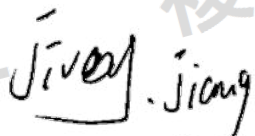


Japan Radio Test Report

Project No. : 1801C217C
Equipment : WiFi Module
Brand Name : BOXLIGHT
Test Model : SI01
Series Model : N/A
Applicant : Everest display Inc.
Address : 4F, No.1, Li-Hsin Rd.6, Science-Based Industrial Park, Hsinchu 300, Taiwan
Manufacturer : Guangzhou Shirui Electronics Co.,Ltd
Address : No.192, Kezhu Road, Science Park, Economic-Technological Development Area, Guangzhou, Guangdong, China.
Factory : Coretronic (Guangzhou) Co.,LTD.
Address : Building 1, No.2 Guoyuan 1st Road, East Zone, Guangzhou Economic and Technological Development District, Guangzhou, Guangdong Province, P.R. China
Date of Receipt : Feb. 06, 2018
Aug. 30, 2019
Date of Test : Feb. 06, 2018 ~ Apr. 02, 2018
Issued Date : Sep. 29, 2019
Report Version : R01
Test Sample : Engineering Sample No.: D180201151
MIC Category : Ordinance Concerning Technical Regulations Conformity Certification etc. of Specified Radio Equipment Article 2 Paragraph 1 item19-3
The article 2 Paragraph 1 of item 19-3-2
Technical Standard(s) : Ordinance Regulating Radio Equipment General Provisions, Transmitting Equipment, Receiving Equipment, Article 49-20
Test Procedure : Test Method No.45 of MIC Announcement No. 88

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.


Prepared by : Jivey Jiang


Approved by : Ethan Ma



Certificate #5123.02

Add: No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

Tel: +86-769-8318-3000

Web: www.newbtl.com

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

Table of Contents

page

REPORT ISSUED HISTORY	4
1 . SUMMARY OF TEST RESULTS	5
1.1 TEST FACILITY	6
1.2 MEASUREMENT UNCERTAINTY	6
3. GENERAL INFORMATION	7
3.1 GENERAL DESCRIPTION OF EUT	7
1.1 DESCRIPTION OF TEST MODES	9
1.2 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	11
1.3 DESCRIPTION OF SUPPORT UNITS	11
1.4 TABLE FOR PARAMETERS OF TEST SOFTWARE SETTING	12
2 . TEST RESULTS	13
2.1 FREQUENCY ERROR MEASUREMENT	13
2.2 OCCUPIED BANDWIDTH AND SPREAD-SPECTRUM BANDWIDTH MEASUREMENT	15
2.3 UNWANTED EMISSION INTENSITY MEASUREMENT	16
2.4 ANTENNA POWER ERROR MEASUREMENT	18
2.5 ADJACENT CHANNEL POWER AND OUT OF BAND LEAKAGE POWER MEASUREMENT	21
2.6 LIMITATION OF COLLATERAL EMISSION OF RECEIVER MEASUREMENT	24
2.7 RADIO INTERFERENCE PREVENTION CAPABILITY MEASUREMENT	26
2.8 TRANSMISSION BURST LENGTH MEASUREMENT	28
2.9 CARRIER SENSE CAPABILITY MEASUREMENT	29
3 . LIST OF MEASURING EQUIPMENTS	31
4 . EUT TEST PHOTO	32
APPENDIX A - FREQUENCY ERROR	33
APPENDIX B - OCCUPIED BANDWIDTH AND SPREAD-SPECTRUM BANDWIDTH	45
APPENDIX C - UNWANTED EMISSION INTENSITY	66
APPENDIX D - ANTENNA POWER ERROR	87
APPENDIX E - ADJACENT CHANNEL POWER AND OUT OF BAND LEAKAGE POWER	99
APPENDIX F - LIMITATION OF COLLATERAL EMISSION OF RECEIVER	159
APPENDIX G - TRANSMISSION BURST LENGTH	180
APPENDIX H - CARRIER SENSE CAPABILITY	183

REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Compared with previous test report (BTL-JPAP-4-1801C217), the brand and applicant information are changed which does not affect the test results, the rest are kept the same.	Sep. 17, 2019
R01	This report only updates the brand, product name and applicant information.	Sep. 29, 2019

Remark: For the original report (BTL-JPAP-4-1801C217), the test data, data evaluation, and equipment configuration contained was accredited by the Authority of CNAS according to the ISO/IEC 17025 quality assessment standard and technical standard(s).

1. SUMMARY OF TEST RESULTS

Section Number	Description of Test	Article of ORRE ⁽¹⁾	Result
4.1	Frequency Error/ Frequency Tolerance	Clause 3	Pass
4.2	Occupied Bandwidth	Clause 4	Pass
4.3	Unwanted Emission Intensity	Clause 5	Pass
4.4	Antenna Power Error	Clause 6	Pass
4.5	Adjacent Channel Power and Out of Band Leakage Power	Clause 7	Pass
4.6	Limitation of Collateral Emission of Receiver	Clause 8	Pass
4.7	Radio Interference Prevention Capability	Clause 9	Pass
4.8	Transmission Burst Length	Clause 10	Pass
4.9	Transmission Power Control Function (TPC)	Clause 11	Note 1
4.10	Carrier Sense Capability (1)	Clause 12	Pass
	Number of carrier	--	49-20
	protective structure	--	49-20
	Warning indication for 'indoor use only'	--	MIC No.48

Note:

1. The EUT without TPC function.

1.1 TEST FACILITY

The test facilities used to collect the test data in this report is **TR13** at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

1.2 MEASUREMENT UNCERTAINTY

Test Items	Uncertainty	Remark
Frequency Error / 99% & 90% Bandwidth	$\pm 6.25 \times 10^{-7}$	Confidence levels of 95%
Antenna Power / TX-RX Emission	$\pm 0.5\text{dB}$	Confidence levels of 95%
Transmission Antenna Gain	$\pm 3.72\text{dB}$	Confidence levels of 95%
Carrier Sense Capability	$\pm 0.76\text{dB}$	Confidence levels of 95%

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	WiFi Module	
Trade Name	BOXLIGHT	
Test Model	SI01	
Series Model	N/A	
Model Difference(s)	N/A	
Power Source	Supplied from USB port.	
Power Rating	DC 5V 500mA	
Product Description	Operation Frequency	W52:5180~5240 MHz
	Modulation Technology	OFDM
	Bit Rate of Transmitter	802.11a: 54/48/36/24/18/12/9/6 Mbps 802.11n: Up to 150 Mbps 802.11ac: Up to 433.5 Mbps
	Occupied Bandwidth	75.20 MHz
	Software version	V1.0
	Hardware version	V01
	Antenna Power (Rated Power)	11a: 1.0 mW/MHz 11n (HT20): 1.0 mW/MHz 11n (HT40): 0.3 mW/MHz 11ac (VHT20): 1.0 mW/MHz 11ac (VHT40): 0.5 mW/MHz 11ac (VHT80): 0.3 mW/MHz
	Antenna Power (Max. Conducted Power)	11a: 0.73790 mW/MHz 11n (HT20): 0.51168 mW/MHz 11n (HT40): 0.26363 mW/MHz 11ac (VHT20): 0.41976 mW/MHz 11ac (VHT40): 0.46345 mW/MHz 11ac (VHT80): 0.11641 mW/MHz

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

802.11a 802.11n 20MHz 802.11ac 20MHz		802.11n 40MHz 802.11ac 40MHz		802.11ac 80MHz	
W52		W52		W52	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

3. Table for Filed Antenna Table:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	seewo	N/A	Dipole	RPSMA-J	3.53

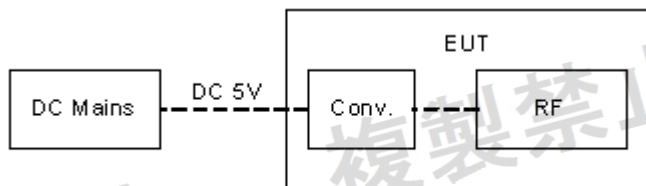
1.1 DESCRIPTION OF TEST MODES

The EUT Module was tested while in a continuous transmitter / receiver mode

The EUT was tuned to a low, middle and high channel for all tests. The EUT continuously transmitted a modulated packet with payload, While transmitting the EUT was setup to operate at the intended maximum power output available to the end user. For all test case pre-scan were completed in all modes to determine worst case levels

Pretest Mode	Description
Mode 1	11a: 5180/5200/5240MHz
Mode 2	11n(HT20): 5180/5200/5240MHz
Mode 3	11n(HT40): 5190/5230MHz
Mode 4	11ac(VHT20): 5180/5200/5240MHz
Mode 5	11ac(VHT40): 5190/5230MHz
Mode 6	11ac(VHT80): 5210MHz

Power Supply Voltage Fluctuation Test



Voltage Fluctuation Test	Normal Voltage	High Voltage + 10% of Normal Voltage	Low Voltage - 10% of Normal Voltage
DC Power	5V	5.5V	4.5V
Voltage Variation (%)	-	+ 10%	- 10%
Power supply to the RF circuit of EUT	3.28	3.28	3.28

Measurement point



Note:

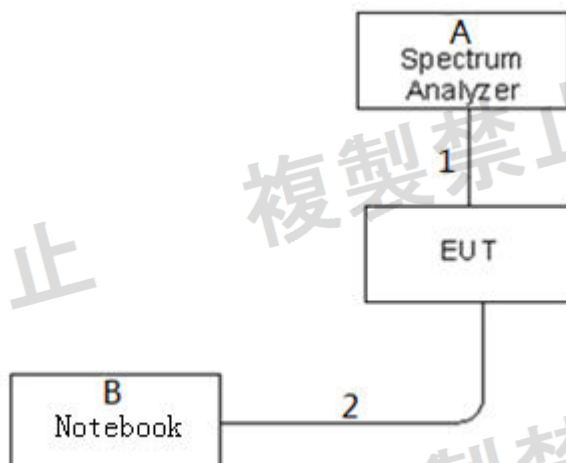
Voltage Variation (%)

= (Output High or Low Voltage - Output Normal Voltage)/Output Normal Voltage * 100

During the input supply voltage to the EUT from the external power source is varied by +/- 10%, if output voltage had been confirmed that the fluctuation of power supply to the RF circuit of EUT (excluding power source) is equal to or less than +/- 1%.

Exempt extremely high and low supply voltage condition tests, EUT only operated in normal voltage to test all regulation.

1.2 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



1.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.
A	Spectrum Analyzer	R&S	FSP40	100185
B	Notebook	DELL	INSPIRON 1420	JX193A01SDC2

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	RF Cable	YES	NO	0.1m
2	USB Cable	NO	NO	1.2m

1.4 TABLE FOR PARAMETERS OF TEST SOFTWARE SETTING

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Test Software Version	MPTool		
Frequency (MHz)	5180	5200	5240
IEEE 802.11a –	52	52	48
IEEE 802.11n(HT20) –	48	48	46
IEEE 802.11ac(VHT20) –	47	47	45
Frequency (MHz)	5190	5230	-
IEEE 802.11n(HT40) –	50	48	-
IEEE 802.11ac(VHT40) –	45	46	-
Frequency (MHz)	5210	-	-
IEEE 802.11ac(VHT80) –	46	-	-

2. TEST RESULTS

2.1 FREQUENCY ERROR MEASUREMENT

2.1.1 LIMIT

Item	Limits (See Article 5, Table1 of the Ordinance Regulating Radio Equipment)
Frequency Tolerance	$\leq 20\text{ppm}$

2.1.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 in this report. The following table is the setting of the spectrum.

Spectrum Parameter	Setting
Span Frequency	500 kHz
RBW / VBW	30 kHz

2.1.3 TEST PROCEDURES

Test method which surpass to Claus 3 of Annex No.45 of MIC Notification No.88.

1. Frequency accuracy of SA shall be less than 10% of limits tolerance (2ppm)
2. Setting of SA is following as: RBW: 10 kHz / VBW: 30 kHz / SPAN: 500 kHz / AT: 30dB / Ref: 20dBm
3. Center Frequency: The center frequency of testing for EUT
4. Sweep time: Auto
5. Sweep mode: Continuous sweep
6. Detect mode: Positive peak
7. Mark function: Frequency Counter (Resolution 100Hz)
8. EUT have transmitted modulation signal and fixed channelize. The peak value of the power envelope shall be measured and noted. The span shall be reduced and the marker moved in a positive frequency increment until the upper, (relative to the centre frequency), -10 dBc point is reached. This value shall be noted as f1. The marker shall then be moved in a negative frequency increment until the lower, (relative to the centre frequency), -10 dBc point is reached. This value shall be noted as f2. f is calculated as $(f1 + f2) / 2$, fc is declaring of channel frequency. Then the frequency error formula is $(fc-f)/fc \times 10^6$ ppm and the limit is less than $\pm 20\text{ppm}$

2.1.4 TEST SETUP LAYOUT



2.1.5 TEST DEVIATION

There is no deviation with the original standard.

2.1.6 EUT OPERATION DURING TEST

The EUT was placed on the test table and programmed in un-modulation function.

Temperature: 25°C Relative Humidity: 55% Test Pressure: 1010 hPa

2.1.7 TEST RESULT OF FREQUENCY ERROR

Please refer to the Appendix A

2.2 OCCUPIED BANDWIDTH AND SPREAD-SPECTRUM BANDWIDTH MEASUREMENT

2.2.1 LIMIT

Item	Limits (See Article 6, Table2 and Article 49-20, Item1-h,i of the Ordinance Regulating Radio Equipment)
Occupied Band Width:	$\leq 19\text{MHz}$ (20MHz Mode OFDM, DSSS, Other) $\leq 38\text{MHz}$ (40MHz Mode OFDM) $\leq 78\text{MHz}$ (80MHz Mode OFDM)

2.2.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 in this report. The following table is the setting of the spectrum.

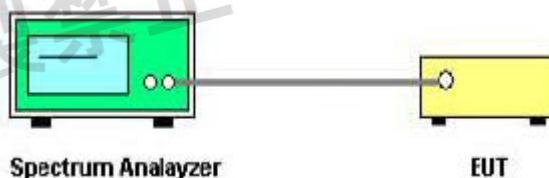
Power Meter Parameter	Setting
Span Frequency	50 MHz for 20MHz mode / 100MHz for 40MHz mode
RBW / VBW	300 kHz / 300 kHz
Sweep Time	Auto

2.2.3 TEST PROCEDURES

Test method which surpass to Clause 4 of Annex No.45 of MIC Notification No.88.

