

Dreame Trading (Tianjin) Co.,Ltd.

JAPAN TEST REPORT

SCOPE OF WORK:

JAPAN RADIO REPORT

Model:
RLS5D

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Summary

The equipment complies with the requirements according to the following standard(s) or Specification:

The equipment complies with the requirements according to the following standard(s):
Article 49-20 and the relevant articles of the Ordinance Regulating Radio Equipment

The measurement was implemented in according with the following procedure(s):
MIC Notice No.88 Appendix No.43

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Revision History

Report No.	Version	Description	Issued Date
210501646SHA-001	Rev. 01	Initial issue of report	Jul 2, 2021

Measurement result summary

TEST ITEM	TEST RESULT	NOTE
Frequency Error	Pass	-
Occupied Bandwidth and Spreading Bandwidth / Spreading Factor	Pass	-
Antenna Power and Tolerance	Pass	-
Spurious Emission	Pass	-
Limitation of Collateral Radio Emission of Receiver	Pass	-
Carrier Sense Function	Pass	-
Interference prevention function	Pass	-
Transmitting Antenna Gain (EIRP Antenna Power)	NA	-
Transmission Radiation Angle Width (3dB Beam width)	NA	-
Construction Protection Confirmation	Pass	-

Notes: 1: NA =Not Applicable

2. Determination of the test conclusion is based on IEC Guide 115 in consideration of measurement uncertainty.

3: Additions, Deviations and Exclusions from Standards: None.

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name	: Robot vacuum cleaner
Type/Model	: RLS5D
Description of EUT	: The EUT is automatically battery-powered cleaner and dry pick up for household indoor use only, it supports WIFI, there is only one model. RLS5D is same as RLS5L(MIC certificate No.: 018-210066) except for the figure of the enclosure, and the charge dock is changed to RCS2. So the test data of RLS5L is used by this report.
Rating	: 14.4VDC Docking Station: RCS2 Input:100-110V~, 50-60Hz Output:19.8VDC, 1A
Hardware version	: /
Software version	: /
Sample received date	: Dec 12, 2020
Date of test	: Dec 13, 2020~Jan 11, 2021

1.2 RF Technical Information

Assigned Frequency	: 2400MHz to 2483.5MHz
Band	
Operating Frequency	: 802.11b/g/n(HT20): 2412MHz to 2472MHz 802.11n(HT40): 2422MHz to 2462MHz
Type of Modulation	: 802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11n(HT20): OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11n(HT40): OFDM (BPSK, QPSK, 16QAM, 64QAM)
Number of Channels	: 802.11b/g/n(HT20): 13 Channels 802.11n(HT40): 11 Channels
Channel Separation	: 5MHz
Antenna Type	: Internal antenna
Antenna Gain	: 1.55dBi
Declaration Antenna Power	: 802.11b: 5mW/MHz 802.11g: 5mW/MHz 802.11n(HT20): 5mW/MHz 802.11n(HT40): 1mW/MHz

1.3 Description of Test Facility

Name : Intertek Testing Services Shanghai

Address : Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China

Telephone : 86 21 61278200

Telefax : 86 21 54262353

The test facility is : CNAS Accreditation Lab
recognized, certified, Registration No. CNAS L0139
or accredited by these FCC Accredited Lab
organizations Designation Number: CN0175

IC Registration Lab
CAB identifier.: CN0051

VCCI Registration Lab
Registration No.: R-14243, G-10845, C-14723, T-12252
A2LA Accreditation Lab
Certificate Number: 3309.02

2 TEST SPECIFICATIONS

2.1 Standards or specification

The equipment complies with the requirements according to the following standard(s):

Article 49-20 and the relevant articles of the Ordinance Regulating Radio Equipment

The measurement was implemented in according with the following procedure(s):

MIC Notice No.88 Appendix No.43

2.2 Mode of operation during the test

While testing transmitting mode of EUT, the continuously transmission was applied by following software.

Software name	Manufacturer	Version	Supplied by
putty	/	/	Manufacturer

The lowest, middle and highest channel were tested as representatives.

Frequency Band (MHz)	Mode	Lowest (L) (MHz)	Middle (M) (MHz)	Highest (H) (MHz)
2400-2483.5	802.11b	2412	2442	2472
	802.11g	2412	2442	2472
	802.11n(HT20)	2412	2442	2472
	802.11n(HT40)	2422	2442	2462

After this pretest, the following data rate was chosen to do the test as the worst case:

Frequency Band (MHz)	Mode	Tx/Rx Function
2400-2483.5	802.11b	1Mbps
	802.11g	6Mbps
	802.11n(HT20)	MCS0
	802.11n(HT40)	MCS0

2.3 Test environment condition:

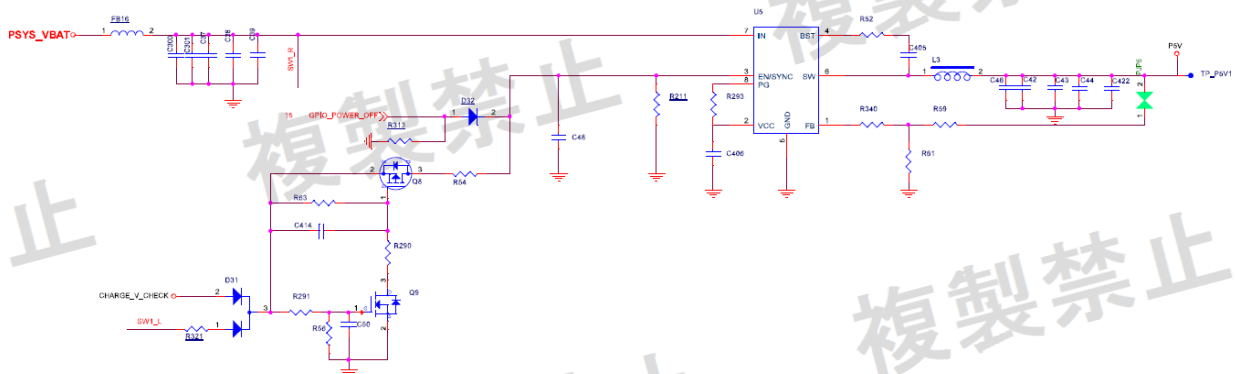
Temperature	Humidity	Atmospheric Pressure
22°C	47 %RH	100.6 kPa

2.4 Power supply condition:

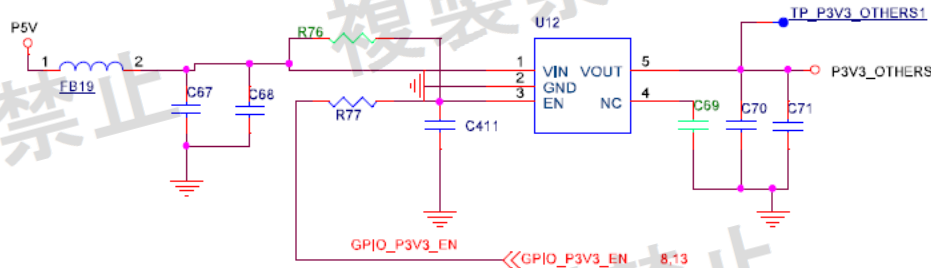
The EUT is supplied with DC 14.4V. The fluctuation of input voltage to the circuit of RF unit of test equipment is under $\pm 1\%$, when input voltage from DC 14.4V to the test equipment is fluctuated by $\pm 10\%$, So all measurement was conducted on the rated voltage (DC 14.4V).

The measurement result of the voltage fluctuation at RF circuit when input voltage is fluctuated by $\pm 10\%$:

Power supply	Measured value
DC 12.96V	3.300V
DC 14.40V	3.300V
DC 15.84V	3.301V



From DC 14.4V to DC 5V



From DC 5V to DC 3.3V

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2.5 Test peripherals used

Item No	Description	Band and Model	S/No
1	Laptop computer	DELL, 5480	NA

2.6 Instrument list

Used	Equipment	Manufacturer	Type	Internal no.	Calibration date	Due date	Calibration Body	
☒	PXA Signal Analyzer	Keysight	N9030A	EC 5338	2020-03-17	2021-03-16	CEPREI	(c)
☐	Power sensor	Agilent	U2021XA	EC 5338-1	2020-03-17	2021-03-16	CEPREI	(c)
☒	MXG Analog Signal Generator	Agilent	N5181A	EC 5338-2	2020-03-17	2021-03-16	CEPREI	(c)
☐	Vector Signal Generator	Agilent	N5182B	EC 5175	2020-03-17	2021-03-16	CEPREI	(c)
☒	Multi-meter	FLUKE	187	EC 2560	2020-03-17	2021-03-16	ITS	(c)

Note: The calibration interval is one year and the calibrations are traceable to the National Institute of Metrology (NIM)

Remark:

- (a) Calibration conducted by the National Institute of Information and Communications Technology (NICT) in Japan (hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1) in JRL.
- (b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No. 51 of 1992).
- (c) Calibration conducted in countries except Japan, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1).
- (d) Calibration, etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No. 3, which shall have been given any type of calibration, etc. listed above from (a) to (c).

From JRL Article 24-2, paragraph 4, Item 2

2.7 Measurement Uncertainty

Item No.	Test Items	Expanded Uncertainty (k=2) (±)
1	Frequency error	0.84×10^{-7}
2	Antenna Power	0.74 dB
3	Occupied Bandwidth	0.88 %
4	Spurious emissions of transmitter	2.89 dB
5	Spurious emissions of receiver	2.80 dB
6	Temperature	1 °C
7	Humidity	5 %
8	Time	1.15 %

3 Frequency Error

Test result: Pass

3.1 Limit

Item	Limits
Frequency Error	$\leq 50\text{ppm}$

3.2 Measurement Procedure

- (1) Frequency accuracy of instrument shall be less than 10% of the limit.
- (2) Two methods for the item:
 - a. CW Tone method
 - i. Set the spectrum analyzer RBW=10kHz, VBW=10kHz, Span=1MHz.
 - ii. Use peak search function to find the max peak value and record the measuring frequency as f.
 - b. 10dB down method
 - i. Set the spectrum analyzer RBW=100kHz, VBW=100kHz, Trace: Max Hold.
 - ii. Display line Level = Max. level - 10dB to place two markers, highest(fH) and lowest(fL) frequency
 - iii. Determine measuring frequency $f = (fH+fL)/2$
- (3) Calculate frequency tolerance by the formula $(f-fc)/fc \times 10^6$

3.3 Test Configuration



3.4 Test Results of Frequency Error

Please refer to Appendix A

4 Occupied Bandwidth and Spreading Bandwidth / Spreading Factor

Test result: Pass

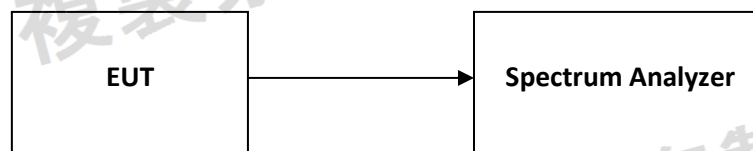
4.1 Limit

Item	Limits
Occupied Bandwidth	26MHz
Spreading Bandwidth	500kHz or more

4.2 Measurement Procedure

- (1) Set the Spectrum Analyzer as: RBW: 300kHz, VBW: 300kHz, Sweep mode: Continuous sweep, Detect mode: Positive peak, Trace mode: Max hold.
- (2) Set the EUT as transmitting on fix channel with modulation (For DSSS or OFDM Device), or continuous maximum power of hopping mode (For FHSS Device)
- (3) Enable OBW function of Spectrum Analyzer to measure 99% bandwidth and 90% bandwidth.
- (4) Spreading Factor = Spreading Bandwidth / modulation rate of EUT (For DSSS system)
- (5) Spreading Factor should be greater than 5.

4.3 Test Configuration



4.4 Test Results of Occupied Bandwidth and Spreading Bandwidth / Spreading Factor

Please refer to Appendix A

5 Antenna Power and Tolerance

Test result: Pass

5.1 Limit

Item	Limits
Antenna Power	10mW/MHz
Tolerance	+20%, -80%

5.2 Measurement Procedure

- (1) Test Conditions:
Spectrum Analyzer is used for measurement.
- (2) EUT conditions:
Modulation/Spread/Hopping ON
For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal
- (3) Spectrum Analyzer conditions:
Center Frequency: Test Frequency, RBW: 1 MHz, VBW: 1 MHz, Detector mode: RMS, Indication mode: Max hold

5.3 Test Configuration



5.4 Test Results of Antenna Power and Tolerance

Please refer to Appendix A

6 Spurious Emission

Test result: Pass

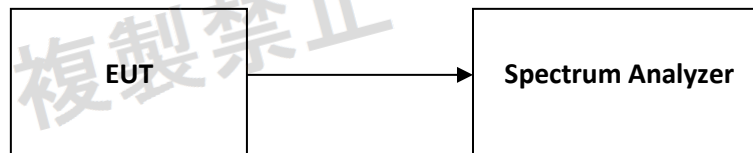
6.1 Limit

Item	Limits
TX Spurious Emission	(1) Below 2387MHz: 2.5μW/MHz (2) 2387 to 2400MHz: 25μW/MHz (3) 2483.5 to 2496.5MHz: 25μW/MHz (4) Over 2496.5MHz: 2.5μW/MHz

6.2 Measurement Procedure

- (1) Set the EUT as transmitting the maximum power and fixed channel.
- (2) Set the Spectrum Analyzer as: RBW: 1MHz, VBW: 1MHz, Sweep time: Auto, Detect mode: Positive peak.
- (3) Follow above setting to measure spurious emission from 30MHz to 12500MHz.

