.599 79	3.34	0.613 9	0.531 7
Maximum value of R (Worst case)				
Rated Power + 20%: 1.2 W		3.34	0.611 2	0.198 2

Ant4

Frequency	Antenna power	Antenna gain numeric	Power flux density limit	Distance R
[MHz]	[W]		[mW/cm ²]	[m]
916.8	0.613 76	3.34	0.611 2	0.558 8
919.2	0.583 45	3.34	0.612 8	0.540 9
920.8	0.576 77	3.34	0.613 9	0.524 4
Maximum value of R (Worst case)				
Rated Power + 20%: 1.2 W		3.34	0.611 2	0.198 2

So, a separation distance of at least 75 centimeters is normally maintained between the transmitter's antenna and the body of the user or nearby persons.