- Setting of SA is following as: RBW:300kHz / VBW:300kHz / SPAN: 50 MHz for 20MHz mode/ 80MHz for 40MHz mode / AT: 30dB Ref: 20dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
- EUT have transmitted the maximum modulation signal and fixed channelize. SA set to 99% of occupied bandwidth to measure occupied bandwidth. The limit is less than table 4.2.1.

2.2.4 TEST SETUP LAYOUT



2.2.5 TEST DEVIATION

There is no deviation with the original standard.

2.2.6 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

Temperature: 25°C Relative Humidity: 55% Test Pressure: 1010 hPa

2.2.7 TEST RESULT OF OCCUPIED BANDWIDTH AND SPREAD-SPECTRUM BANDWIDTH

Please refer to the Appendix B.

2.3 UNWANTED EMISSION INTENSITY MEASUREMENT

2.3.1 LIMIT

Item	Limits
	(See Article 7, Table 3 of the Ordinance Regulating Radio Equipment)
TX Spurious Emission (W52 Band)	30MHz~5140MHz Limit $\leq 2.5 \mu\text{W}/\text{MHz}$ (-26 dBm/MHz)) OBW $\leq$ 18MHz
	5360MHz~26000MHz Limit $\leq 2.5 \mu\text{W}/\text{MHz}$ (-26 dBm/MHz) OBW $\leq$ 18MHz

Band	W52				
Frequency Range	30MHz~1GHz	1GHz~2.5GHz	2.5GHz~6GHz	6GHz~12.5GHz	12.5GHz~26GHz
Cable Loss	2.5dB	2.5dB	2.5dB	2.5dB	2.5dB

2.3.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

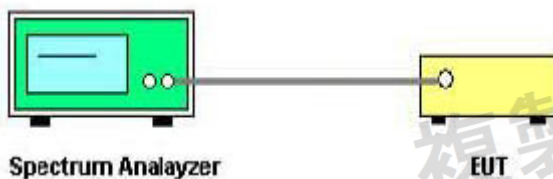
Spectrum Parameter	Setting
Attenuation	Auto
RBW / VBW	1 MHz
Detector	RMS
Trace	Max Hold
Sweep Time	Auto

2.3.3 TEST PROCEDURES

Test method which surpass to Clause 5 of Annex No.45 of MIC Notification No.88.

- 1 EUT have transmitted the maximum modulation signal and fixed channelize.
- 2 Setting of SA is following as: RBW:1MHz / VBW:1MHz / AT: 10dB / Ref: 0dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
- 3 Setting of SA is following as 30MHz and stop frequency 5140MHz or 5130MHz, then to mark peak reading value + cable loss shall be less than 2.5 μ W.
- 4 SA adjusted to start frequency 5360MHz or 5270MHz and stop frequency 26000MHz, then to mark peak reading value + cable loss shall be less than 2.5 μ W.

2.3.4 TEST SETUP LAYOUT



2.3.5 TEST DEVIATION

There is no deviation with the original standard.

2.3.6 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

Temperature: 25°C Relative Humidity: 55% Test Pressure: 1010 hPa

2.3.7 TEST RESULT OF UNWANTED EMISSION INTENSITY

Please refer to the Appendix C.

2.4 ANTENNA POWER ERROR MEASUREMENT

2.4.1 LIMIT

Item	Limits
	(See Article 14 and 49-20 Item1-e of the Ordinance Regulating Radio Equipment)
Antenna Power Density	$\leq 10\text{mW/MHz}$ ($\text{OBW} \leq 19\text{MHz}$)
EIRP Power Density	$\leq 5\text{mW/MHz}$ ($38\text{MHz} \leq \text{OBW} < 19\text{MHz}$)
(W52 Band)	$\leq 2.5\text{mW/MHz}$ ($78\text{MHz} \leq \text{OBW} < 38\text{MHz}$)
Antenna Power Error	W52: +20% ~ -80% (Base on manufacturer declare antenna power density)

2.4.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 in this report. The following table is the setting of the power meter and spectrum analyzer.

Spectrum Analyzer	Setting
Attenuation	30dB
Span Frequency	0 MHz
RBW	1 MHz
VBW	1 MHz
Detector	Positive Peak
Trace	Max Hold
Sweep Time	Auto

2.4.3 TEST PROCEDURES

Test method which surpass to Clause 6 of Annex No.45 of MIC Notification No.88.

Step 1:

Connect the UUT to the spectrum analyser and use the following settings:

- Centre Frequency: The centre frequency of the channel under test.
- Resolution BW: 1 MHz.
- Video BW: 1 MHz.
- Span: Wide enough to cover the complete power envelope of the signal of the UUT.
- Detector: Peak.
- Trace Mode: Max Hold.

Step 2:

When the trace is complete, find the peak value of the power envelope and record the frequency.

Step 3:

Make the following changes to the settings of the spectrum analyser:

- Centre Frequency: Equal to the frequency recorded in step 2.
- Span: 3 MHz.
- Resolution BW: 1 MHz.
- Video BW: 1 MHz.
- Sweep time: 1 minute.
- Detector: Average (see note).
- Trace Mode: Max Hold.

NOTE: The detector mode "Average" is often referred to as "RMS Average" or "Sample" but do not use Video Average.

Step 4:

When the trace is complete, capture the trace, for example using the "View" option on the spectrum analyser.

Find the peak value of the trace and place the analyser marker on this peak. This level is recorded as the highest mean power (spectral power density) D in a 1 MHz band.

Step 5:

The maximum e.i.r.p. spectral density is calculated from the above measured power density (D), the observed duty cycle x (see clause 5.7.2.2, step 1), and the applicable antenna assembly gain "G" in dBi, according to the formula below. If more than one antenna assembly is intended for this power setting, the gain of the antenna assembly with the highest gain shall be used.

- $PD = D + G + 10 \log (1/x).$

2.4.4 TEST SETUP LAYOUT



2.4.5 EST DEVIATION

There is no deviation with the original standard.

2.4.6 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

Temperature: 25°C Relative Humidity: 55% Test Pressure: 1010 hPa

2.4.7 TEST RESULT OF ANTENNA POWER ERROR

Please refer to the Appendix D.

2.5 ADJACENT CHANNEL POWER AND OUT OF BAND LEAKAGE POWER MEASUREMENT

2.5.1 LIMIT

Item	Limits
Adjacent Channel Power (Occupied Band Width: OBW) -W52	$\geq 25\text{dB}$ $f \pm 20\text{MHz}$ (OBW:19MHz) $f \pm 40\text{MHz}$ (OBW:38MHz) $f \pm 80\text{MHz}$ (OBW:78MHz)
	$\geq 40\text{dB}$ $f \pm 40\text{MHz}$ (OBW:19MHz) $f \pm 80\text{MHz}$ (OBW:38MHz)

Item	Limits
Out-Band Leakage Power (EIRP) For 802.11a/n/ac(HT20) -W52	5140MHz~5142MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26 dBm/MHz) OBW $\leq 18\text{MHz}$
	5142MHz~5150MHz Limit $\leq 15 \mu\text{W/MHz}$ (-18.24 dBm/MHz)
	5250MHz~5251MHz Limit $\leq 1000 \sim 100 \mu\text{W/MHz}$ (0 ~ -10 dBm/MHz)
	5251MHz~5260MHz Limit $\leq 100 \sim 15.8 \mu\text{W/MHz}$ (-10 ~ -18 dBm/MHz)
	5260MHz~5266.7MHz Limit $\leq 15.8 \sim 2.5 \mu\text{W/MHz}$ (-18 ~ -26 dBm/MHz)
	5266.7MHz~5360MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26 dBm/MHz) OBW $\leq 18\text{MHz}$

Item	Limits
Out-Band Leakage Power (EIRP) For 802.11n/ac(HT40) -W52	5100MHz~5141.6MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26 dBm/MHz)
	5141.6MHz~5150MHz Limit $\leq 15 \mu\text{W/MHz}$ (-18.24 dBm/MHz)
	5250MHz~5251MHz Limit $\leq (-3 \sim -13 \text{ dBm/MHz})$
	5251MHz~5270MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26 dBm/MHz)
	5270MHz~5278.4MHz Limit $\leq (-21 \sim -26 \text{ dBm/MHz})$
	5278.4MHz~5400MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26 dBm/MHz)

Item	Limits
Out-Band Leakage Power (EIRP) For 802.11ac(VHT80)-W52	5020MHz~5123.2MHz Limit $\leq 2.5 \mu\text{W}/\text{MHz}$ (-26 dBm/MHz)
	5123.2MHz~5150MHz Limit $\leq 15 \mu\text{W}/\text{MHz}$ (-18.24 dBm/MHz)
	5250MHz~5251MHz Limit $\leq$ (-6 ~ -16.02 dBm/MHz)
	5251MHz~5290MHz Limit $\leq$ (-16.02~24.02 dBm/MHz)
	5290MHz~5296.7MHz Limit $\leq$ (-24.02~26.03 dBm/MHz)
	5296.7MHz~5480MHz Limit $\leq 2.5 \mu\text{W}/\text{MHz}$ (-26 dBm/MHz)

Band	W52				
Frequency Range	30MHz~1GHz	1GHz~2.5GHz	2.5GHz~6GHz	6GHz~12.5GHz	12.5GHz~26GHz
Cable Loss	2.5dB	2.5dB	2.5dB	2.5dB	2.5dB

2.5.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RBW / VBW	300kHz (Adjacent Channel Power) / 1 MHz (Out of Band Leakage Power)
Detector	Peak (Adjacent Channel Power) / Peak (Out of Band Leakage Power)
Trace	Max Hold
Sweep Time	Auto

2.5.3 TEST PROCEDURES

Test method which surpass to Clause 7 of Annex No.45 of MIC Notification No.88

Adjacent Channel Power Method

1. EUT have transmitted the maximum modulation signal and fixed channelize.
2. Setting of SA is following as: RBW:300kHz / VBW:300kHz / SPAN: 20MHz / AT: 10dB Ref: 0dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
3. SA set the Channel Power Function and Channel Bandwidth: 18MHz and Center Frequency: The center frequency of testing for EUT (Such as 5180MHz). Then SA automatically calculate the channel power of EUT and A is representative of this channel power
4. SA set the Channel Power Function and Channel Bandwidth:18Mhz and Center Frequency: The center frequency of testing for EUT (Such as 5180MHz) $\pm$ 20MHz. Then SA automatically calculate the first adjacent channel power of EUT and B is representative of this first adjacent channel power.
5. SA set the Channel Power Function and Channel Bandwidth:18MHz and Center Frequency: The center frequency of testing for EUT (Such as 5180MHz) $\pm$ 40MHz. Then SA automatically calculate the second adjacent channel power of EUT and C is representative of this first adjacent channel power.
6. Conclusion that A—B is more than 25dB and A—C is more than 40dB.

Out of Band Leakage Power Method

- 1 Setting of SA is following as: RBW:1MHz / VBW:1MHz / SPAN: Refer limits table / AT: 10dB Ref: 0dBm / Sweep: Auto / Sweep Mode: Single sweep / Detect mode: Peak / Trace mode: Max hold
- 2 Sweep with every specified sweep bandwidth and find maximum power value of each band. Then transform the found values of “Pa” to “Poa” using following formula and if corresponding EIRP “Poa” (dBm/MHz) satisfies regulated limitation, skip the next procedure 3 and record the “Poa” as measurement results. Poa is calculated by following formula $Poa = Pa + Gt - Lf$ Pa: found values in the measurment of out of band leakage power (dBm/MHz) Gt: Antenna gain at the frequency of the found values (dBi) Lf: Cable loss at the frequency of the found values (dB)
- 3 If the “Poa” calculated from the found “Pa” with the following formula is over the regulated limit, set the spectrum analyzer according to following as: RBW:1MHz / VBW:1MHz / SPAN: 0MHz / AT: 10dB Ref: 0dBm / Sweep: Auto / Sweep Mode: Continuous sweep / Detect mode: Sample / Trace mode: Average.

2.5.4 TEST RESULT OF ADJACENT CHANNEL POWER AND OUT OF BAND LEAKAGE POWER

Please refer to the Appendix E.

2.6 LIMITATION OF COLLATERAL EMISSION OF RECEIVER MEASUREMENT

2.6.1 LIMIT

Item	Limits (See Article 24, Paragraph 2 of the Ordinance Regulating Radio Equipment)
RX Spurious Emission:	$\leq 4\text{nW}$ ($f < 1\text{GHz}$)
	$\leq 20\text{nW}$ ($1\text{GHz} \leq f$)

Band	W52				
Frequency Range	30MHz~1GHz	1GHz~2.5GHz	2.5GHz~6GHz	6GHz~12.5GHz	12.5GHz~26GHz
Cable Loss	2.5dB	2.5dB	2.5dB	2.5dB	2.5dB

2.6.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

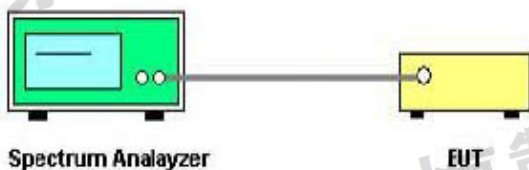
Spectrum Parameter	Setting
Attenuation	Auto
RBW	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
VBW	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
Detector	RMS
Trace	Max Hold
Sweep Time	Auto

2.6.3 TEST PROCEDURES

Test method which surpass to Clause 8 of Annex No.45 of MIC Notification No.88

- EUT have the continuous reception mode and fixed only one channelize.
- Setting of SA is following as RBW / VBW: 100 kHz (below 1GHz emissions) / 1 MHz (above 1GHz emissions) / AT: 10dB / Ref: 0dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
- SA set RBW: 100kHz and VBW: 100kHz. Then adjust to start frequency 30MHz and stop frequency 1000MHz. Search to mark peak reading value + cable loss shall be less than 4nW
- SA set RBW: 1MHz and VBW: 1MHz. Then adjust to start frequency 1000MHz and stop frequency 12500MHz. Search to mark peak reading value + cable loss shall be less than 20nW
- If power level of lower emissions are more than 1/10 of limit (.0.4nW for $f < 1\text{GHz}$, 2nW for $f \geq 1\text{GHz}$), all those are to be indicated in the 2nd and 3rd lines. If others are 1/10 or less more of the limit, no necessary to be indicated.

2.6.4 TEST SETUP LAYOUT



2.6.5 TEST DEVIATION

There is no deviation with the original standard.

2.6.6 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously reception mode.