6.3 Test Configuration



6.4 Test Results of Spurious Emission

Please refer to Appendix A

7 Limitation of Collateral Radio Emission of Receiver

Test result: Pass

7.1 Limit

Item	Limits
Collateral Emissions	(1) Below 1GHz: 4nW (2) 1GHz or higher: 20nW

7.2 Measurement Procedure

- (1) Set the EUT as continuous reception mode and fixed channel.
- (2) Set the Spectrum Analyzer as: RBW: 100kHz, VBW: 100kHz, Sweep time: Auto, Detect mode: Positive peak to measure the spurious emission below 1GHz.
- (3) Set the Spectrum Analyzer as: RBW: 1MHz, VBW: 1MHz, Sweep time: Auto, Detect mode: Positive peak to measure the spurious emission above 1GHz.

7.3 Test Configuration



7.4 Test Results of Collateral Radio Emission of Receiver

Please refer to Appendix A

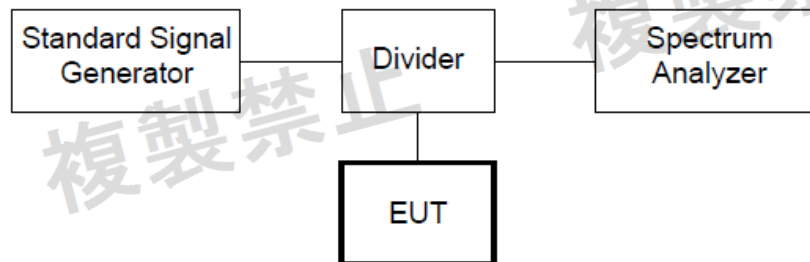
8 Carrier Sense Function

Test result: Pass

8.1 Measurement Procedure

- (1) Setting of standard signal generator is given as below. Carrier Frequency Center frequency in the RX frequency band of the EUT Modulation No-modulation (Note)
Output Level Same level as the specific value at the antenna input (the specific value is defined by the applicant.)
Note1: In case the carrier sense function of the EUT does not work with no-modulated carrier at the center frequency, the frequency may be shifted or modulation is performed, if necessary.
- (2) With the standard signal generator output OFF, turn the EUT on the TX mode. Verify with the spectrum analyzer that TX signal (OBW 26MHz or more) is put out.
- (3) Set the EUT on RX mode.
- (4) With the standard signal generator output ON, turn the EUT on the TX mode. Verify with the spectrum analyzer that TX signal (OBW 26MHz or more) is not put out.

8.2 Test Configuration



8.3 Test Results of Carrier Sense Function

Mode	EUT Freq (MHz)	Result	Note
802.11n(HT40)	2422	Pass	with modulation
802.11n(HT40)	2442	Pass	with modulation
802.11n(HT40)	2462	Pass	with modulation

9 Interference prevention function

Test result: Pass

9.1 Limit

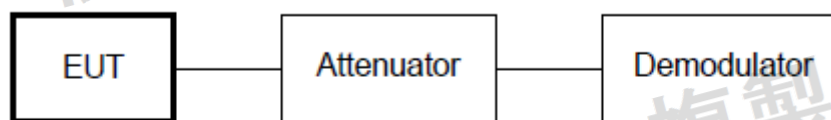
Item	Limits
Identification code	≥ 48 bits

9.2 Measurement Procedure

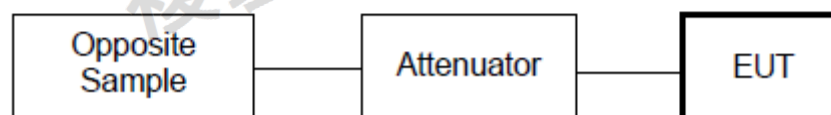
- (1) In case the EUT possesses function to transmit identification code automatically:
 - a. Predetermined identification code is transmitted by the EUT.
 - b. Verify the transmitted identification code.
- (2) In case the EUT possesses function to receive identification code automatically.
 - a. Predetermined identification code is transmitted by the opposite sample.
 - b. Verify the working of the normal communication.
 - c. Other code than the predetermined identification code is transmitted by the opposite sample.
 - d. Verify the EUT to stop transmitting or to display that the ID code is different.

9.3 Test Configuration

(1) In case identification code is transmitted



(2) In case identification code is received



9.4 Test Results of Interference prevention function

Please refer to Appendix A

10 Transmission Antenna Gain (EIRP Antenna Power) Measurement

Test result: NA

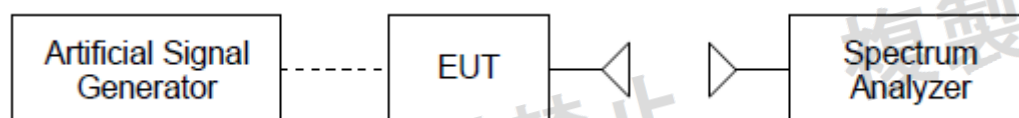
10.1 Limit

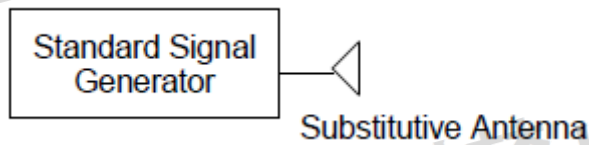
Item	Limits
EIRP Antenna Power	$\leq 12.14\text{dBm/MHz}$ (OFDM, DSSS from 2400MHz to 2483.5MHz) $\leq 12.14\text{dBm}$ (Other from 2400MHz to 2483.5MHz)
Remark: This test item is not applied to EUT with EIRP Antenna power lower than 12.14dBm/MHz	

10.2 Measurement Procedure

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

10.3 Test Configuration





10.4 Test Results of Transmission Antenna Gain

For the antenna gain, please refer to antenna test report.

This test item is not applied to EUT with EIRP Antenna power lower than 12.14dBm/MHz

11 Transmission Radiation Angle Width (3dB Beamwidth) Measurement

Test result: NA

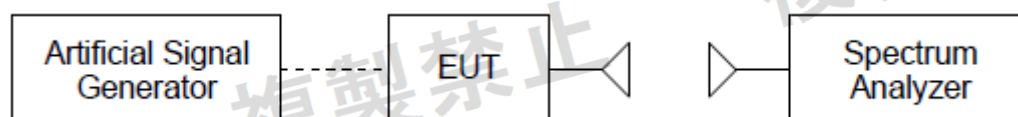
11.1 Limit

Item	Limits
3dB antenna beamwidth	360/A (If $A < 1$; then $A = 1$) $A = \{ \text{EIRP Power [dBm/MHz]} - 12.14 \text{ [dBm/MHz]} \text{ for DS, OFDM} \}$ or $\{ \text{E.I.R.P Power [dBm/MHz]} - 6.91 \text{ [dBm/MHz]} \text{ for FH} \}$
Remark: This test item is not applied to EIRP power of EUT is lower than 12.14dBm/MHz	

11.2 Measurement Procedure

- (1) Set EUT and measuring antenna at the same height and roughly facing each other.
- (2) Set spectrum analyzer with condition in section 3.7.2 and tune reference level to observe receiving signal position.
- (3) Rotate directions of the EUT horizontally and vertically to find the maximum receiving power.
- (4) Move the measuring antenna height up and down within $\pm 50\text{cm}$ of EUT height and swing it to find the maximum output of measuring antenna. The output level at the spectrum analyzer is read as "E".
- (5) Calculate permitted radiation angle in horizontal and vertical using EIRP measured in another test method.
- (6) Calculate 3dB antenna beam width by the formula below $360/A$ (If $A < 1$; then $A = 1$).
 $A = \{ \text{EIRP Power [dBm/MHz]} - 12.14 \text{ [dBm/MHz]} \text{ for DS, OFDM} \}$ or
 $A = \{ \text{E.I.R.P Power [dBm/MHz]} - 6.91 \text{ [dBm/MHz]} \text{ for FH} \}$

11.3 Test Configuration



11.4 Test Results of Transmission Radiation Angle Width

For the antenna gain, please refer to antenna test report.

This test item is not applied to EUT with EIRP Antenna power lower than 12.14dBm/MHz

12 Construction Protection Confirmation Method

Test result: Pass

12.1 Limit

The high-frequency section and modulation section of the radio equipment except for the antenna system shall not be capable of being opened easily.

12.2 Confirmation Method

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

12.3 The Photos of Construction Protection

Please refer to the EUT's photos

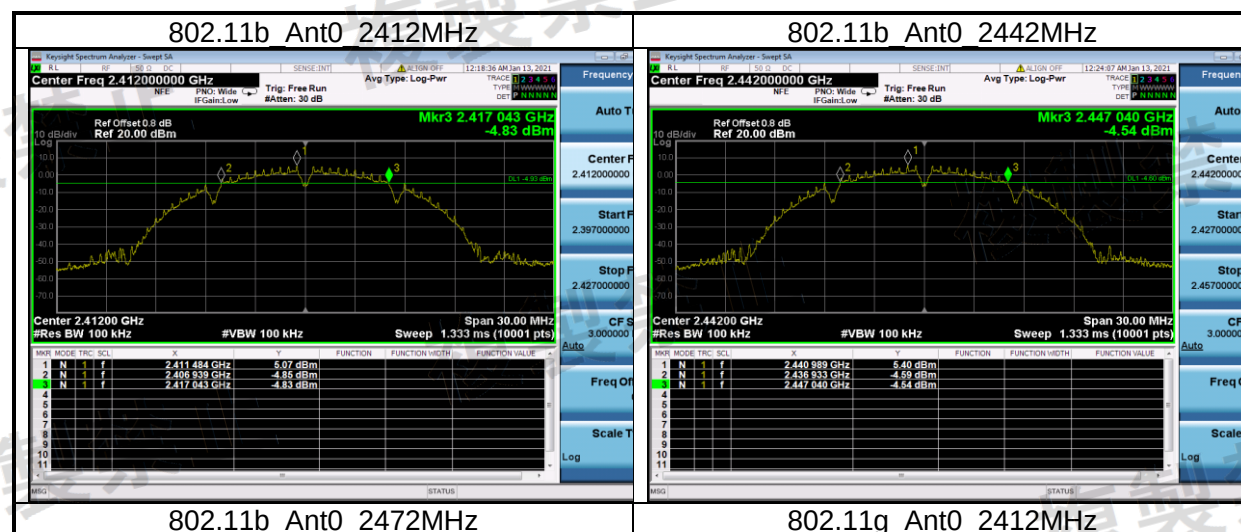
Appendix A: Test results

1. Frequency Error

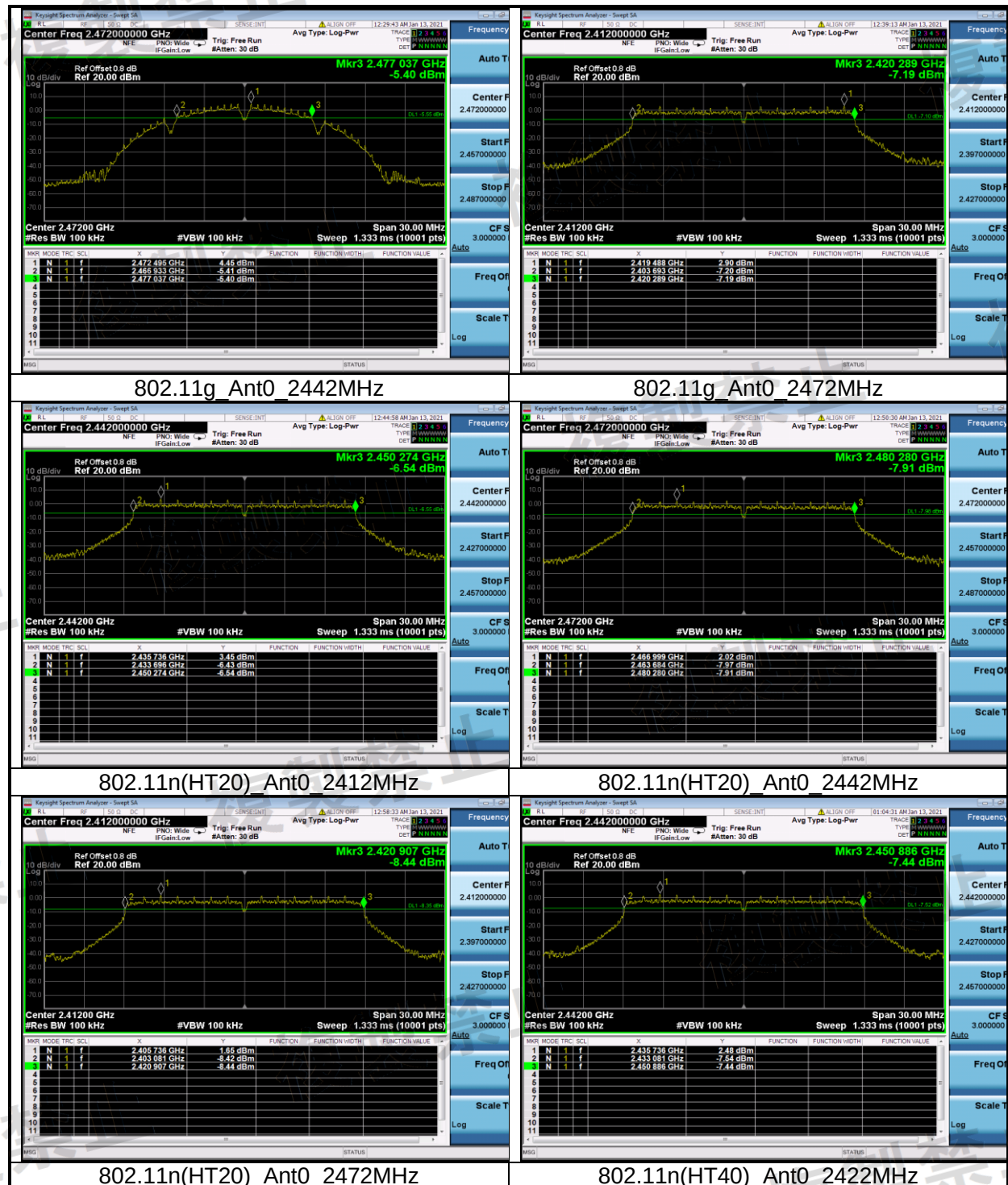
1.1 Test Data

WLAN Frequency Error Normal								
Test Mode	Test Freq (MHz)	Ant	FL (MHz)	FH (MHz)	FC (MHz)	Measured Freq Error (ppm)	Limit (ppm)	Result
802.11b	2412	Ant0	2406.94	2417.04	2411.99	-3.73	50.00	Pass
802.11b	2442	Ant0	2436.93	2447.04	2441.99	-5.53	50.00	Pass
802.11b	2472	Ant0	2466.93	2477.04	2471.99	-6.07	50.00	Pass
802.11g	2412	Ant0	2403.69	2420.29	2411.99	-3.73	50.00	Pass
802.11g	2442	Ant0	2433.70	2450.27	2441.99	-6.14	50.00	Pass
802.11g	2472	Ant0	2463.68	2480.28	2471.98	-7.28	50.00	Pass
802.11n (HT20)	2412	Ant0	2403.08	2420.91	2411.99	-2.49	50.00	Pass
802.11n (HT20)	2442	Ant0	2433.08	2450.89	2441.98	-6.76	50.00	Pass
802.11n (HT20)	2472	Ant0	2463.08	2480.89	2471.98	-6.67	50.00	Pass
802.11n (HT40)	2422	Ant0	2403.80	2440.22	2422.01	3.72	50.00	Pass
802.11n (HT40)	2442	Ant0	2423.72	2460.21	2441.96	-14.74	50.00	Pass
802.11n (HT40)	2462	Ant0	2443.72	2480.18	2461.95	-20.71	50.00	Pass