Temperature: 25°C, Relative Humidity: 55%, Test Pressure: 1010 hPa

2.6.7 TEST RESULTS

Please refer to the Appendix F.

2.7 RADIO INTERFERENCE PREVENTION CAPABILITY MEASUREMENT

2.7.1 LIMIT

Item	Limits (See Article 9-4, Item9-C of the Ordinance Regulating Radio Equipment)
Identification code	≥ 48 bits

2.7.2 MEASURING ID CODE SOFTWARE

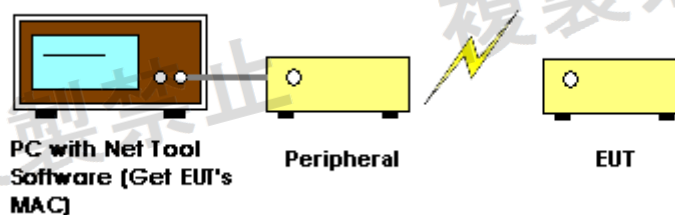
PC with NetTool	Setting
MAC IP List	MAC Scan

2.7.3 TEST PROCEDURES

Test method which surpass to Clause 9 of Annex No.45 of MIC Notification No.88.

1. In the case that the EUT has the function of automatically transmitting the identification code: a. Transmit the predetermined identification codes form EUT. b. Check the transmitted identification codes with the demodulator.
2. In the case of receiving the identification ocde: a. Transmit the predetermined identification codes form the counterpart. b . Check if communication is normal. c. Transmit the signals other than predetermined ID codes form the counterpart. d. check if the EUT stops the transmission, or if it displays that idnetification codes are different from the predetermined ones.

2.7.4 TEST SETUP LAYOUT



2.7.5 TEST DEVIATION

There is no deviation with the original standard.

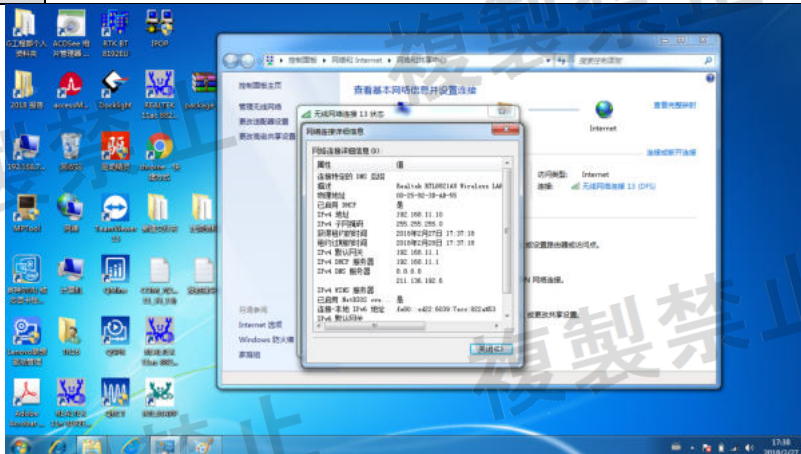
2.7.6 EUT OPERATION DURING TEST

The EUT was programmed to be in normal mode.

Temperature: 25°C Relative Humidity: 55% Test Pressure: 1010 hPa

2.7.7 TEST RESULT OF RADIO INTERFERENCE PREVENTION CAPABILITY

Test Power:	Normal Voltage
Test Mode:	802.11a
Test Result:	Good (identification code: [00-25-92-3D-AB-55])



2.8 TRANSMISSION BURST LENGTH MEASUREMENT

2.8.1 LIMIT

Item	Limits
Transmission Burst Length	≤ 4 ms

2.8.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 in this report. The following table is the setting of the spectrum analyzer.

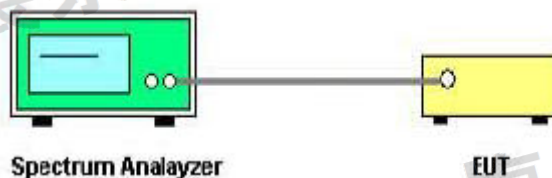
Spectrum Parameter	Setting
Attenuation	Auto
RBW / VBW	1 MHz
Span	0 MHz
Sweep	Single
Detector	Peak
Trigger mode	Video

2.8.3 TEST PROCEDURES

Test method which surpass to Clause 10 of Annex No.45 of MIC Notification No.88.

1. The transmitter output (antenna port) was connected to the spectrum analyser
2. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
3. Use a video trigger with the trigger level set to enable triggering only on full pulses.
4. Sweep Time is more than once pulse time.
5. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
6. Measure the maximum time duration of one single pulse.

2.8.4 TEST SETUP LAYOUT



2.8.5 TEST DEVIATION

There is no deviation with the original standard.

2.8.6 EUT OPERATION DURING TEST

The EUT was programmed to be in normal transmitting mode on 6Mbps.

Temperature: 25°C Relative Humidity: 55% Test Pressure: 1010 hPa

2.8.7 TEST RESULT OF TRANSMISSION BURST LENGTH

Please refer to the Appendix G.

2.9 CARRIER SENSE CAPABILITY MEASUREMENT

2.9.1 LIMIT

Item	Limits (See Article 49-20, Item1-k of the Ordinance Regulating Radio Equipment)
Carrier Sense Capability	Good – EUT stop RF transmission signal after carrier inject to EUT. (On $22.79 + Gr - 20 \cdot \log(f)$ [dBm] (Gr: dBi; f: MHz) or 100mV/m)

2.9.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 in this report. The following table is the setting of the spectrum analyzer.

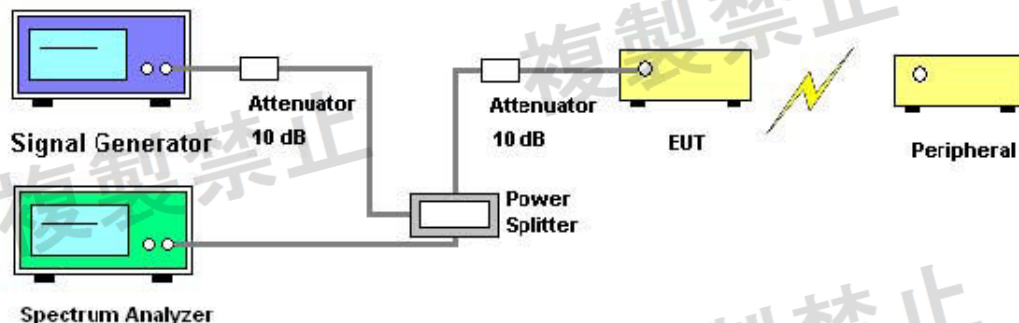
Spectrum Parameter	Setting
Attenuation	Auto
RBW / VBW	1 MHz
Span	0 MHz
Sweep	Continuous
Detector	Peak
Trigger mode	Video

2.9.3 TEST PROCEDURES

Test method which surpass to Clause 12 of Annex No.45 of MIC Notification No.88

- 1 SSG adjusted the frequency as same as the EUT transmitted signal and emitted the absence of modulation from SSG and power level is (On $22.79 + Gr - 20 \cdot \log(f)$ [dBm] (Gr: dBi; f: MHz). Then turn off the RF signal of SSG.
- 2 EUT have transmitted the maximum modulation signal and fixed channelize.
- 3 Setting of SA is following as: RBW: 1MHz / VBW:1MHz / SPAN: 50MHz / AT: 10dB /Ref: 0dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak.
- 4 SSG RF Signal On.
- 5 EUT shall be stop the transmitted any signal and SSG RF Signal Off. Then EUT will be continuous transmitted signal.

2.9.4 TEST SETUP LAYOUT



2.9.5 TEST DEVIATION

There is no deviation with the original standard.

2.9.6 EUT OPERATION DURING TEST

The EUT was programmed to be in normal mode.

Temperature: 25°C Relative Humidity: 55% Test Pressure: 1010 hPa

2.9.7 TEST RESULTS

Please refer to the Appendix H.

3. LIST OF MEASURING EQUIPMENTS

Kind of Equipment	Manufacturer	Model No.	Serial No.	Calibrated Date	Validity Date	Calibration Agency
Spectrum Analyzer	R&S	FSP40	100185	Aug. 21, 2017	Aug. 20, 2018	CHINA CEPREI LABORATORY
Signal Generator	R&S	SMR40	100504	Mar. 27, 2017	Mar. 26, 2018	CEPREI Calibration and Testing Center
Multi-output DC Power Supply	GW Instek	GPC-3030DN	EK880675	Sep. 25, 2017	Sep. 26, 2020	CEPREI Calibration and Testing Center
Attenuator	WOKEN	6SM3502	VAS1214NL	Feb. 15, 2018	Feb. 14, 2019	CEPREI Calibration and Testing Center
power Meter	ANRITSU	ML2495A	1128009	Mar. 27, 2017	Mar. 26, 2018	CEPREI Calibration and Testing Center
Pulse Power Sensor	ANRITSU	MA 2411B	1027500	Mar. 27, 2017	Mar. 26, 2018	CEPREI Calibration and Testing Center
Cable	emci	EMC104-SM-SM-9000(0.01GHz-26.5GHz)	N/A	N/A	N/A	N/A
Cable	emci	EMC80-NM-NM-12000(9KHz-1G Hz)	N/A	N/A	N/A	N/A
AC power source	APC	AFC-11003	F303081067(A1)	N/A	N/A	N/A

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4. EUT TEST PHOTO

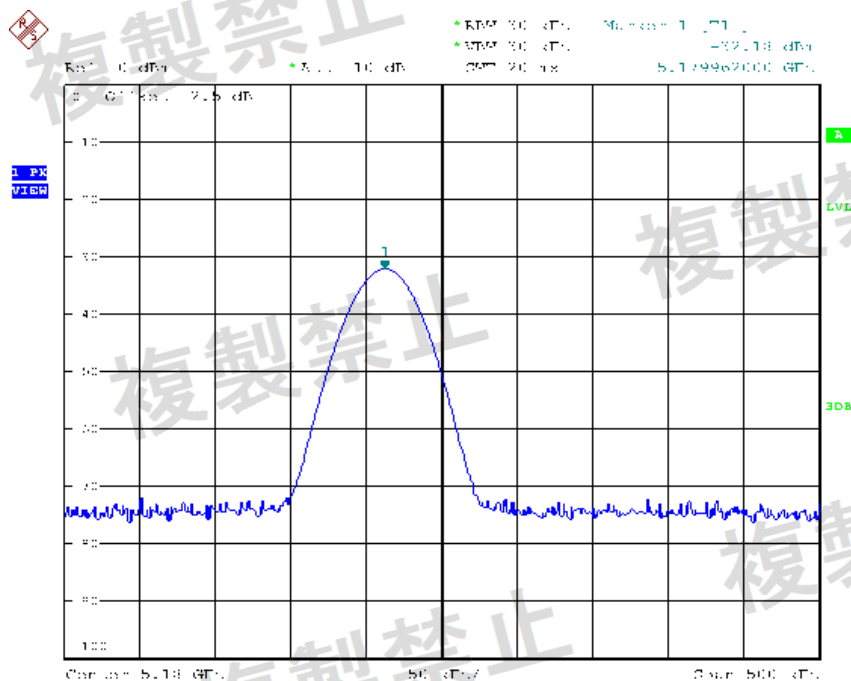


APPENDIX A - FREQUENCY ERROR

Test Mode:	802.11a
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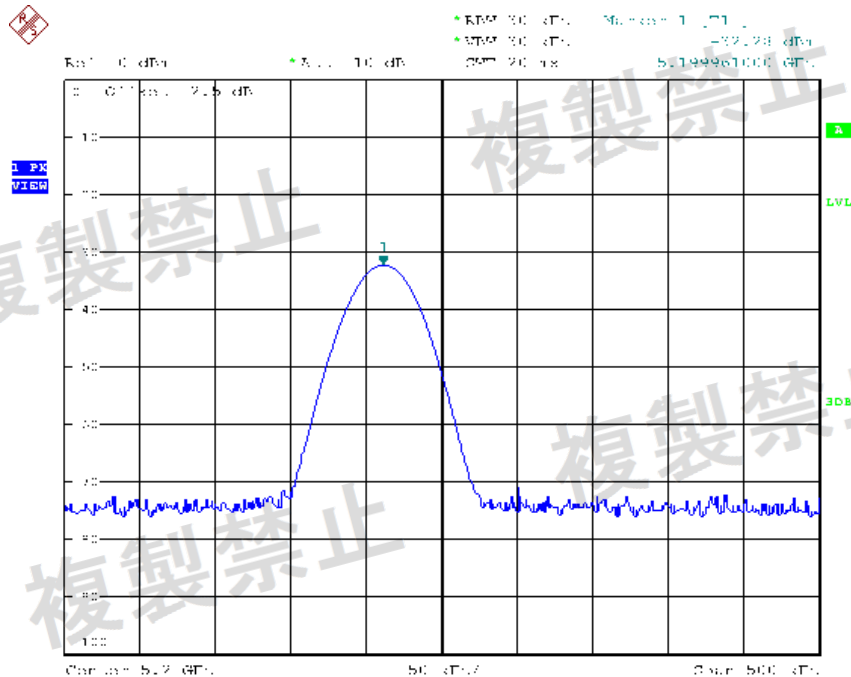
Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5180	5200	5240	Low/Mid/High of test frequency range
Measured Frequency (MHz)	5179.9620	5199.9610	5239.9610	-
Frequency Error (ppm)	-7.34	-7.50	-7.44	Limit $\leq$ 20 ppm