1.2 Test Plots



TEST REPORT





2. Occupied Bandwidth (OBW) and Spreading Bandwidth (SBW) / Spreading Factor (SF)

2.1 Test Data

WLAN Occupied Bandwidth Normal					
Test Mode	Test Freq (MHz)	Ant	OBW (MHz)	OBW Limit	OBW Result
802.11b	2412	Ant0	13.458	26	Pass
802.11b	2442	Ant0	13.455	26	Pass
802.11b	2472	Ant0	13.449	26	Pass
802.11g	2412	Ant0	16.952	38	Pass
802.11g	2442	Ant0	16.952	38	Pass
802.11g	2472	Ant0	16.904	38	Pass
802.11n (HT20)	2412	Ant0	17.844	38	Pass
802.11n (HT20)	2442	Ant0	17.839	38	Pass
802.11n (HT20)	2472	Ant0	17.815	38	Pass

TEST REPORT

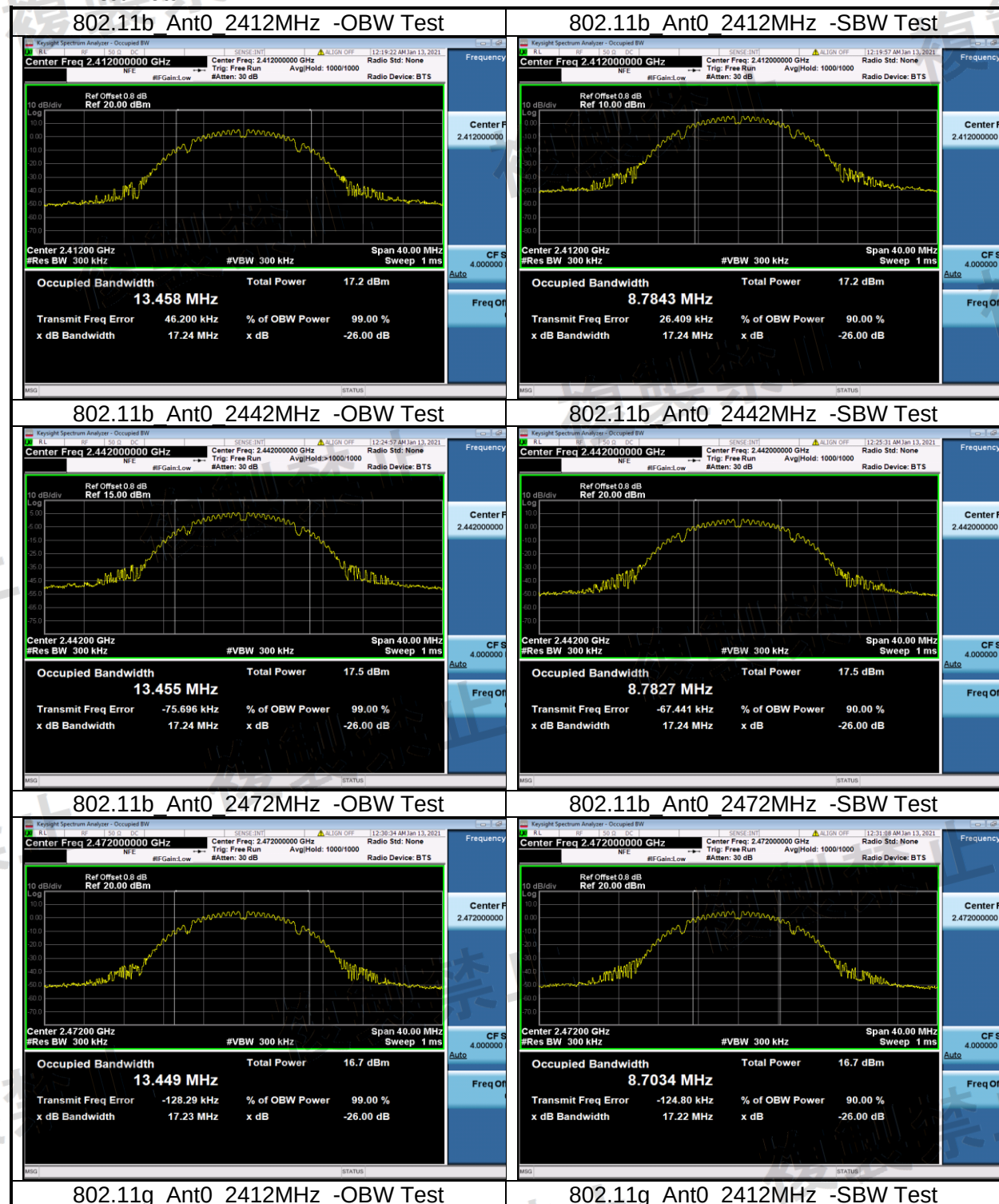
802.11n (HT40)	2422	Ant0	36.033	38	Pass
802.11n (HT40)	2442	Ant0	36.085	38	Pass
802.11n (HT40)	2462	Ant0	36.040	38	Pass

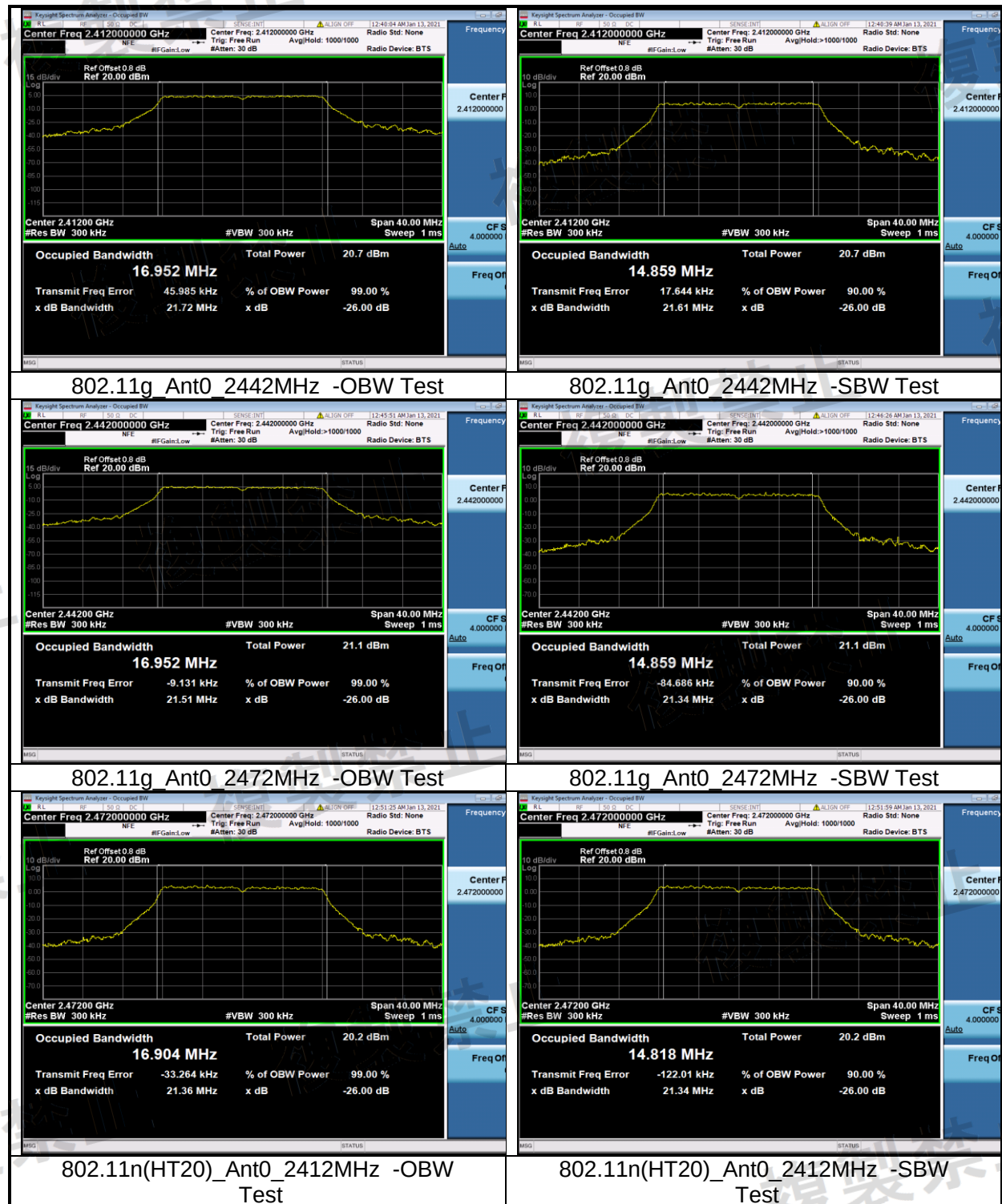
WLAN Spreading Bandwidth Normal					
Test Mode	Test Freq (MHz)	Ant	SBW (MHz)	SBW Limit	SBW Result
802.11b	2412	Ant0	8.784	0.5	Pass
802.11b	2442	Ant0	8.783	0.5	Pass
802.11b	2472	Ant0	8.703	0.5	Pass
802.11g	2412	Ant0	14.859	0.5	Pass
802.11g	2442	Ant0	14.859	0.5	Pass
802.11g	2472	Ant0	14.818	0.5	Pass
802.11n (HT20)	2412	Ant0	15.727	0.5	Pass
802.11n (HT20)	2442	Ant0	15.714	0.5	Pass
802.11n (HT20)	2472	Ant0	15.660	0.5	Pass
802.11n (HT40)	2422	Ant0	31.937	0.5	Pass
802.11n (HT40)	2442	Ant0	32.153	0.5	Pass
802.11n (HT40)	2462	Ant0	31.882	0.5	Pass

WLAN Spread Spectrum Factor Normal						
Test Mode	Test Freq (MHz)	Ant	SBW (MHz)	SF	SF Limit	SF Result
802.11b	2412	Ant0	8.784	6.388	5	Pass
802.11b	2442	Ant0	8.783	6.388	5	Pass
802.11b	2472	Ant0	8.703	6.329	5	Pass

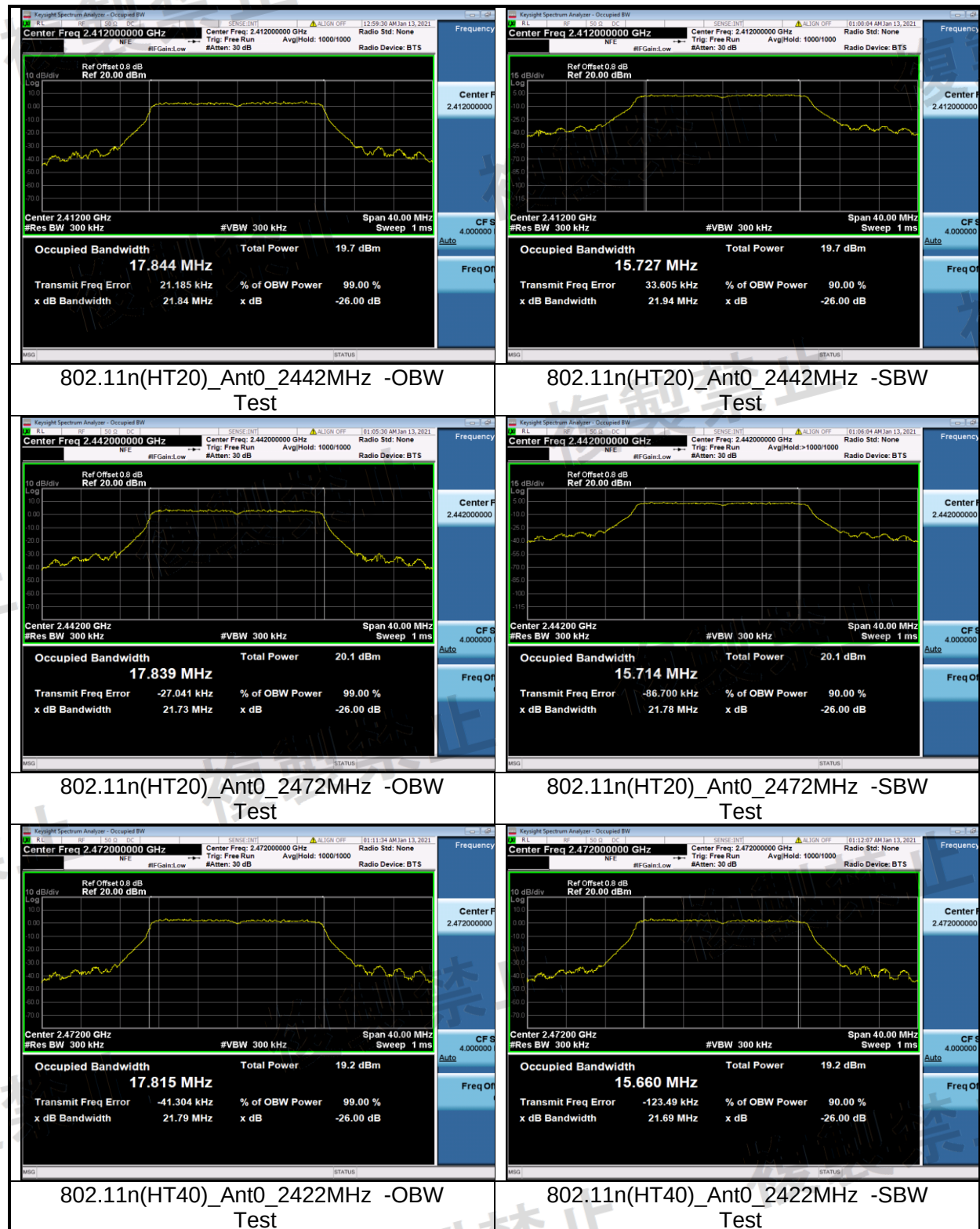
TEST REPORT

2.2 Test Plots

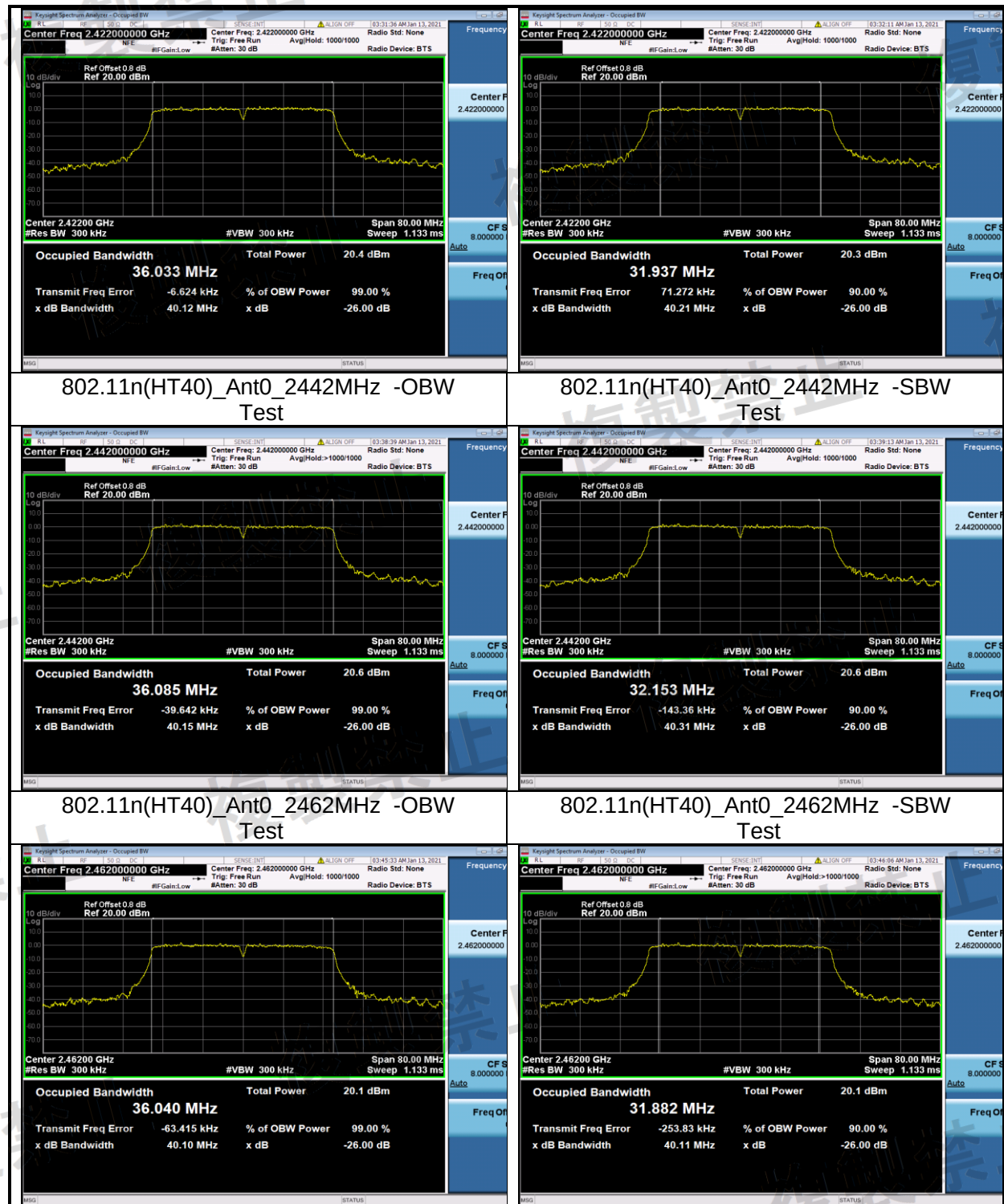




TEST REPORT



TEST REPORT



TEST REPORT

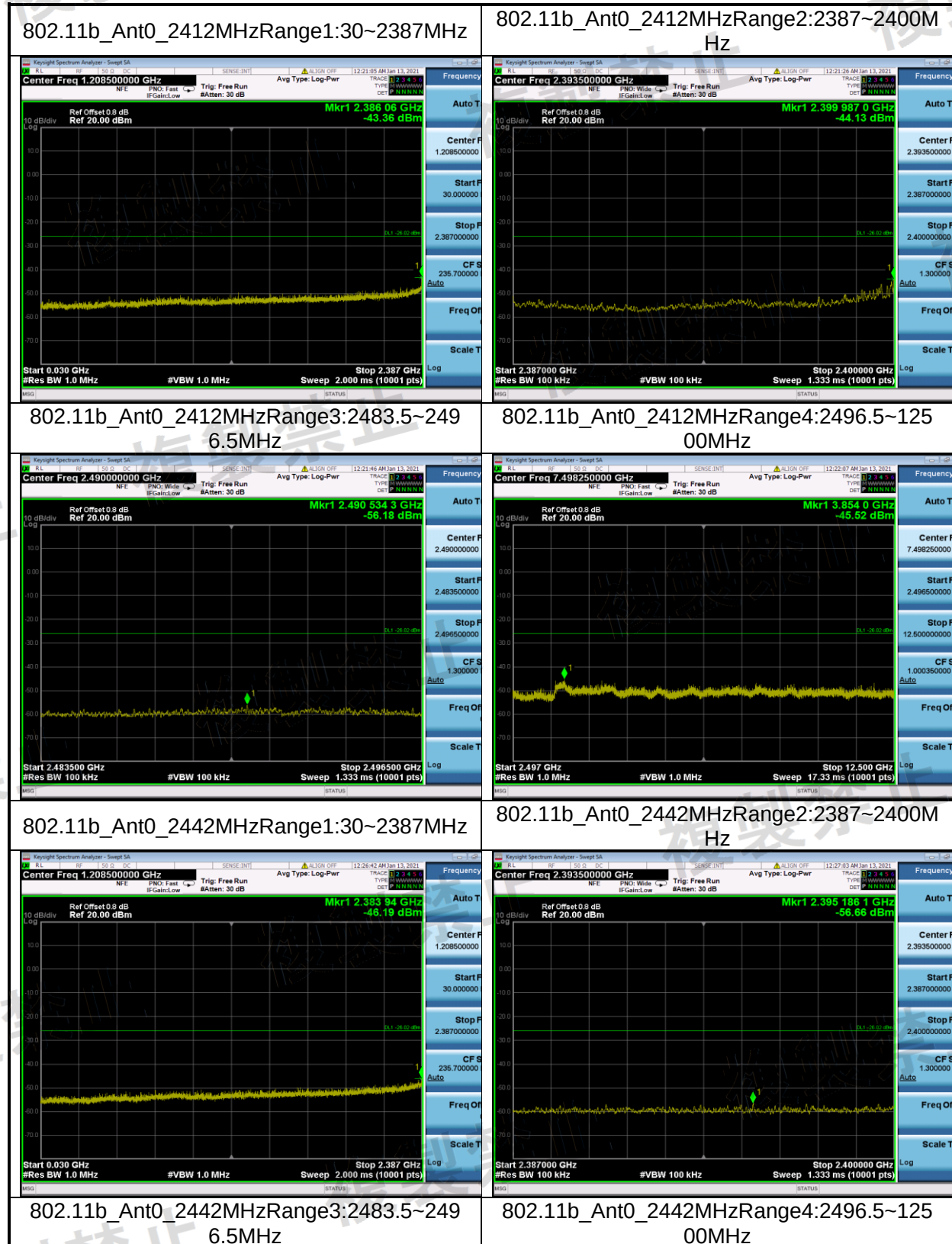
3. Spurious Emission

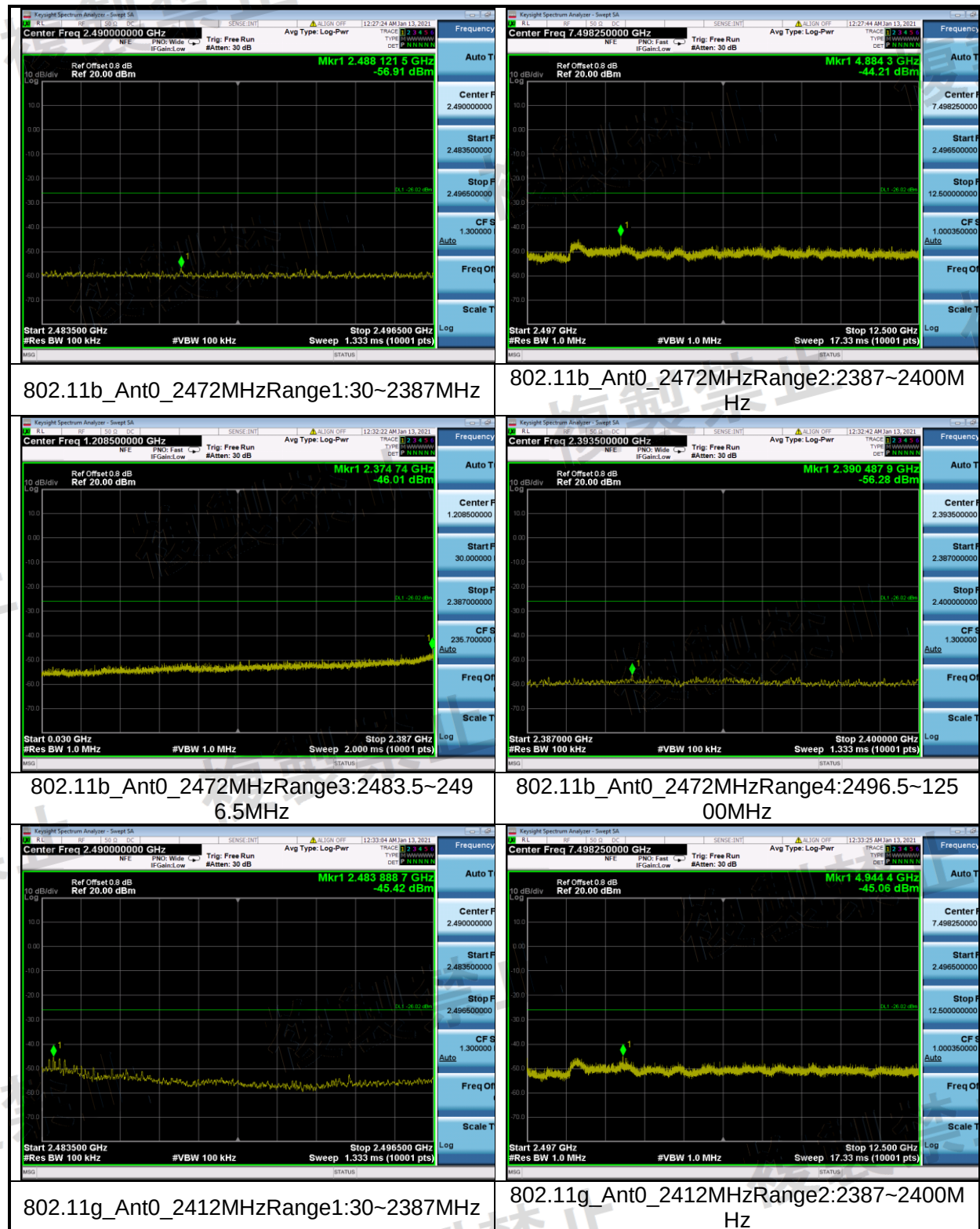
3.1 Test Data

WLAN Spurious Emission Normal									
Test Mode	Test Freq (MHz)	Ant	Test No.	Start Freq (MHz)	Stop Freq (MHz)	Peak Value Freq (MHz)	Spurious Emission (uW)	Limit (uW)	Result
802.11b	2412	Ant0	1	30	2387	2386.1	0.046	2.5	Pass
802.11b	2412	Ant0	2	2387	2400	2400.0	0.039	2.5	Pass
802.11b	2412	Ant0	3	2483.5	2496.5	2490.5	0.002	2.5	Pass
802.11b	2412	Ant0	4	2496.5	12500	3854.0	0.028	2.5	Pass
802.11b	2442	Ant0	1	30	2387	2383.9	0.024	2.5	Pass
802.11b	2442	Ant0	2	2387	2400	2395.2	0.002	2.5	Pass
802.11b	2442	Ant0	3	2483.5	2496.5	2488.1	0.002	2.5	Pass
802.11b	2442	Ant0	4	2496.5	12500	4884.3	0.038	2.5	Pass
802.11b	2472	Ant0	1	30	2387	2374.7	0.025	2.5	Pass
802.11b	2472	Ant0	2	2387	2400	2390.5	0.002	2.5	Pass
802.11b	2472	Ant0	3	2483.5	2496.5	2483.9	0.029	2.5	Pass
802.11b	2472	Ant0	4	2496.5	12500	4944.4	0.031	2.5	Pass
802.11g	2412	Ant0	1	30	2387	2386.5	0.132	2.5	Pass
802.11g	2412	Ant0	2	2387	2400	2399.5	0.316	2.5	Pass
802.11g	2412	Ant0	3	2483.5	2496.5	2485.7	0.003	2.5	Pass
802.11g	2412	Ant0	4	2496.5	12500	7239.2	0.030	2.5	Pass
802.11g	2442	Ant0	1	30	2387	2360.8	0.032	2.5	Pass
802.11g	2442	Ant0	2	2387	2400	2397.9	0.003	2.5	Pass
802.11g	2442	Ant0	3	2483.5	2496.5	2483.8	0.003	2.5	Pass
802.11g	2442	Ant0	4	2496.5	12500	4885.3	0.036	2.5	Pass
802.11g	2472	Ant0	1	30	2387	2387.0	0.027	2.5	Pass
802.11g	2472	Ant0	2	2387	2400	2400.0	0.003	2.5	Pass