Normal Voltage 5180MHz



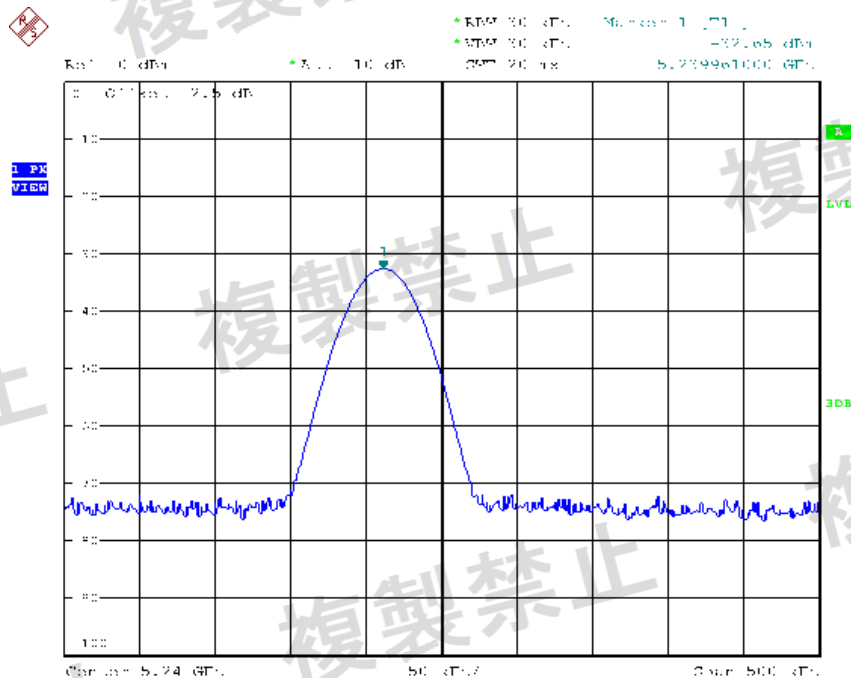
Date: 6.MAR.2018 15:29:30

Normal Voltage 5200MHz



Date: 6.MAR.2018 15:29:44

Normal Voltage 5240MHz

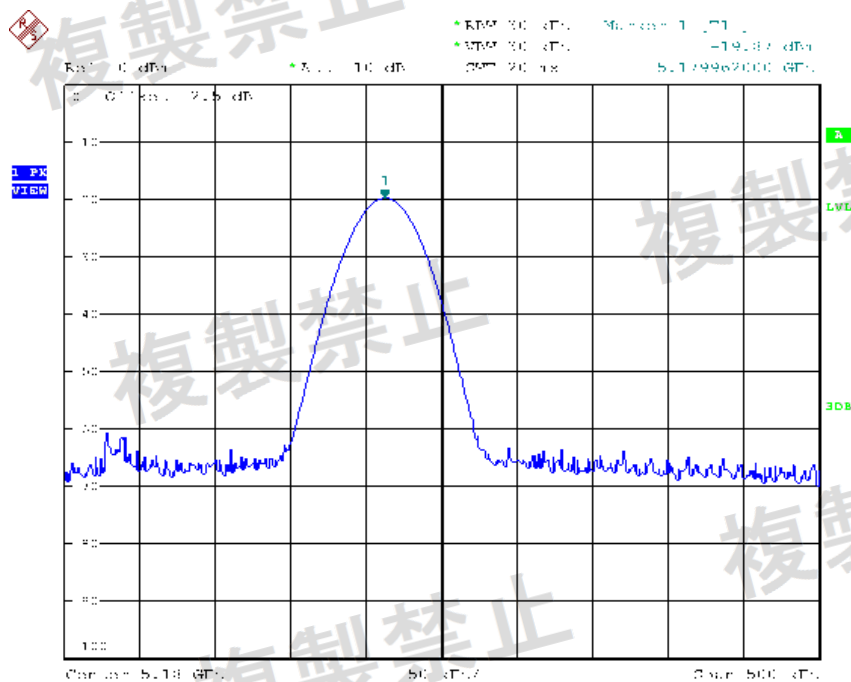


Date: 6.MAR.2018 15:30:01

Test Mode:	802.11n(HT20)
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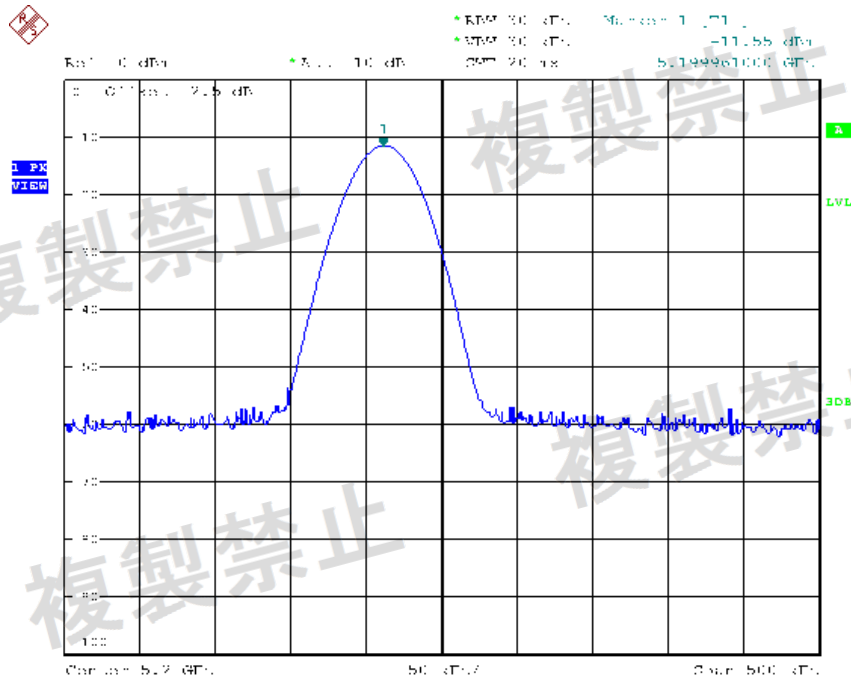
Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5180	5200	5240	Low/Mid/High of test frequency range
Measured Frequency (MHz)	5179.9620	5199.9610	5239.9610	-
Frequency Error (ppm)	-7.34	-7.50	-7.44	Limit $\leq$ 20 ppm

Normal Voltage 5180MHz



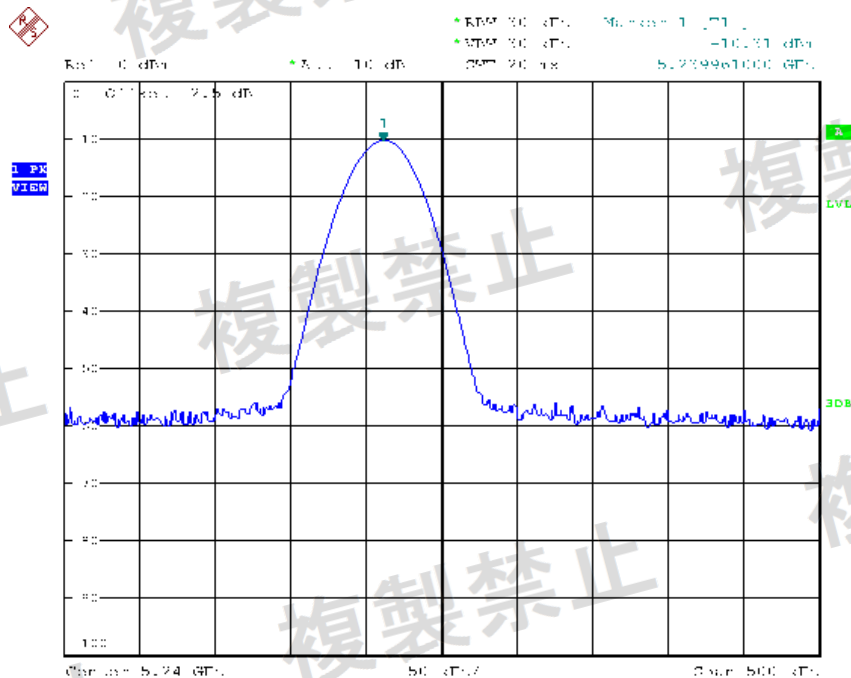
Date: 6.MAR.2018 15:30:35

Normal Voltage 5200MHz



Date: 6.MAR.2018 15:34:20

Normal Voltage 5240MHz

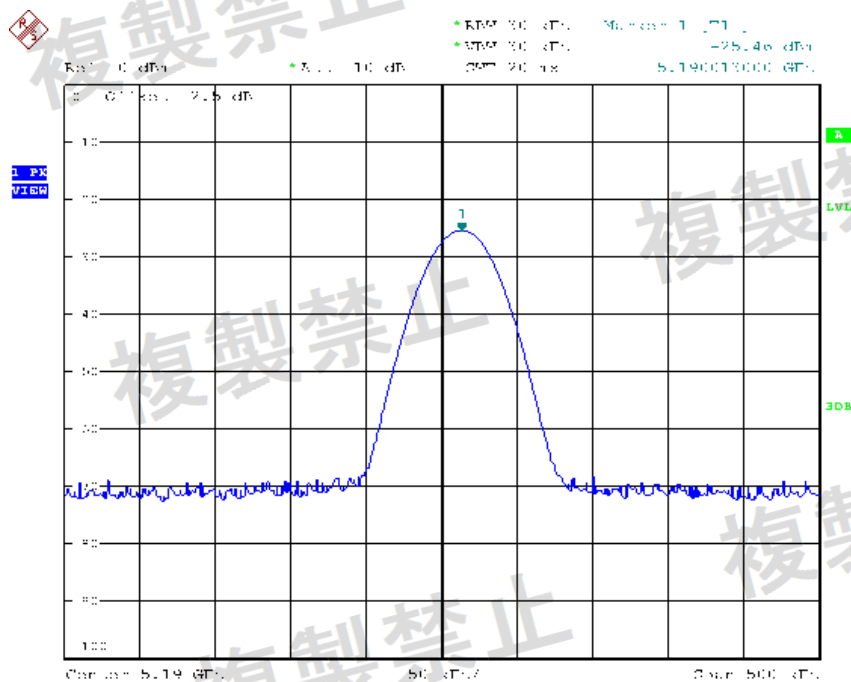


Date: 6.MAR.2018 15:34:41

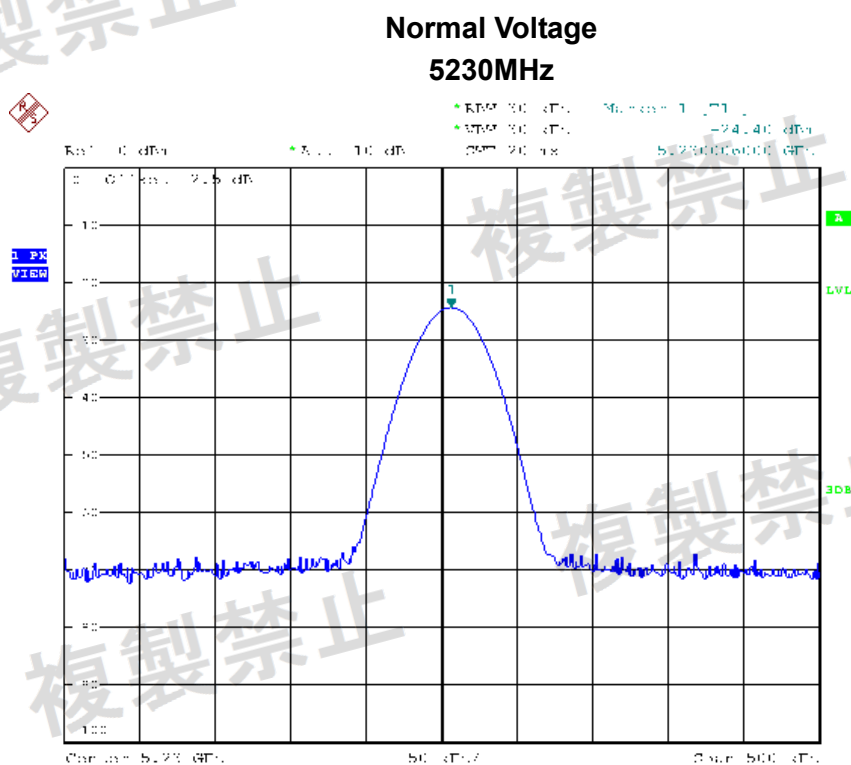
Test Mode:	802.11n(HT40)
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Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5190	5230	-	Low/Mid/High of test frequency range
Measured Frequency (MHz)	5190.0130	5230.0060	-	-
Frequency Error (ppm)	2.50	1.15	-	Limit $\leq$ 20 ppm

Normal Voltage 5190MHz



Date: 6.MAR.2018 15:43:24

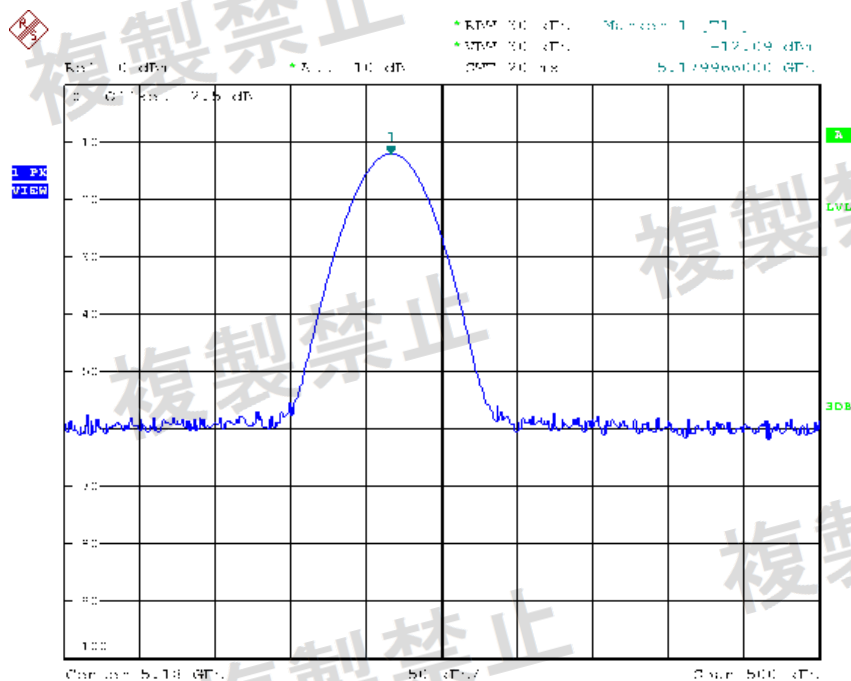


Date: 6.MAR.2018 15:43:36

Test Mode:	802.11ac(VHT20)
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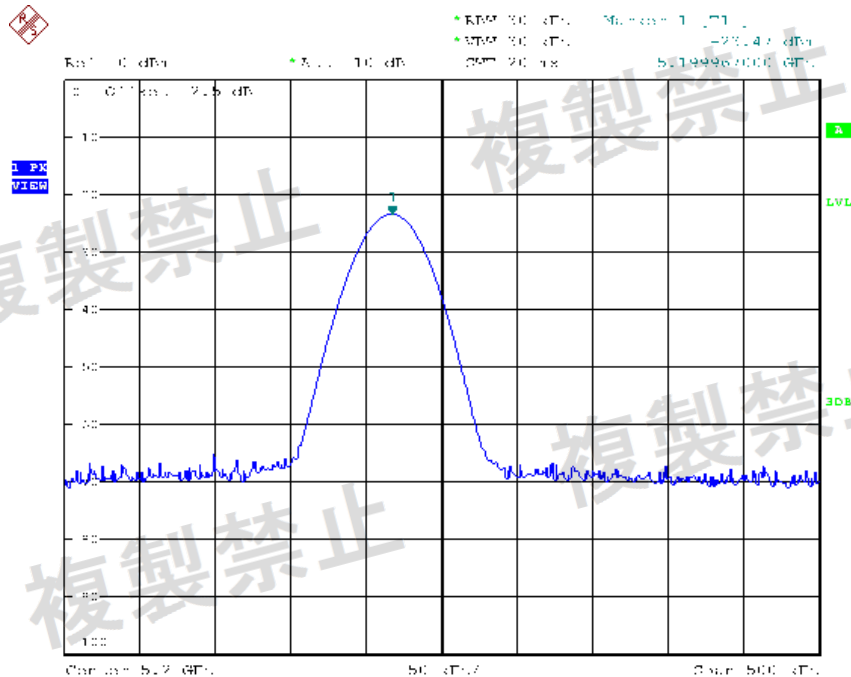
Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5180	5200	5240	Low/Mid/High of test frequency range
Measured Frequency (MHz)	5179.9660	5199.9670	5239.9660	-
Frequency Error (ppm)	-6.56	-6.35	-6.49	Limit $\leq$ 20 ppm