802.11g	2472	Ant0	3	2483.5	2496.5	2483.6	0.445	2.5	Pass
802.11g	2472	Ant0	4	2496.5	12500	2496.5	0.092	2.5	Pass
802.11n (HT20)	2412	Ant0	1	30	2387	2386.8	0.140	2.5	Pass
802.11n (HT20)	2412	Ant0	2	2387	2400	2399.9	0.211	2.5	Pass

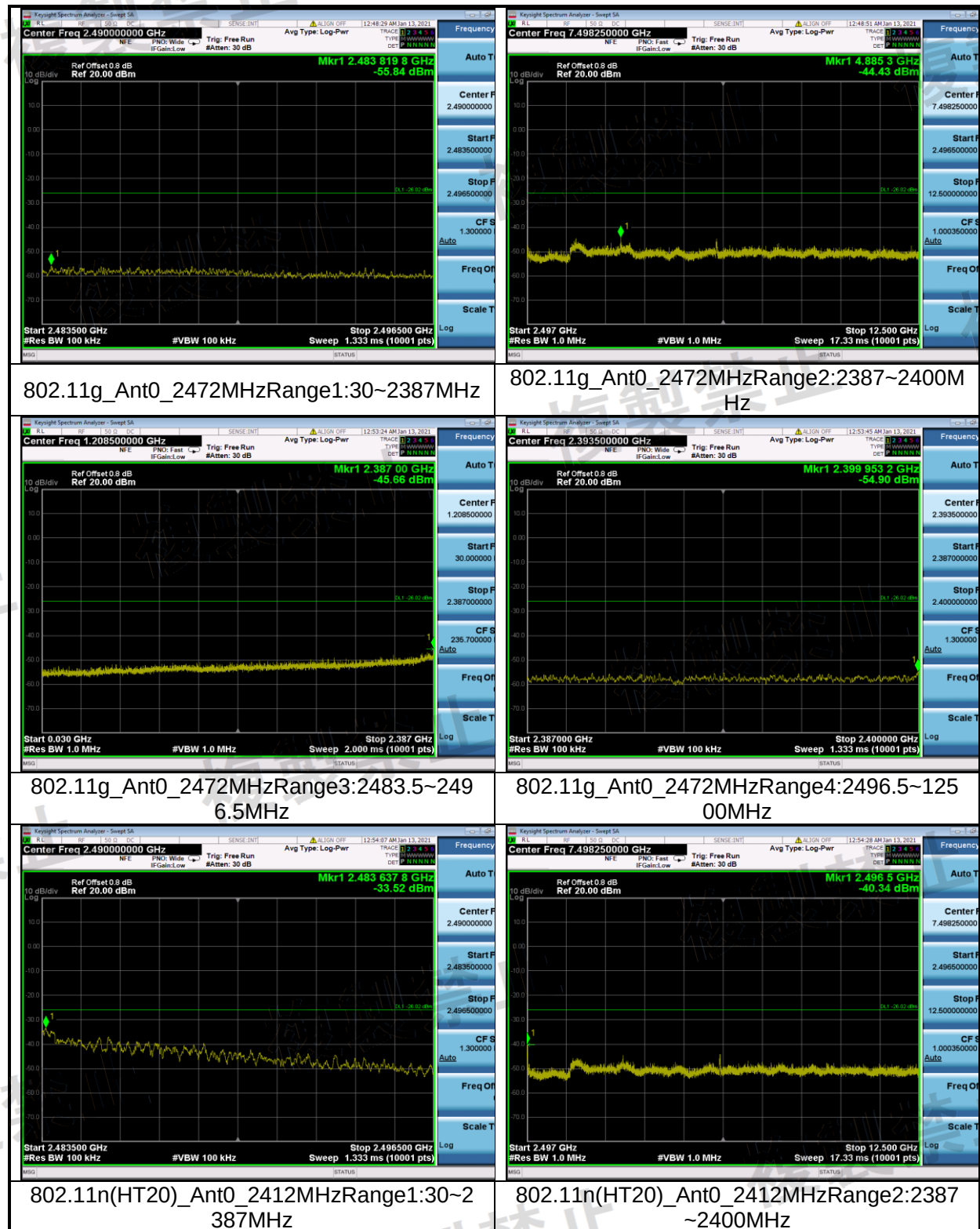
TEST REPORT

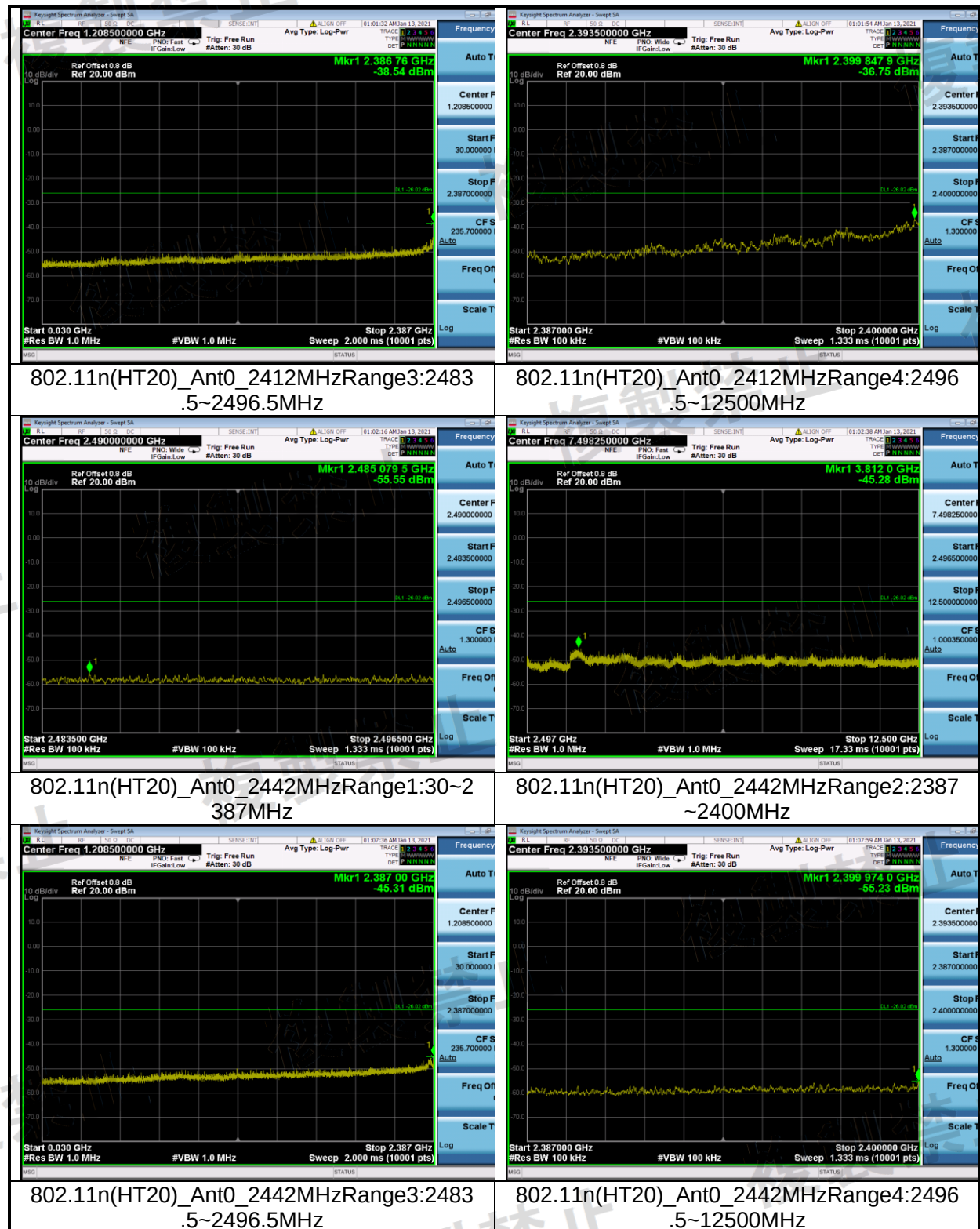
802.11n (HT20)	2412	Ant0	3	2483.5	2496.5	2485.1	0.003	2.5	Pass
802.11n (HT20)	2412	Ant0	4	2496.5	12500	3812.0	0.030	2.5	Pass
802.11n (HT20)	2442	Ant0	1	30	2387	2387.0	0.029	2.5	Pass
802.11n (HT20)	2442	Ant0	2	2387	2400	2400.0	0.003	2.5	Pass
802.11n (HT20)	2442	Ant0	3	2483.5	2496.5	2484.9	0.002	2.5	Pass
802.11n (HT20)	2442	Ant0	4	2496.5	12500	3769.0	0.032	2.5	Pass
802.11n (HT20)	2472	Ant0	1	30	2387	2385.1	0.028	2.5	Pass
802.11n (HT20)	2472	Ant0	2	2387	2400	2400.0	0.003	2.5	Pass
802.11n (HT20)	2472	Ant0	3	2483.5	2496.5	2483.7	0.292	2.5	Pass
802.11n (HT20)	2472	Ant0	4	2496.5	12500	2497.5	0.093	2.5	Pass
802.11n (HT40)	2422	Ant0	1	30	2387	2387.0	0.509	2.5	Pass
802.11n (HT40)	2422	Ant0	2	2387	2400	2400.0	0.184	2.5	Pass
802.11n (HT40)	2422	Ant0	3	2483.5	2496.5	2484.5	0.005	2.5	Pass
802.11n (HT40)	2422	Ant0	4	2496.5	12500	3713.9	0.036	2.5	Pass
802.11n (HT40)	2442	Ant0	1	30	2387	2383.7	0.063	2.5	Pass
802.11n (HT40)	2442	Ant0	2	2387	2400	2398.4	0.015	2.5	Pass
802.11n (HT40)	2442	Ant0	3	2483.5	2496.5	2485.8	0.021	2.5	Pass
802.11n (HT40)	2442	Ant0	4	2496.5	12500	2499.5	0.050	2.5	Pass
802.11n (HT40)	2462	Ant0	1	30	2387	2376.9	0.029	2.5	Pass
802.11n (HT40)	2462	Ant0	2	2387	2400	2400.0	0.004	2.5	Pass
802.11n (HT40)	2462	Ant0	3	2483.5	2496.5	2483.9	0.390	2.5	Pass
802.11n (HT40)	2462	Ant0	4	2496.5	12500	2498.5	0.217	2.5	Pass

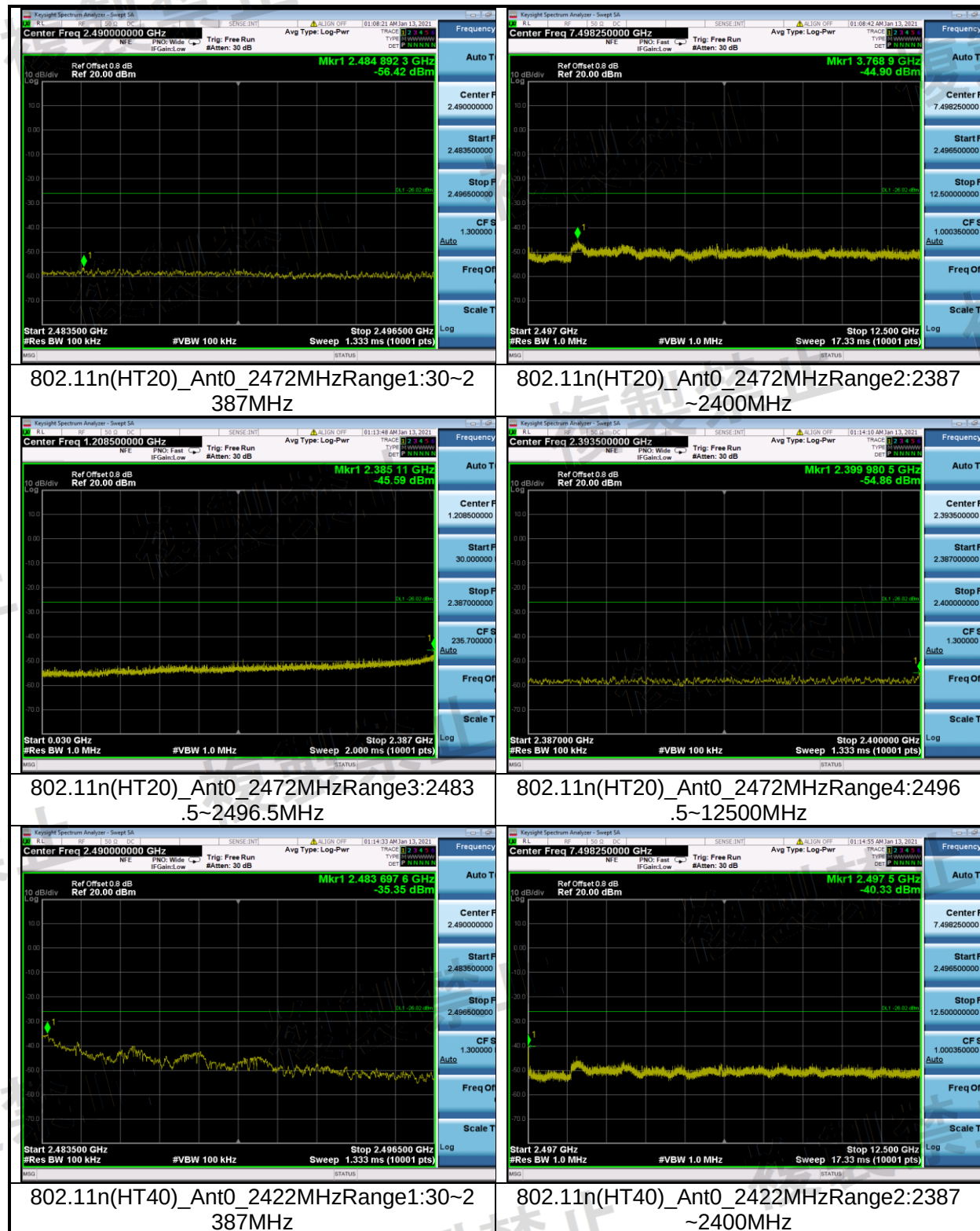


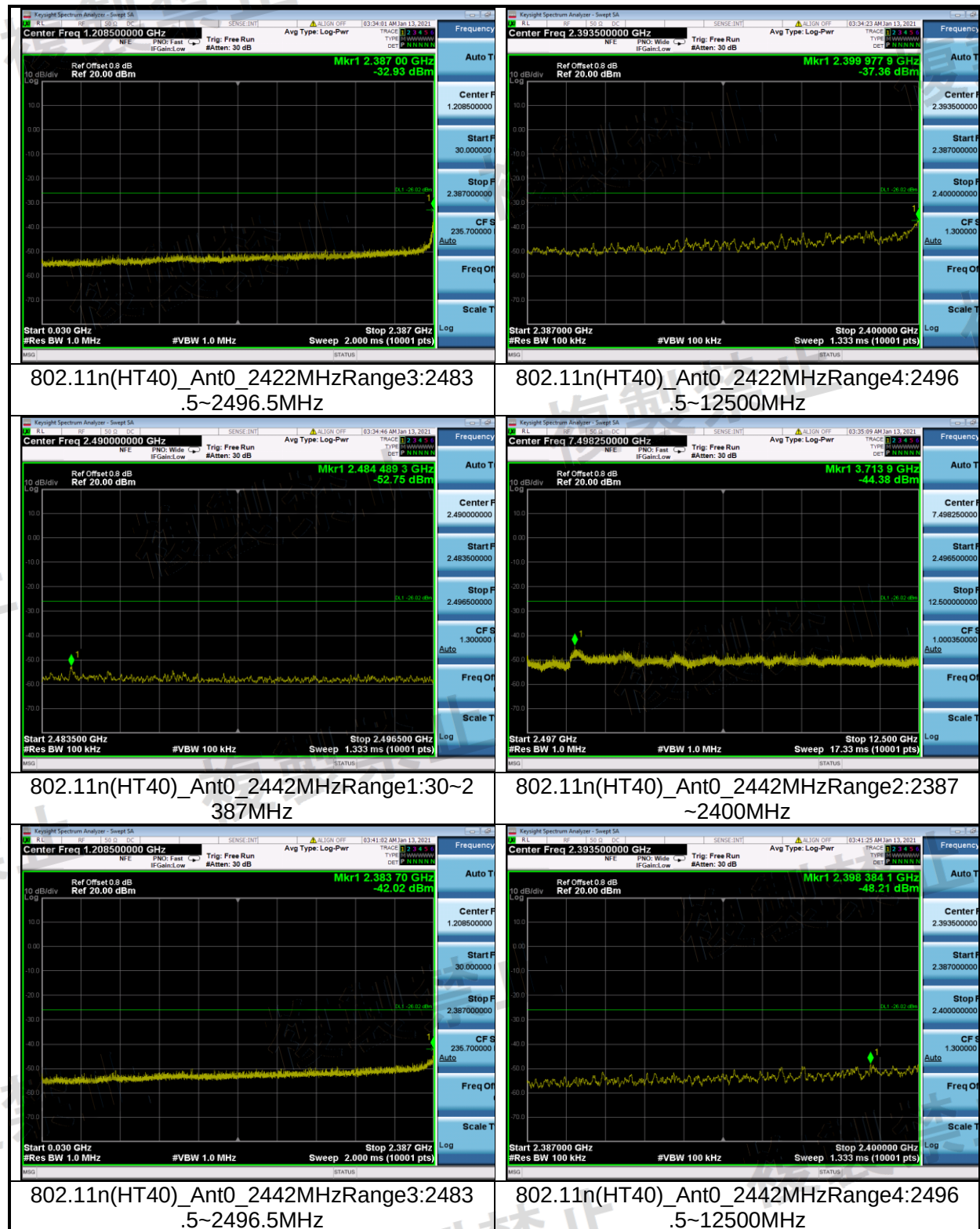


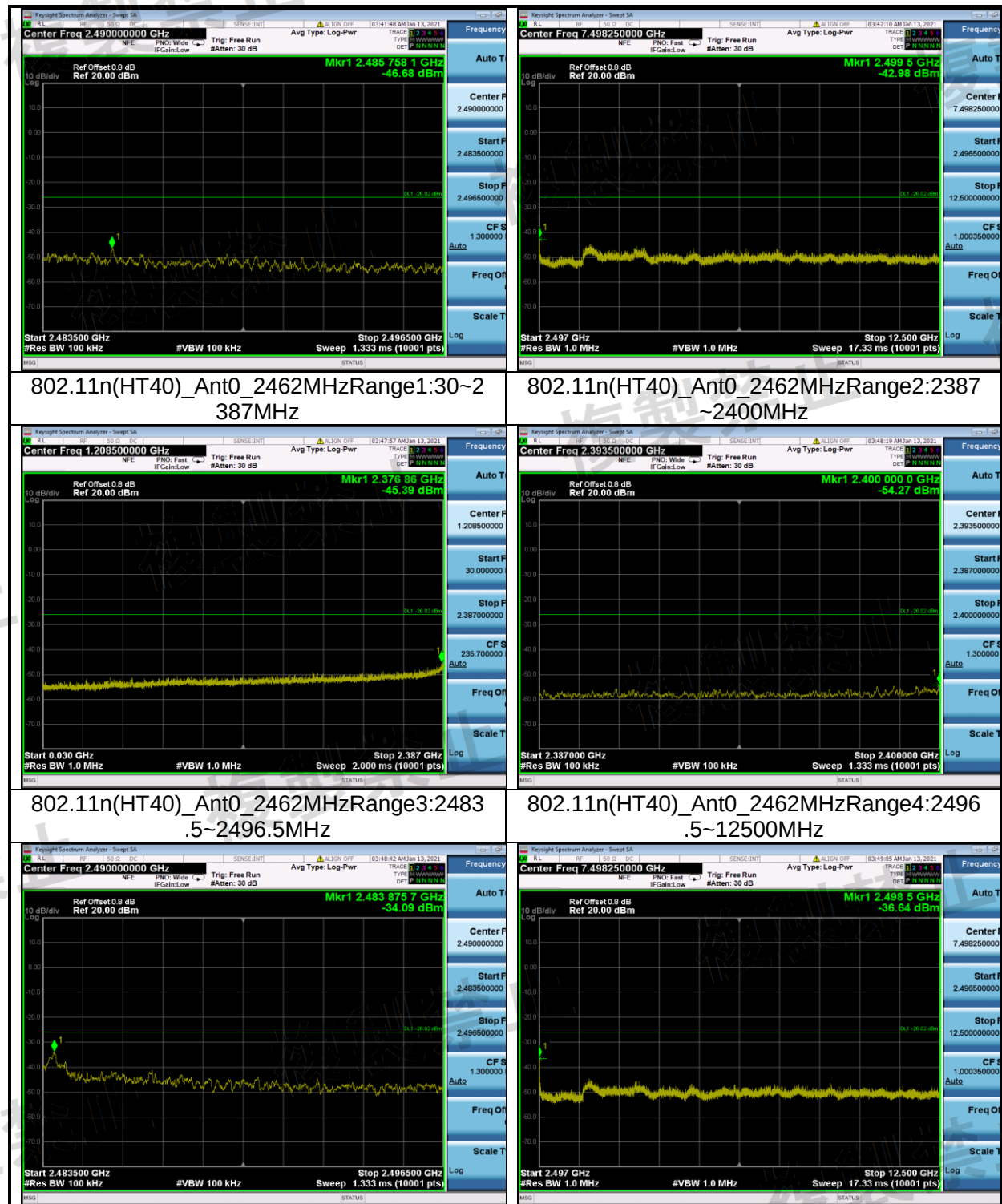












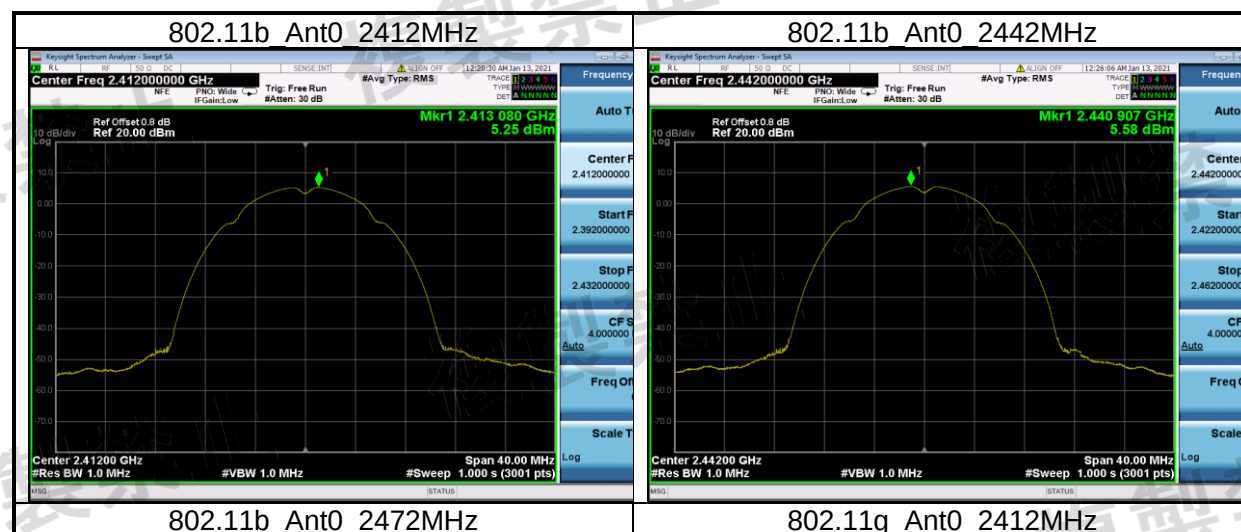
TEST REPORT

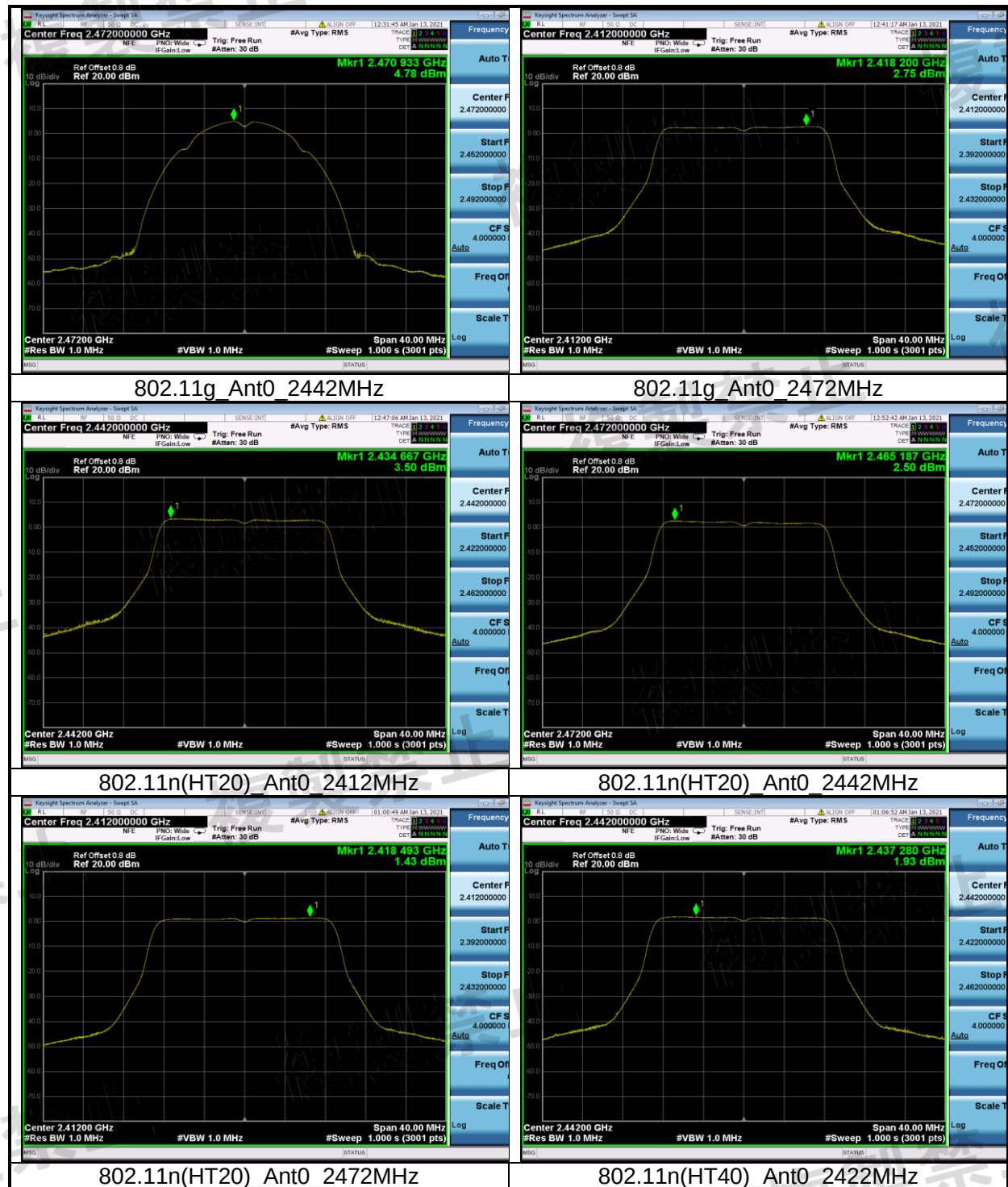
4. Antenna Power and Tolerance

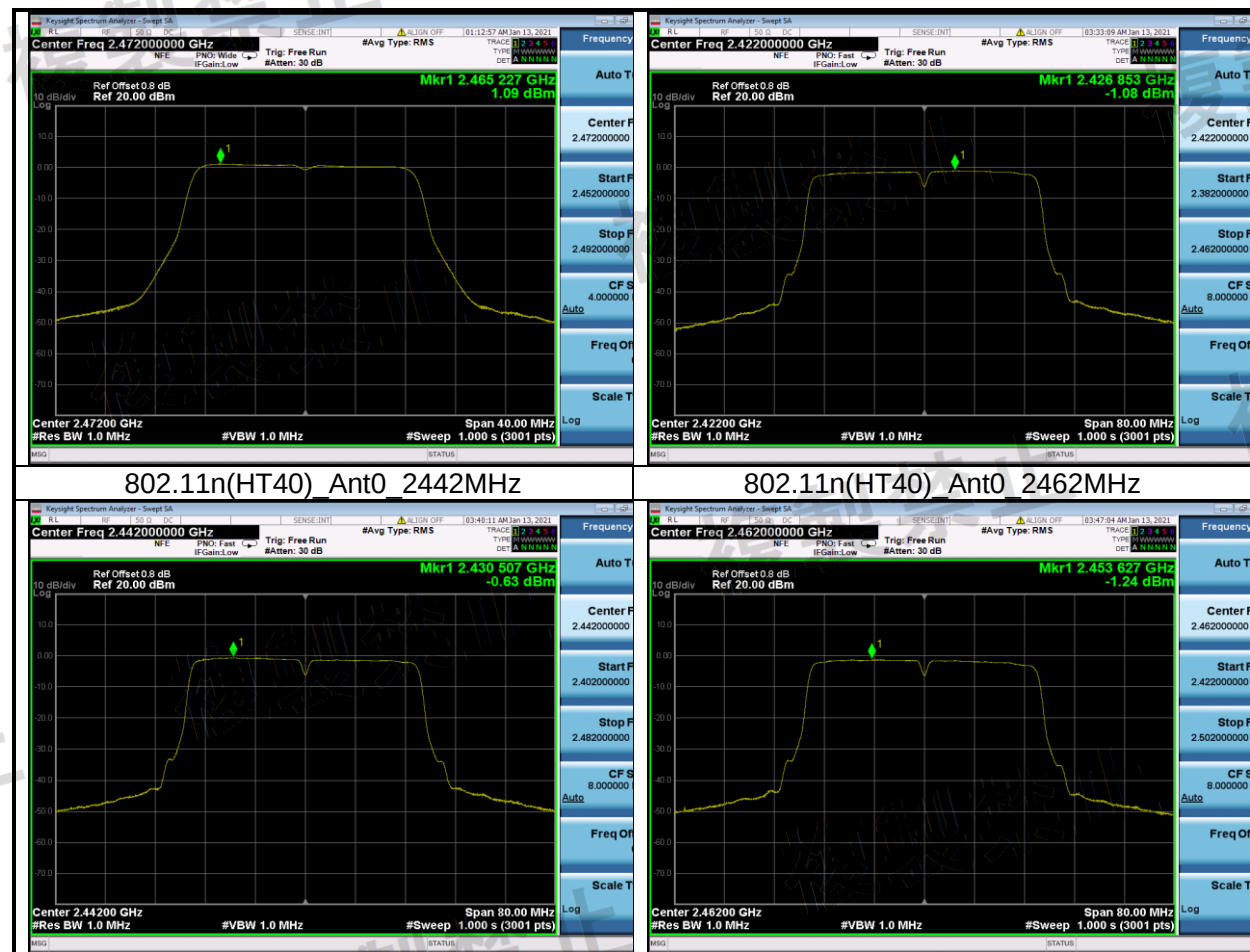
4.1 Test Data

WLAN Antenna Power and Tolerance Normal								
Test Mode	Test Freq (MHz)	Ant	Antenna Power Density (mW/MHz)	Limit (mW/MHz)	Declaration Antenna Power (mW/MHz)	Tolerance (%)	Tolerance Limit (%)	Result
802.11b	2412	Ant0	3.35	10	5	-33.00	-80% ~ 20.00%	Pass
802.11b	2442	Ant0	3.62	10	5	-27.60	-80% ~ 20.00%	Pass
802.11b	2472	Ant0	3.00	10	5	-40.00	-80% ~ 20.00%	Pass
802.11g	2412	Ant0	1.88	10	5	-62.40	-80% ~ 20.00%	Pass
802.11g	2442	Ant0	2.24	10	5	-55.20	-80% ~ 20.00%	Pass
802.11g	2472	Ant0	1.78	10	5	-64.40	-80% ~ 20.00%	Pass
802.11n (HT20)	2412	Ant0	1.39	10	5	-72.20	-80% ~ 20.00%	Pass
802.11n (HT20)	2442	Ant0	1.56	10	5	-68.80	-80% ~ 20.00%	Pass