Normal Voltage 5180MHz

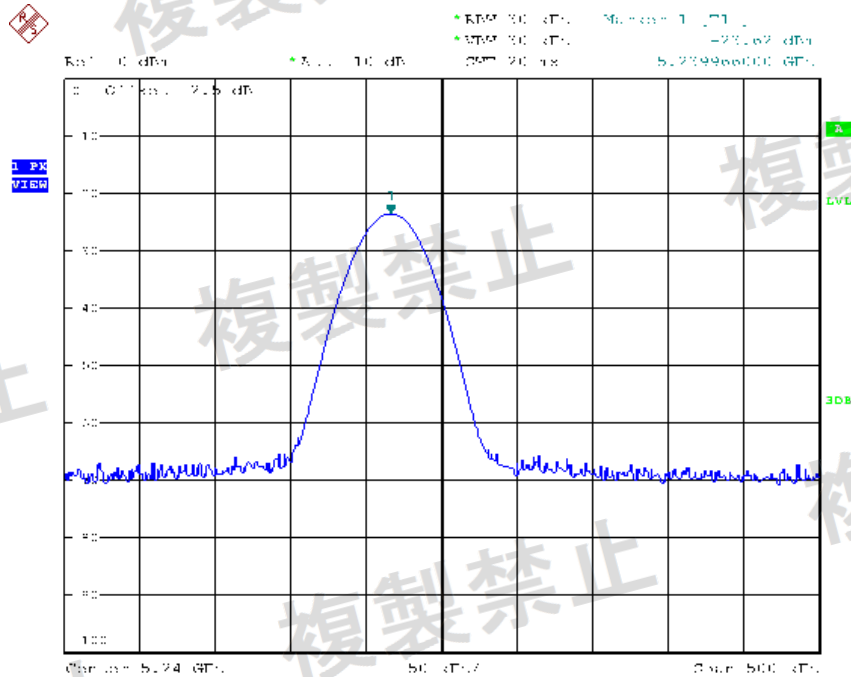


Date: 6.MAR.2018 17:07:33

Normal Voltage 5200MHz



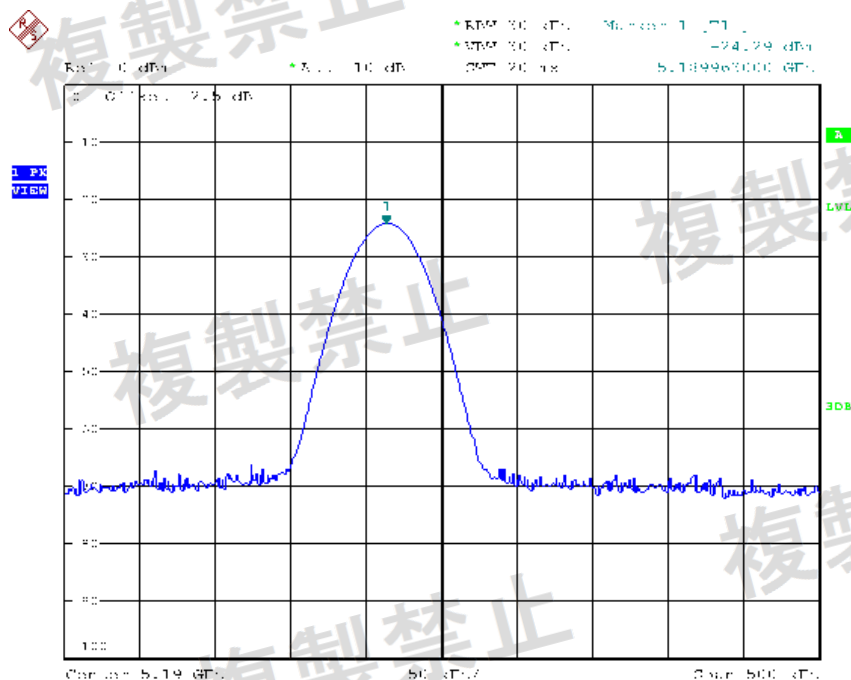
Normal Voltage 5240MHz



Test Mode:	802.11ac(VHT40)
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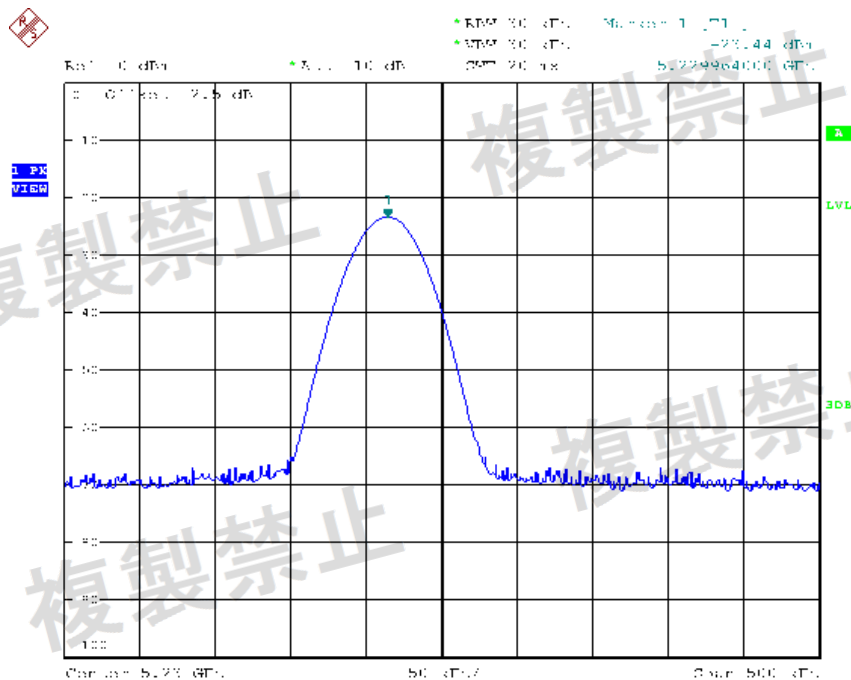
Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5190	5230	-	Low/Mid/High of test frequency range
Measured Frequency (MHz)	5189.9630	5229.9640	-	-
Frequency Error (ppm)	-7.13	-6.88	-	Limit $\leq$ 20 ppm

Normal Voltage 5190MHz



Date: 6.MAR.2018 15:36:36

Normal Voltage 5230MHz

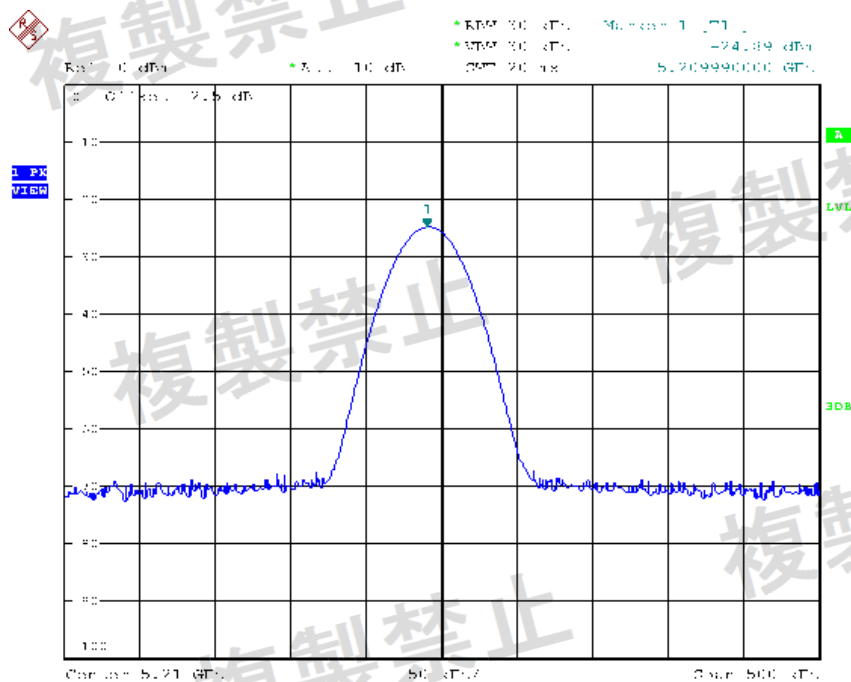


Date: 6.MAR.2018 15:38:58

Test Mode:	802.11ac(VHT80)
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Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5210	-	-	Low/Mid/High of test frequency range
Measured Frequency (MHz)	5209.9900	-	-	-
Frequency Error (ppm)	-0.19	-	-	Limit $\leq$ 20 ppm

Normal Voltage 5210MHz

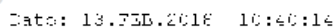
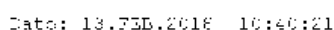


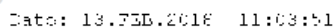
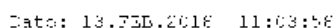
Date: 6.MAR.2018 15:44:11

APPENDIX B - OCCUPIED BANDWIDTH AND SPREAD-SPECTRUM BANDWIDTH

Test Mode:	802.11a
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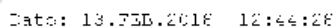
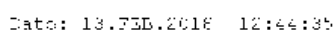
Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5180	5200	5240	Low/Mid/High of test frequency range
Occupied Bandwidth (MHz)	16.80	16.90	16.80	99% OBW Limit $\leq$ 19 MHz (RB/VB : 300kHz)



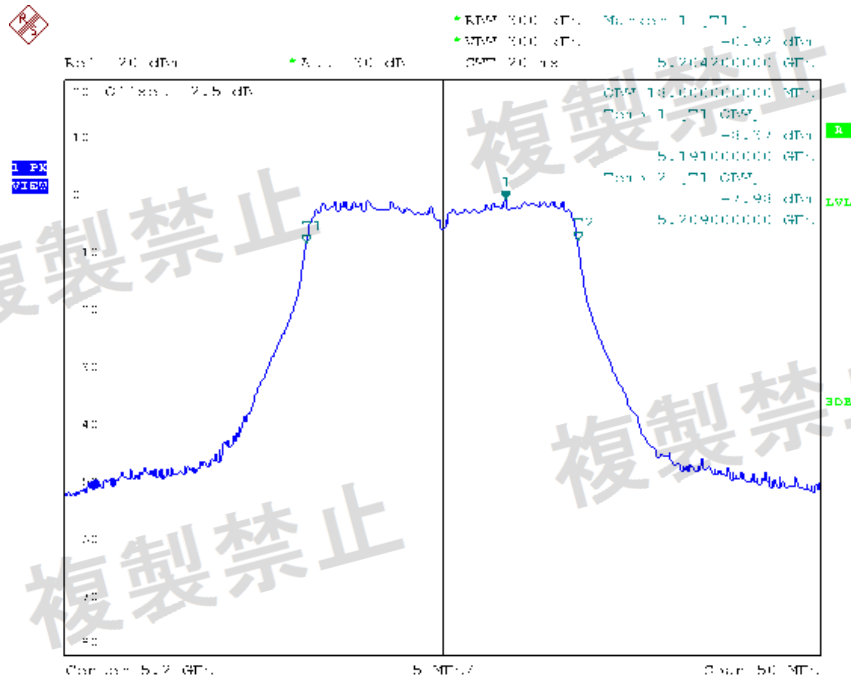


Test Mode:	802.11n(HT20)
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Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5180	5200	5240	Low/Mid/High of test frequency range
Occupied Bandwidth (MHz)	17.90	18.00	18.00	99% OBW Limit $\leq$ 19 MHz (RB/VB : 300kHz)

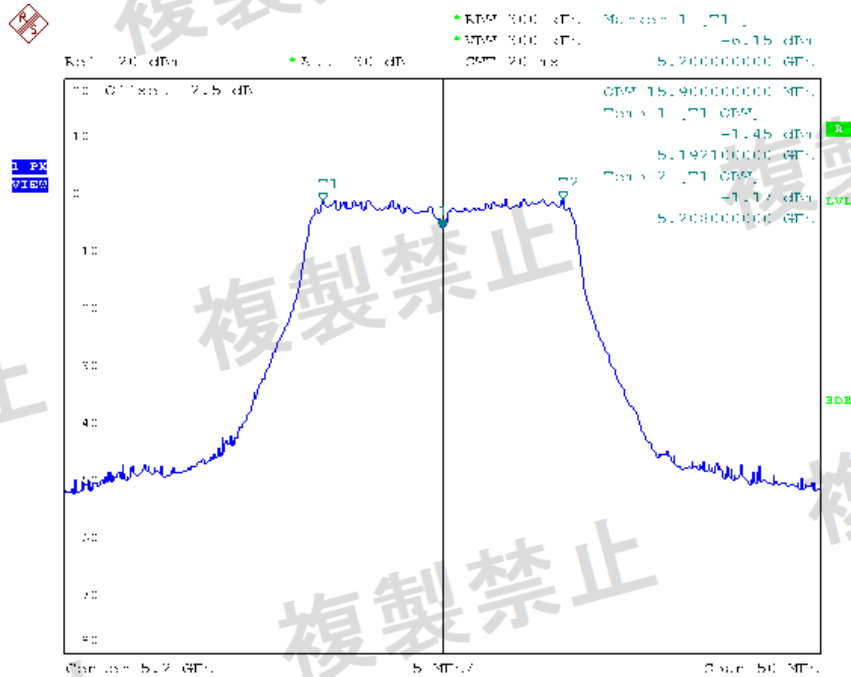


Normal Voltage 5200MHz -99 % OBW



Date: 13.FEB.2016 12:51:13

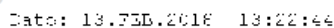
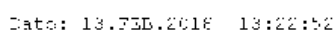
Normal Voltage 5200MHz -90 % OBW