802.11n (HT20)	2472	Ant0	1.28	10	5	-74.40	-80% ~ 20.00%	Pass
802.11n (HT40)	2422	Ant0	0.78	5	1	-22.00	-80% ~ 20.00%	Pass
802.11n (HT40)	2442	Ant0	0.86	5	1	-14.00	-80% ~ 20.00%	Pass
802.11n (HT40)	2462	Ant0	0.75	5	1	-25.00	-80% ~ 20.00%	Pass

4.2 Test Plots







5. Limitation of Collateral Radio Emission of Receiver

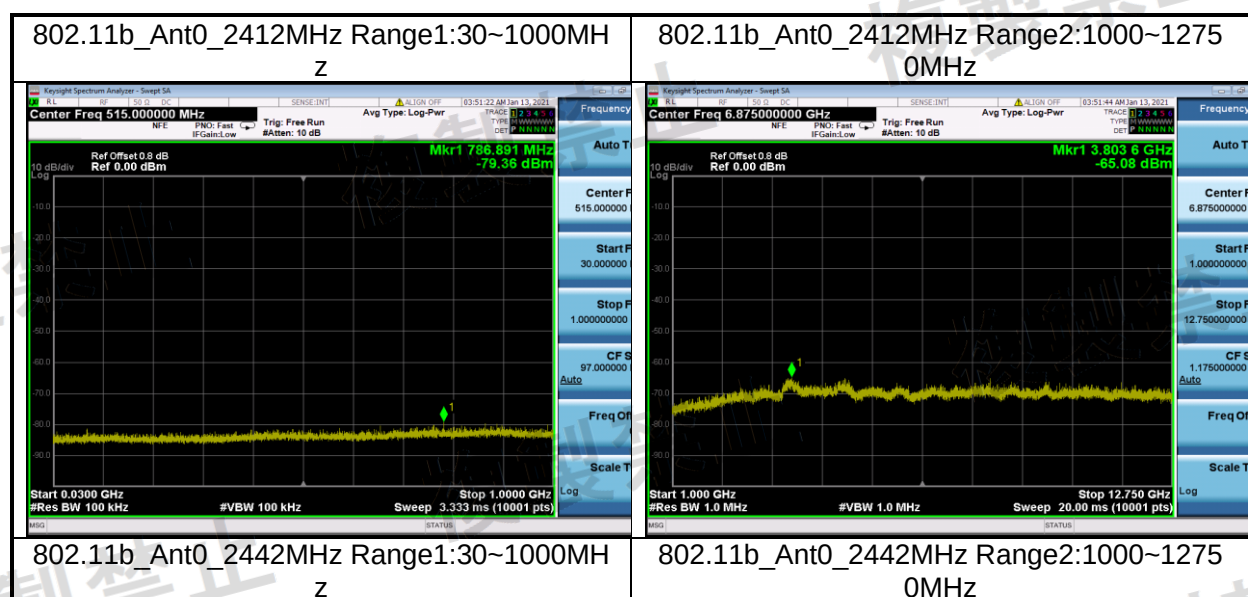
5.1 Test Data

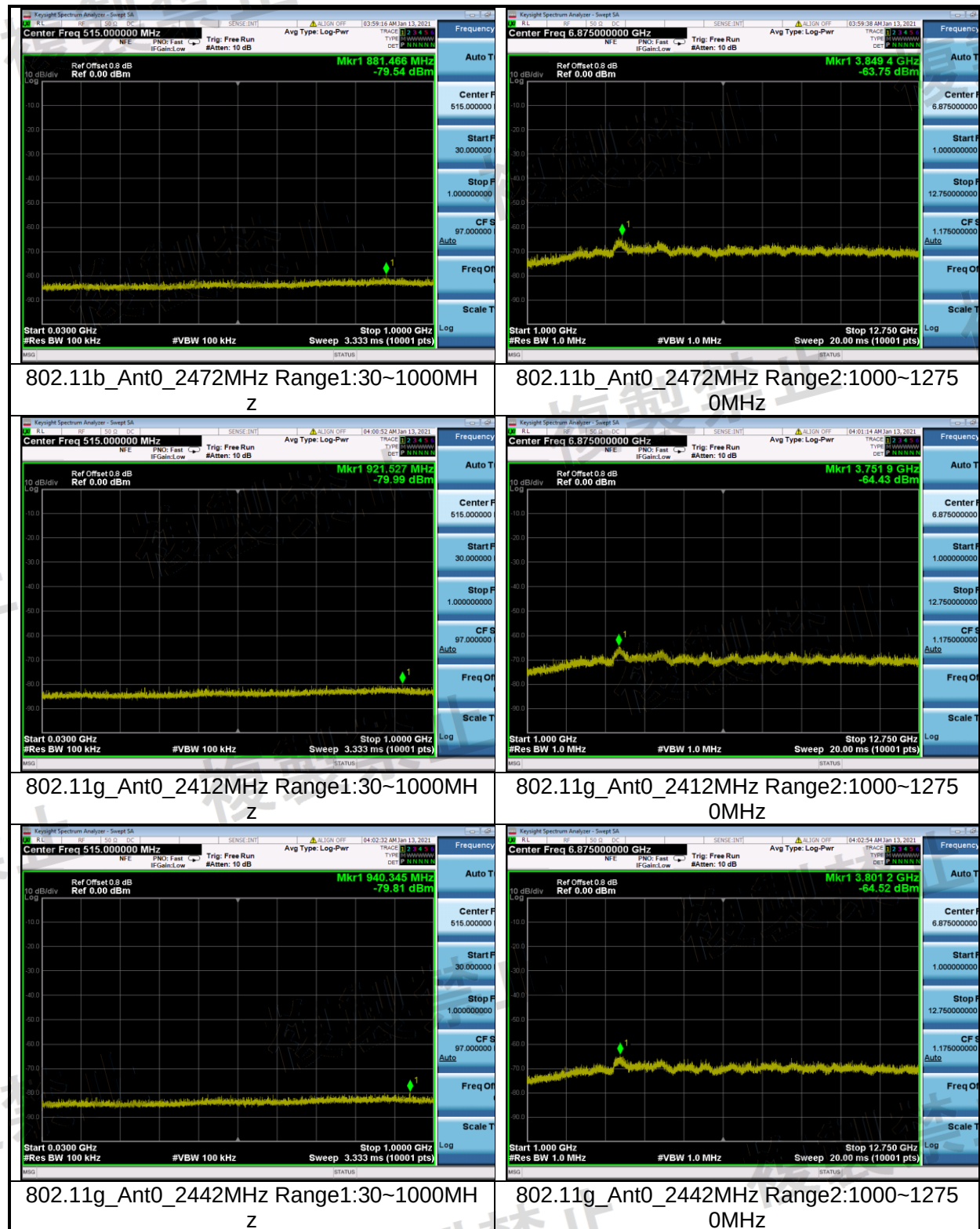
WLAN Collateral Emission of Receiver Normal									
Test Mode	Test Freq (MHz)	Ant	Test No.	Start Freq (MHz)	Stop Freq (MHz)	Peak Value Freq (MHz)	Emission Of Receiver (nW)	Limit (nW)	Result
802.11b	2412	Ant0	1	30	1000	786.9	0.012	4	Pass
802.11b	2412	Ant0	2	1000	12750	3803.6	0.310	20	Pass
802.11b	2442	Ant0	1	30	1000	881.5	0.011	4	Pass
802.11b	2442	Ant0	2	1000	12750	3849.4	0.422	20	Pass
802.11b	2472	Ant0	1	30	1000	921.5	0.010	4	Pass
802.11b	2472	Ant0	2	1000	12750	3751.9	0.361	20	Pass
802.11g	2412	Ant0	1	30	1000	940.3	0.010	4	Pass
802.11g	2412	Ant0	2	1000	12750	3801.2	0.353	20	Pass