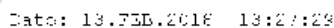
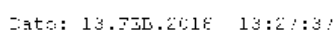


Date: 13.FEB.2016 12:51:06

Test Mode:	802.11n(HT40)
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Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5190	5230	-	Low/Mid/High of test frequency range
Occupied Bandwidth (MHz)	36.32	36.32	-	99% OBW Limit $\leq$ 38 MHz (RB/VB : 300kHz)

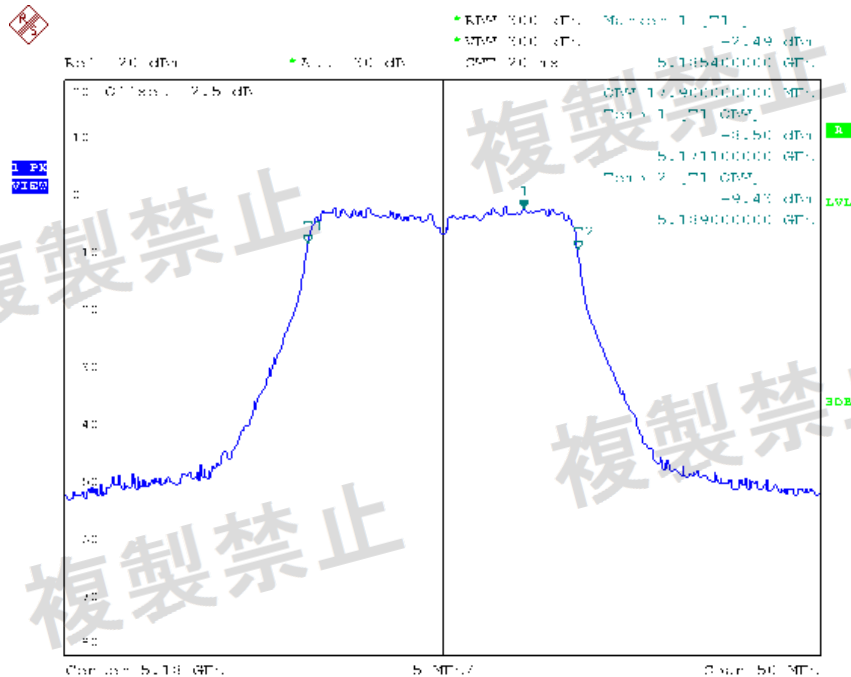




Test Mode:	802.11ac(VHT20)
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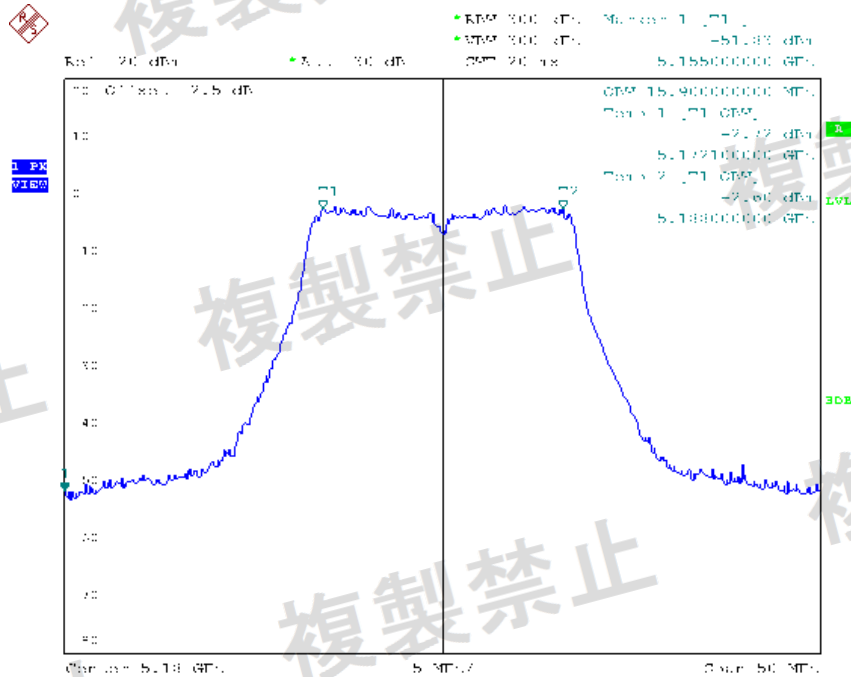
Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5180	5200	5240	Low/Mid/High of test frequency range
Occupied Bandwidth (MHz)	17.90	18.00	18.00	99% OBW Limit $\leq$ 19 MHz (RB/VB : 300kHz)

Normal Voltage 5180MHz -99 % OBW

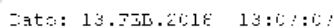
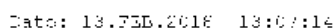


Date: 13.FEB.2016 13:01:23

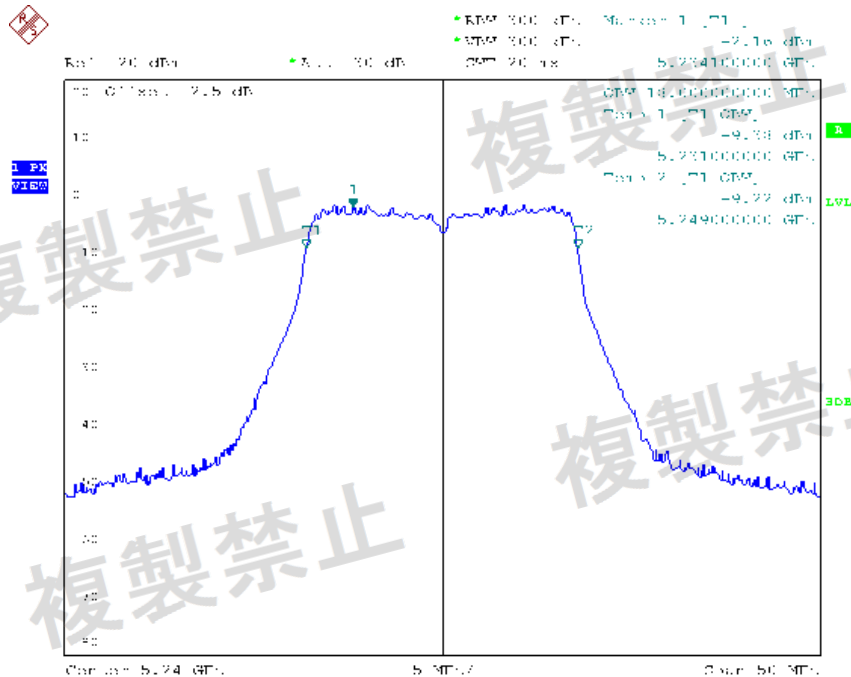
Normal Voltage 5180MHz -90 % OBW



Date: 13.FEB.2016 13:01:15

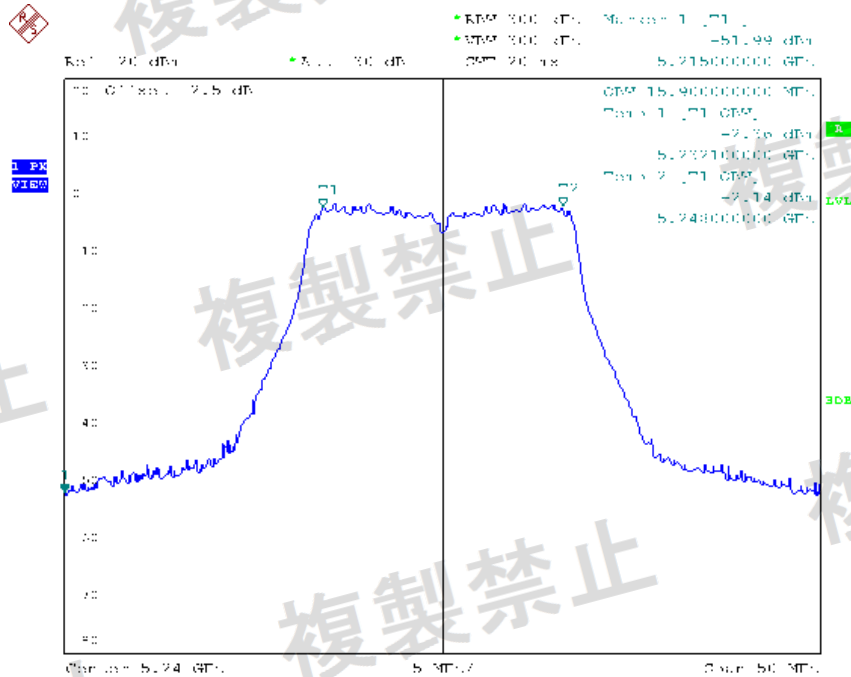


Normal Voltage 5240MHz -99 % OBW



Date: 13.FEB.2016 13:11:48

Normal Voltage 5240MHz -90 % OBW

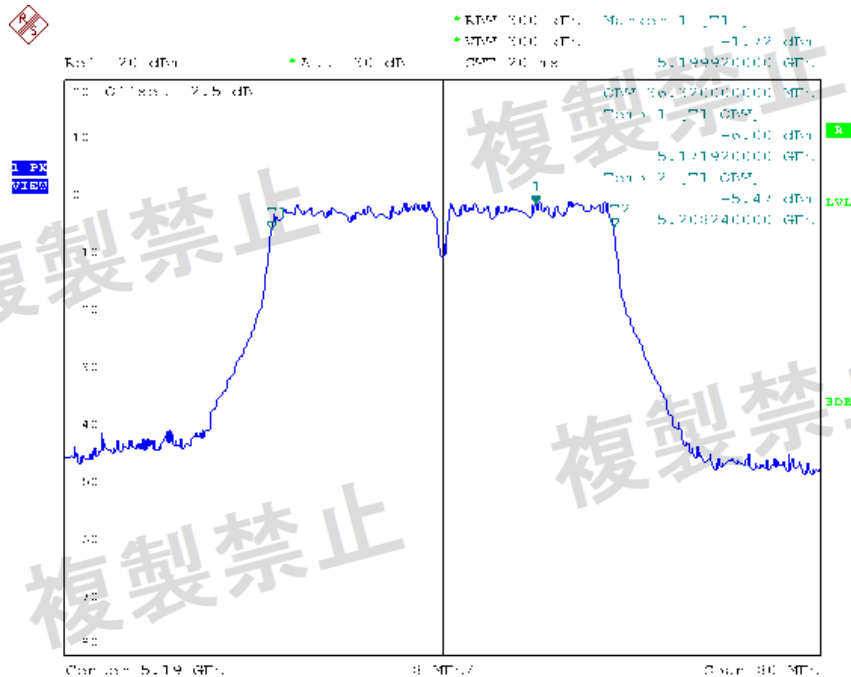


Date: 13.FEB.2016 13:11:41

Test Mode:	802.11ac(VHT40)
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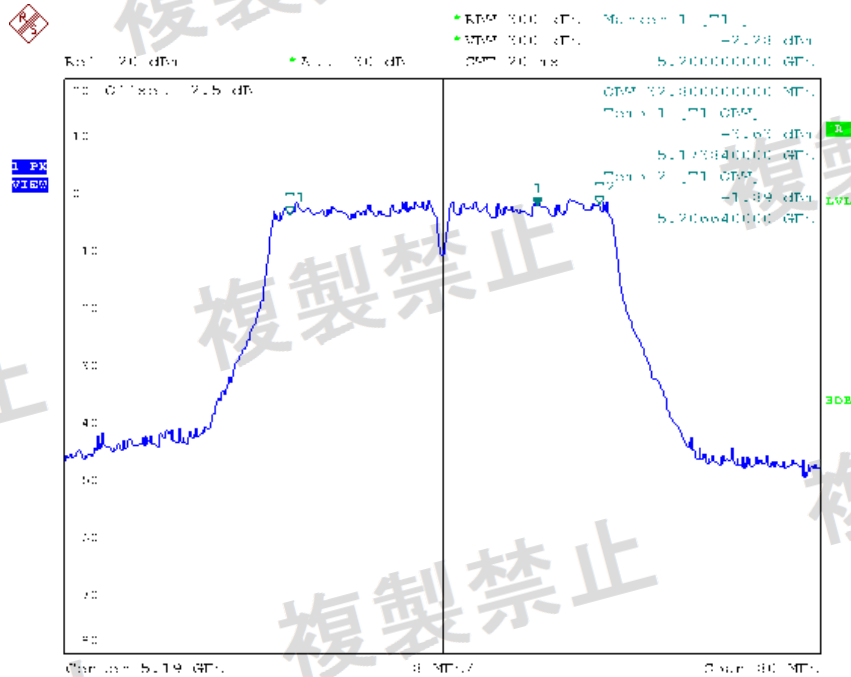
Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5190	5230	-	Low/Mid/High of test frequency range
Occupied Bandwidth (MHz)	36.32	36.32	-	99% OBW Limit $\leq$ 38 MHz (RB/VB : 300kHz)

Normal Voltage 5190MHz -99 % OBW



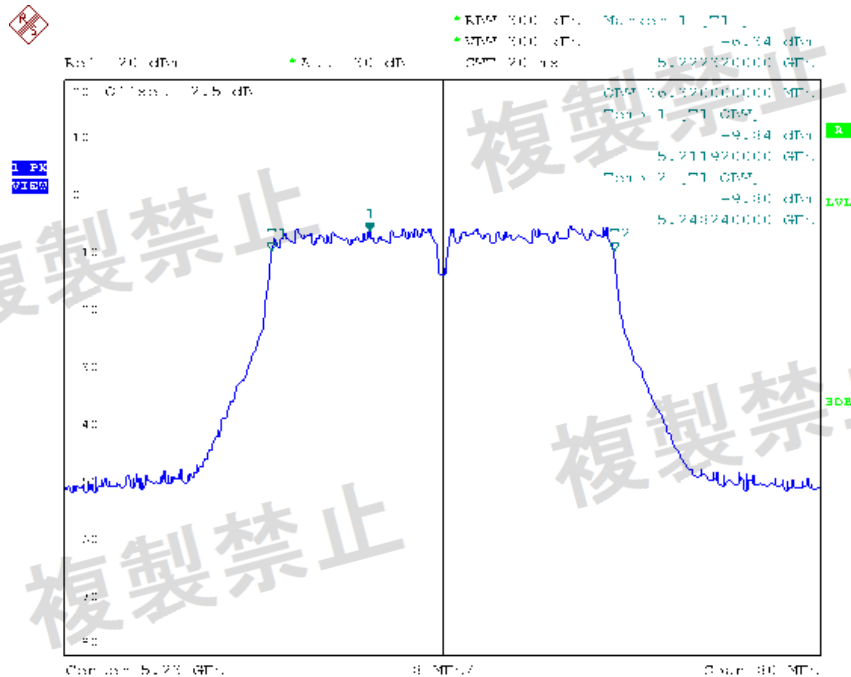
Date: 13.FEB.2016 13:32:19

Normal Voltage 5190MHz -90 % OBW



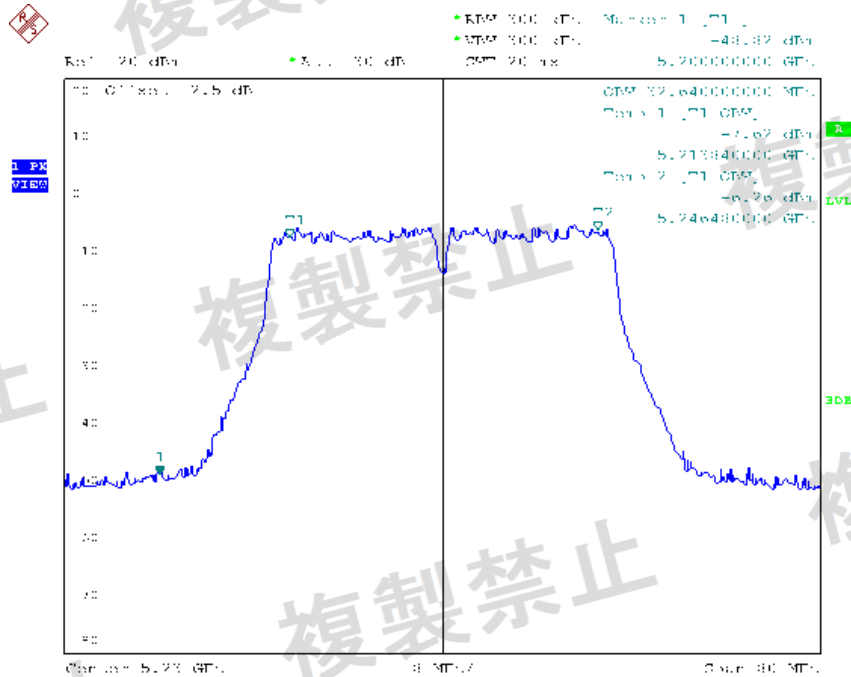
Date: 13.FEB.2016 13:32:11

Normal Voltage 5230MHz -99 % OBW



Date: 13.FEB.2016 13:36:54

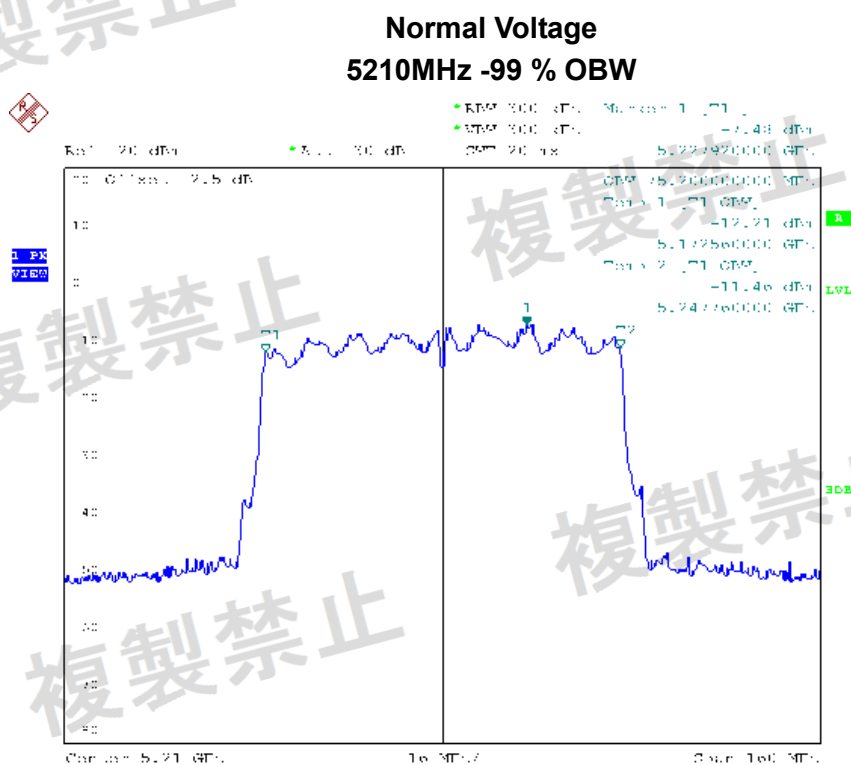
Normal Voltage 5230MHz -90 % OBW



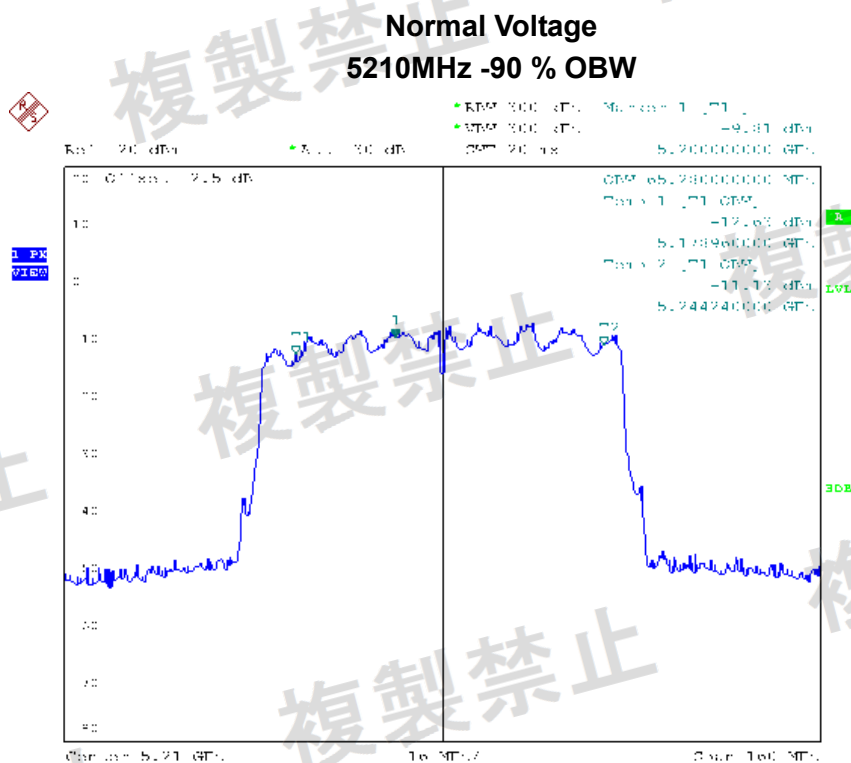
Date: 13.FEB.2016 13:36:47

Test Mode:	802.11ac(VHT80)
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Test Voltage (V)	Normal Voltage		Remarks
Test Frequency (MHz)	5210	-	Low/Mid/High of test frequency range
Occupied Bandwidth (MHz)	75.20	-	99% OBW Limit $\leq$ 78 MHz (RB/VB : 300kHz)



Date: 13.FEB.2018 13:50:57

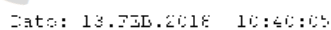
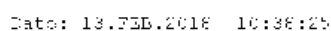


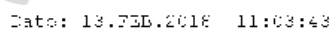
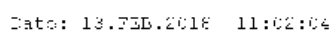
Data: 13.FEB.2018 13:50:50

APPENDIX C - UNWANTED EMISSION INTENSITY

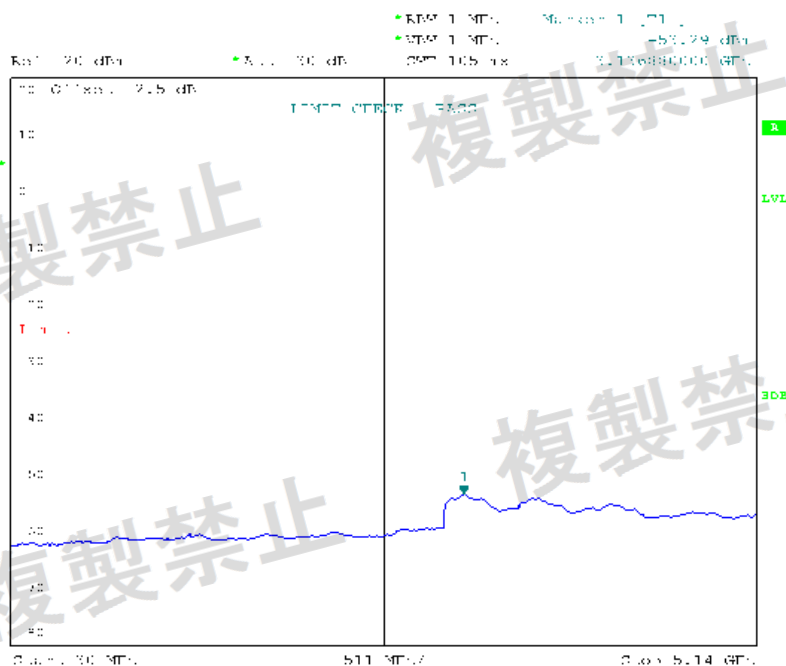
Test Mode:	802.11a
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5180	5200	5240	Low/Mid/High of test frequency range
Unwanted Emission Intensity (Max value in the band)	MHz	3147.10	3147.10	3136.88	30MHz~5140MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26 dBm/MHz)
	dBm/MHz	-53.47	-53.48	-53.29	
	$\mu\text{W/MHz}$	0.00450	0.00449	0.00469	
	MHz	24844.16	24844.16	24885.44	5360MHz~26000MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26 dBm/MHz)
	dBm/MHz	-53.15	-52.97	-53.17	
	$\mu\text{W/MHz}$	0.00484	0.00505	0.00482	



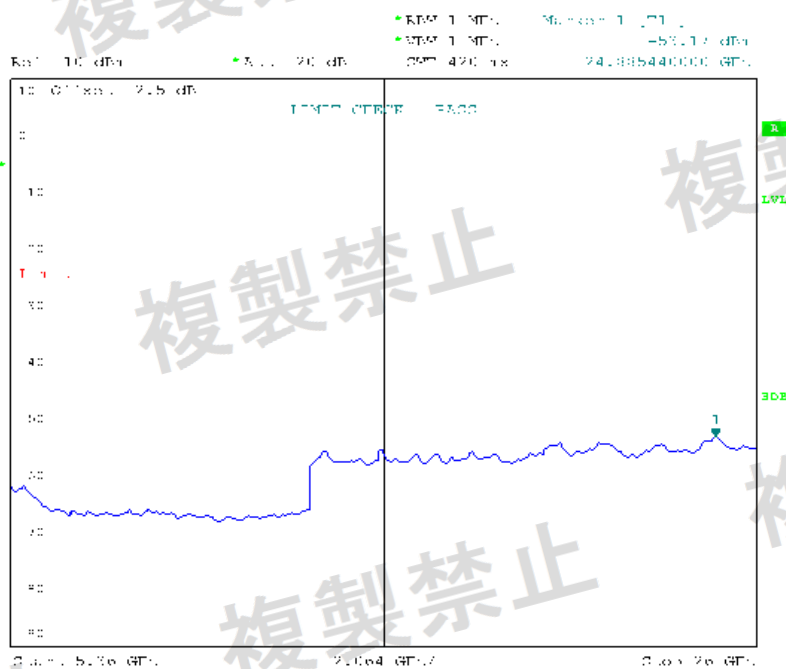


Normal Voltage 5240MHz (30 MHz $\leq$ f $\leq$ 5140 MHz)



Date: 19.FEB.2018 12:34:32

Normal Voltage 5240MHz (5360 MHz < f $\leq$ 26000 MHz)

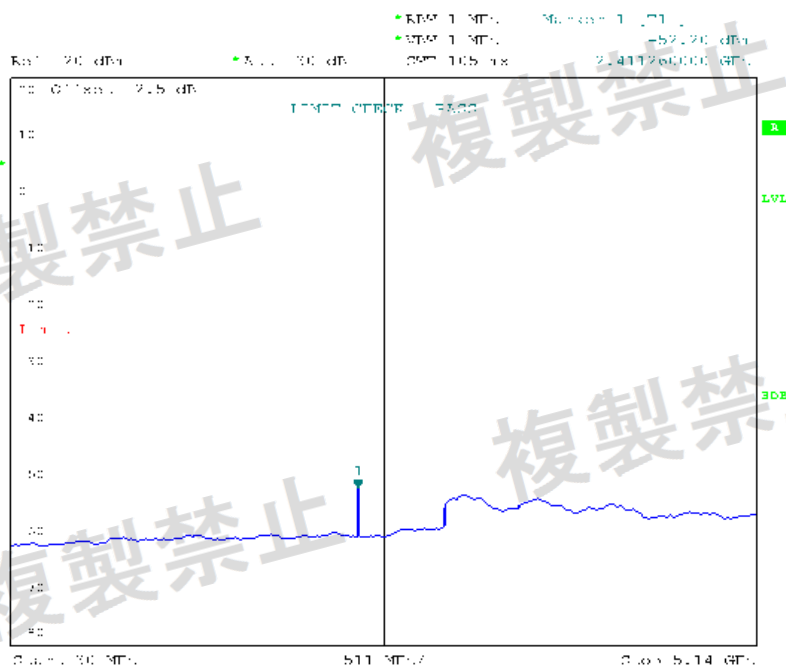


Date: 19.FEB.2018 12:36:11

Test Mode:	802.11n(HT20)
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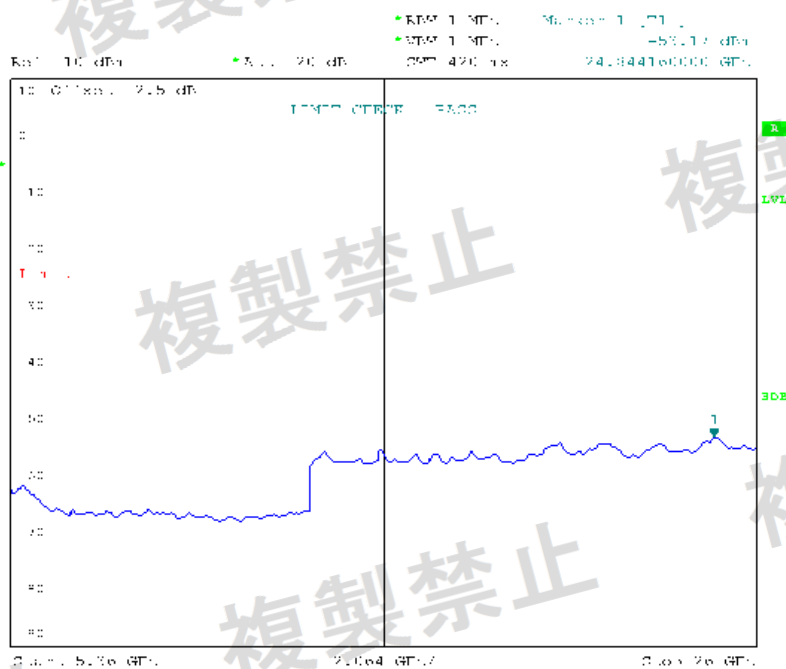
Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5180	5200	5240	Low/Mid/High of test frequency range
Unwanted Emission Intensity (Max value in the band)	MHz	2441.26	3136.88	3147.1	30MHz~5140MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26 dBm/MHz)
	dBm/MHz	-52.20	-53.32	-53.29	
	$\mu\text{W/MHz}$	0.00603	0.00466	0.00469	
	MHz	24844.16	24885.44	24844.16	5360MHz~26000MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26 dBm/MHz)
	dBm/MHz	-53.17	-53.04	-53.13	
	$\mu\text{W/MHz}$	0.00482	0.00497	0.00486	