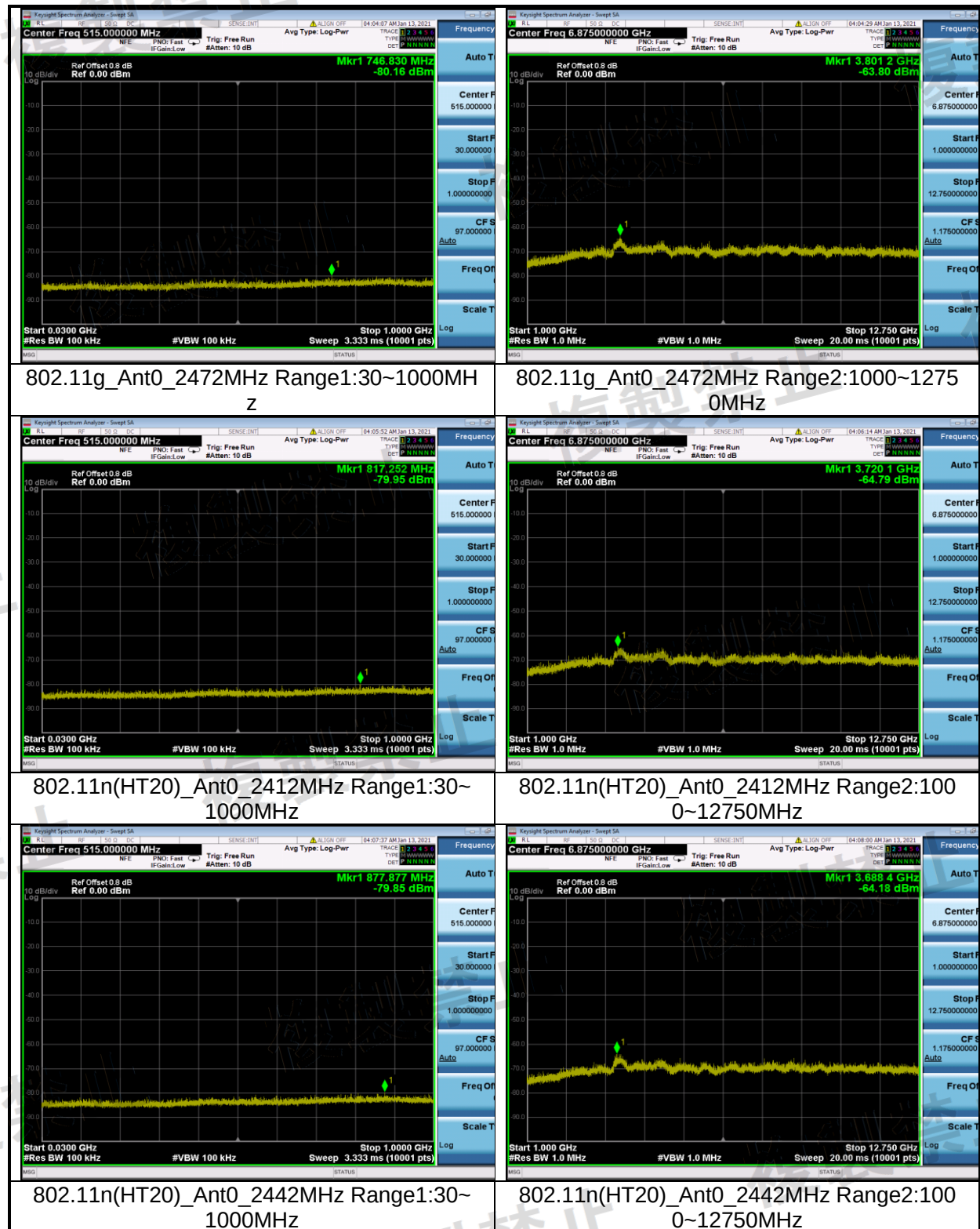
TEST REPORT

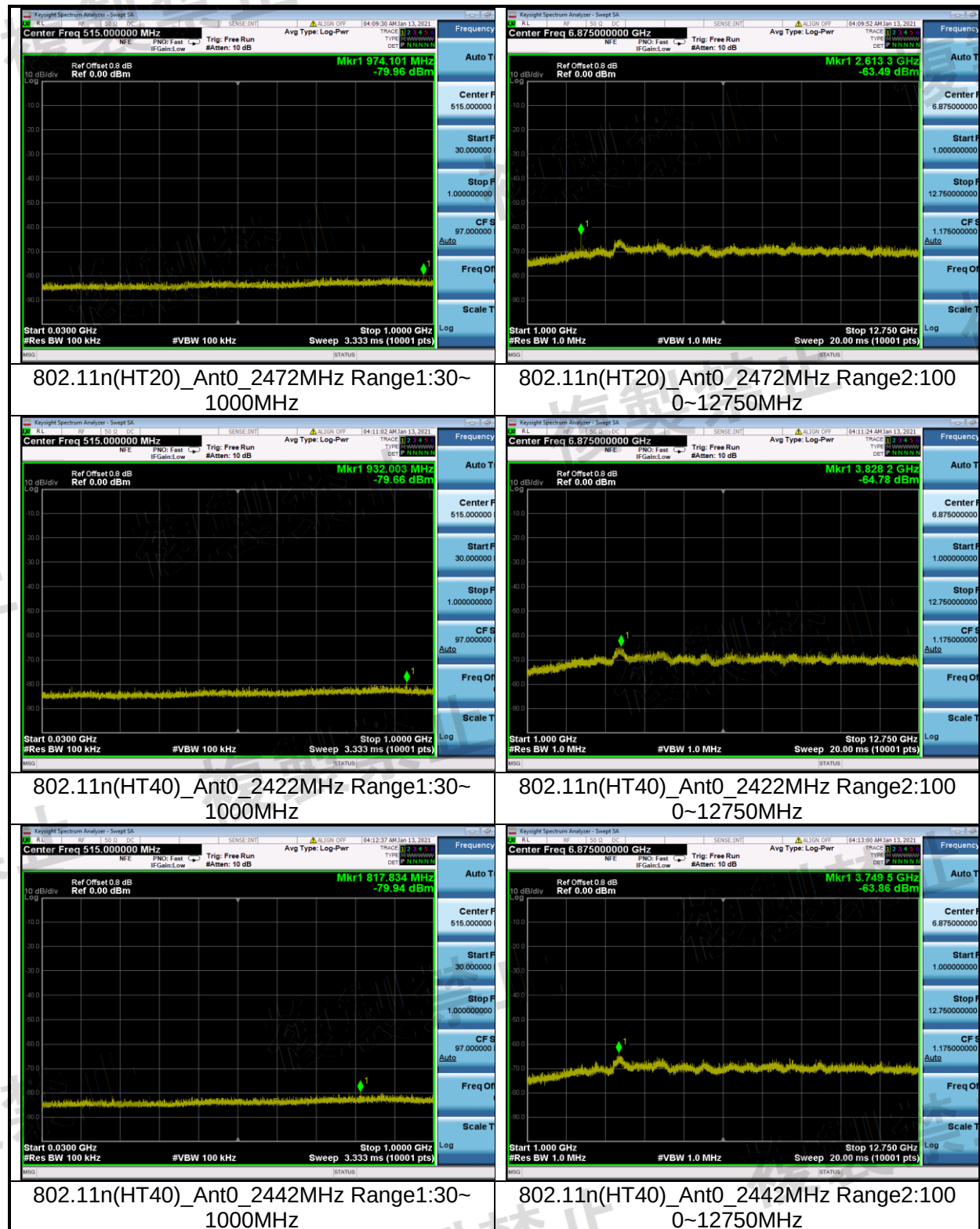
802.11g	2442	Ant0	1	30	1000	746.8	0.010	4	Pass
802.11g	2442	Ant0	2	1000	12750	3801.2	0.417	20	Pass
802.11g	2472	Ant0	1	30	1000	817.3	0.010	4	Pass
802.11g	2472	Ant0	2	1000	12750	3720.1	0.332	20	Pass
802.11n (HT20)	2412	Ant0	1	30	1000	877.9	0.010	4	Pass
802.11n (HT20)	2412	Ant0	2	1000	12750	3688.4	0.382	20	Pass
802.11n (HT20)	2442	Ant0	1	30	1000	974.1	0.010	4	Pass
802.11n (HT20)	2442	Ant0	2	1000	12750	2613.3	0.448	20	Pass
802.11n (HT20)	2472	Ant0	1	30	1000	932.0	0.011	4	Pass
802.11n (HT20)	2472	Ant0	2	1000	12750	3828.2	0.333	20	Pass
802.11n (HT40)	2422	Ant0	1	30	1000	817.8	0.010	4	Pass
802.11n (HT40)	2422	Ant0	2	1000	12750	3749.5	0.411	20	Pass
802.11n (HT40)	2442	Ant0	1	30	1000	862.7	0.011	4	Pass
802.11n (HT40)	2442	Ant0	2	1000	12750	3777.7	0.373	20	Pass
802.11n (HT40)	2462	Ant0	1	30	1000	811.3	0.010	4	Pass
802.11n (HT40)	2462	Ant0	2	1000	12750	3782.4	0.372	20	Pass

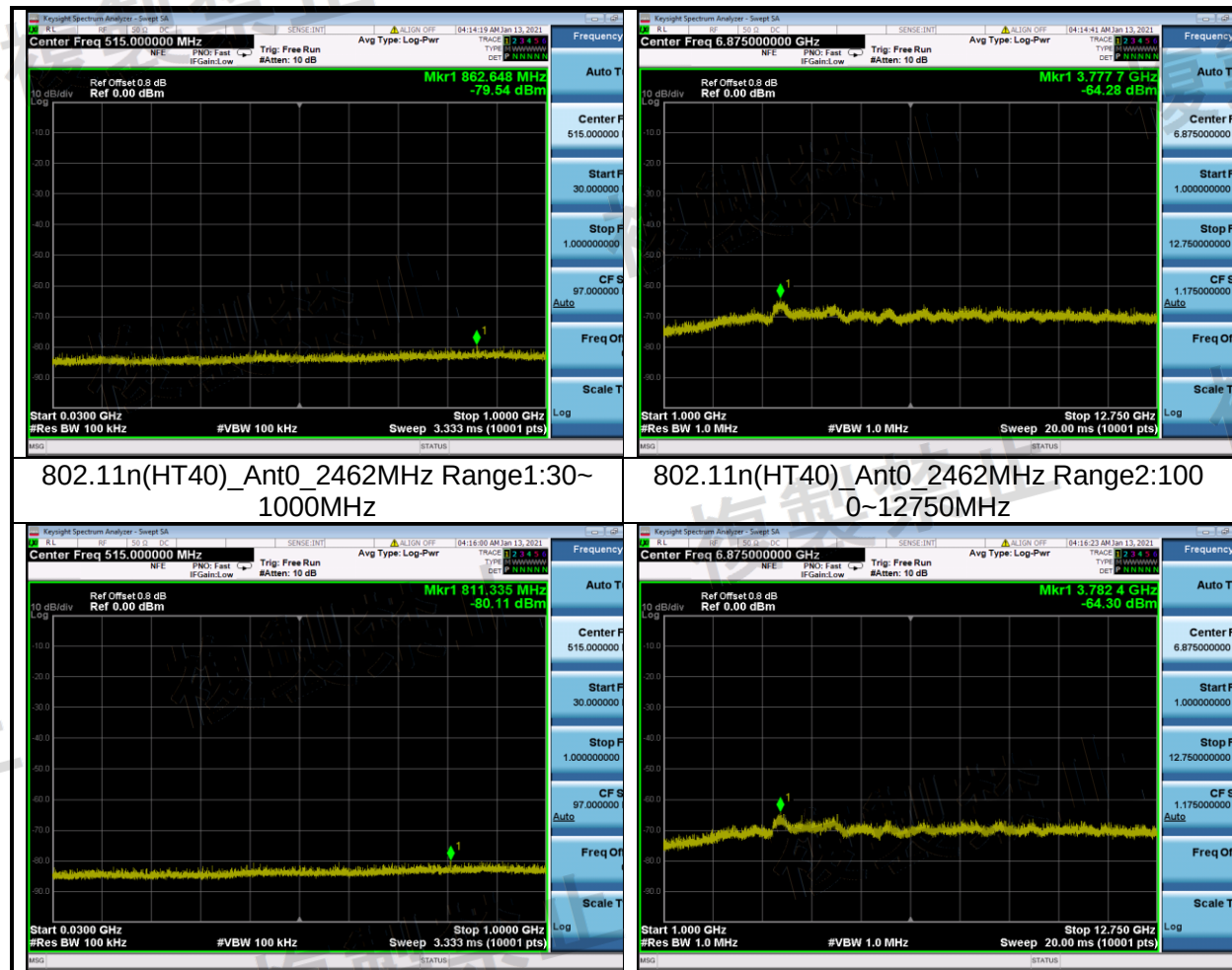
5.2 Test Plots











6. Interference prevention function

6.1 Test Data

WLAN Interference prevention function NTC		
MAC address	:	D4:D2:D6:48:31:AC

6.2 Test Plots

WIFI:	DTSZ
RSSI:	-53
IP:	172.16.2.65
MAC:	D4:D2:D6:48:31:AC
did	365033471

***** END *****