Normal Voltage 5180MHz (30 MHz $\leq$ f $\leq$ 5140 MHz)

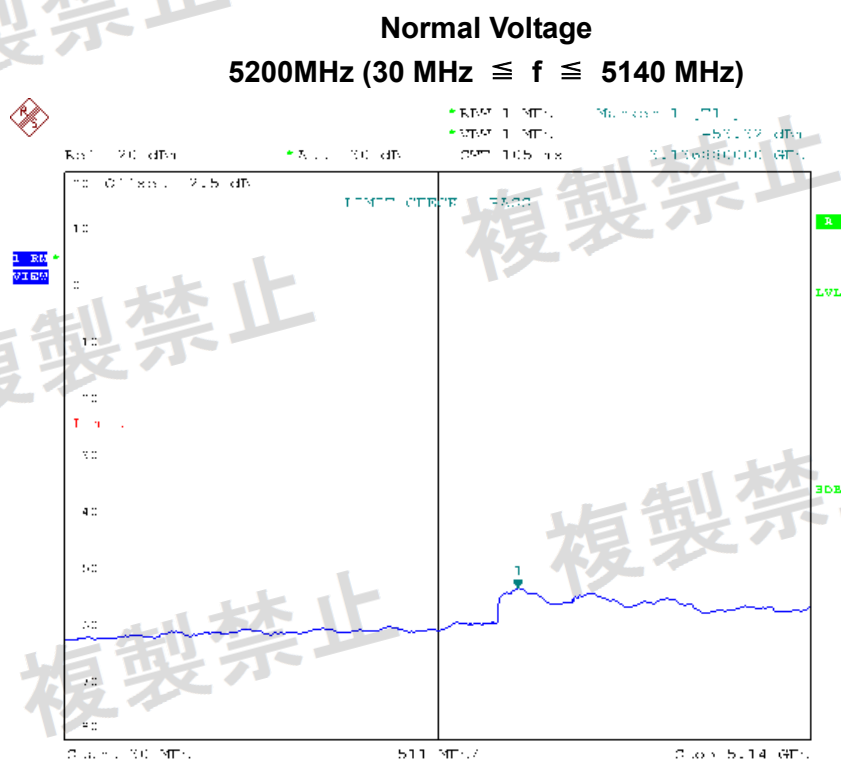


Date: 19.FEB.2018 12:42:41

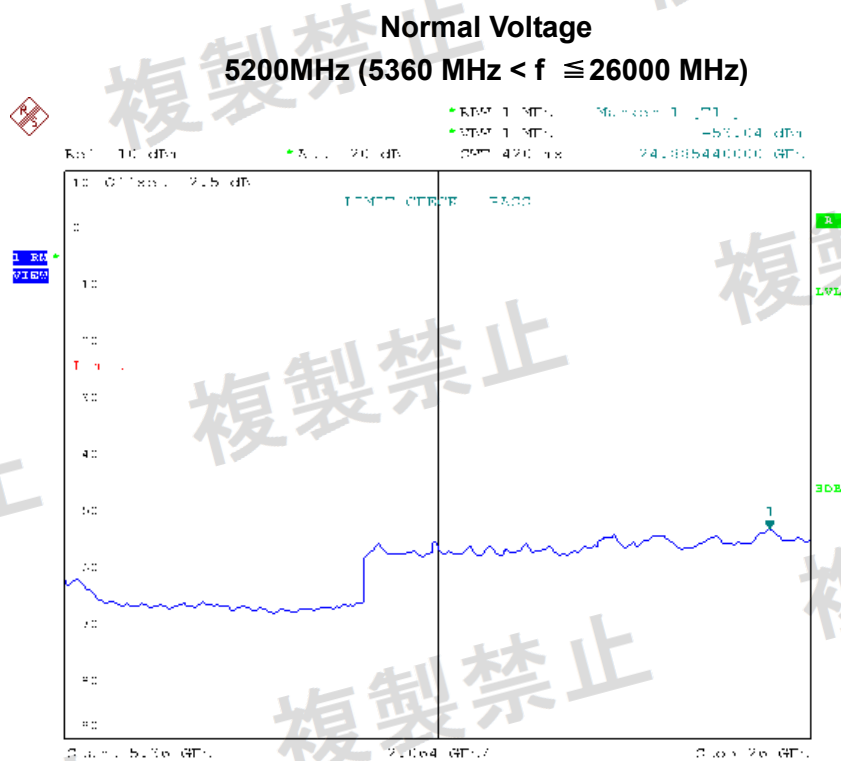
Normal Voltage 5180MHz (5360 MHz < f $\leq$ 26000 MHz)



Date: 19.FEB.2018 12:44:19

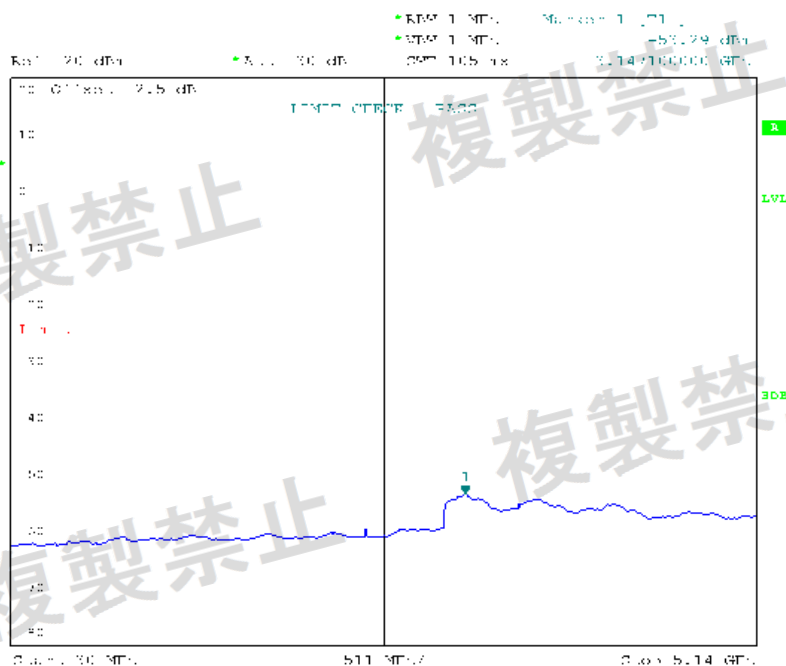


Date: 13.FEB.2018 12:49:19



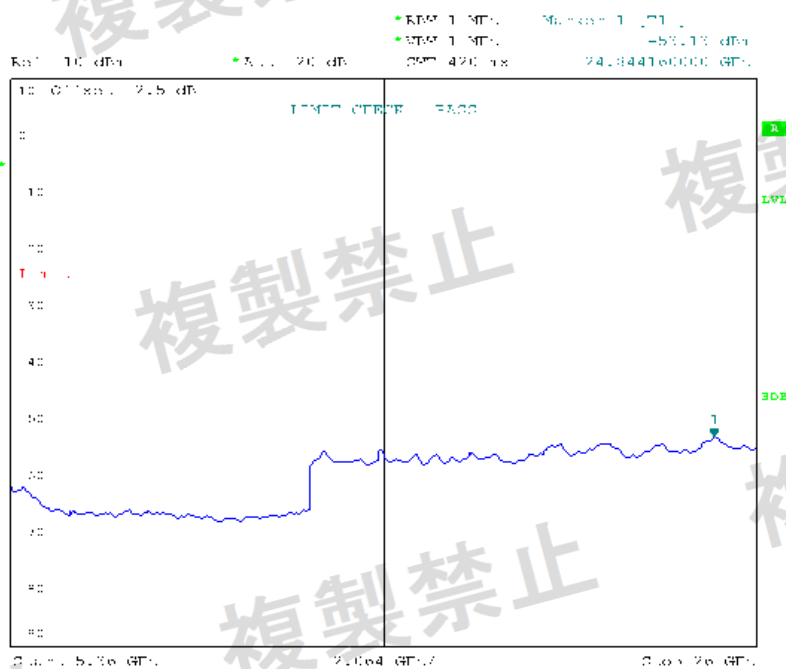
Date: 13.FEB.2018 12:50:58

Normal Voltage 5240MHz (30 MHz $\leq$ f $\leq$ 5140 MHz)



Date: 19.FEB.2018 12:53:56

Normal Voltage 5240MHz (5360 MHz < f $\leq$ 26000 MHz)

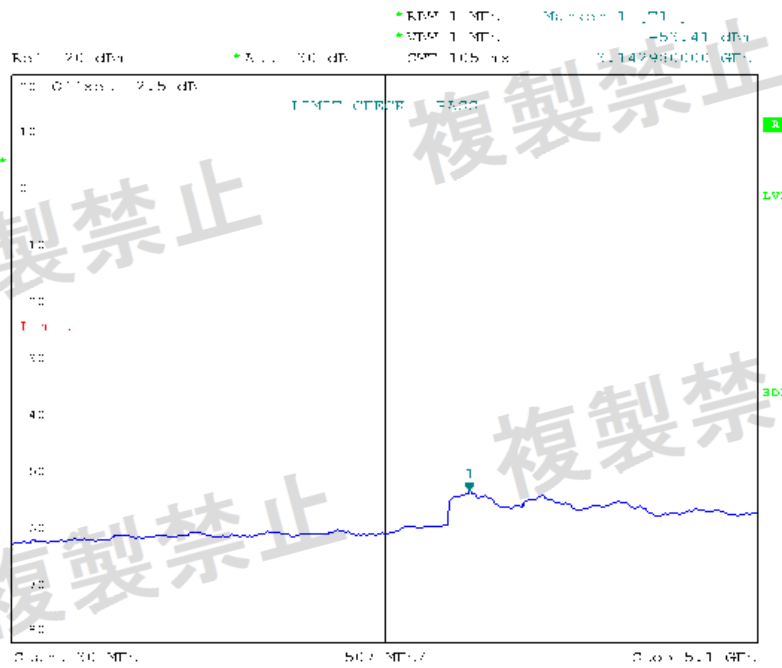


Date: 19.FEB.2018 12:55:35

Test Mode:	802.11n(HT40)
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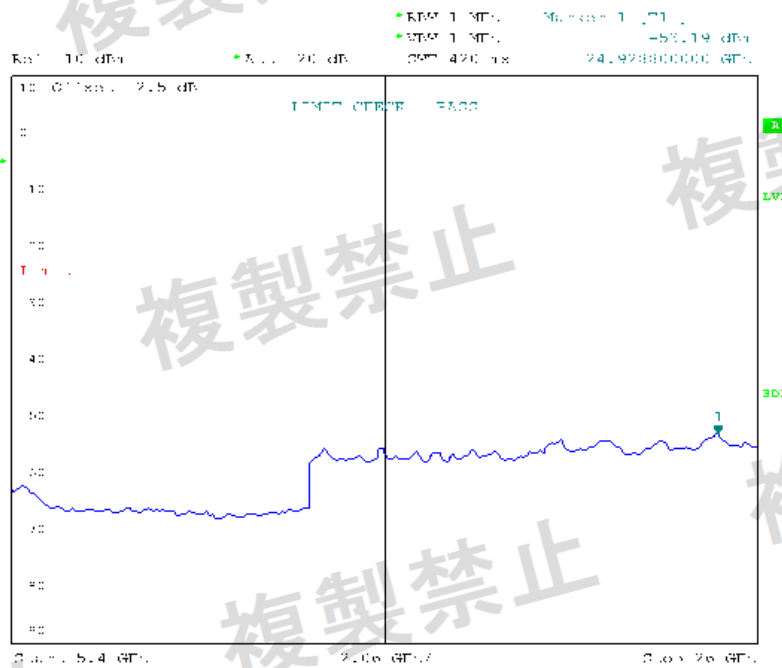
Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5190	5230	-	Low/Mid/High of test frequency range
Unwanted Emission Intensity (Max value in the band)	MHz	3142.98	3142.98	-	30MHz~5100MHz
	dBm/MHz	-53.41	-53.51	-	Limit $\leq$ 2.5 μ W/MHz
	μ W/MHz	0.00456	0.00446	-	(-26 dBm/MHz)
	MHz	24928.80	24846.40	-	5400MHz~26000MHz
	dBm/MHz	-53.19	-53.23	-	Limit $\leq$ 2.5 μ W/MHz
	μ W/MHz	0.00480	0.00475	-	(-26 dBm/MHz)

Normal Voltage 5190MHz (30 MHz $\leq$ f $\leq$ 5100 MHz)



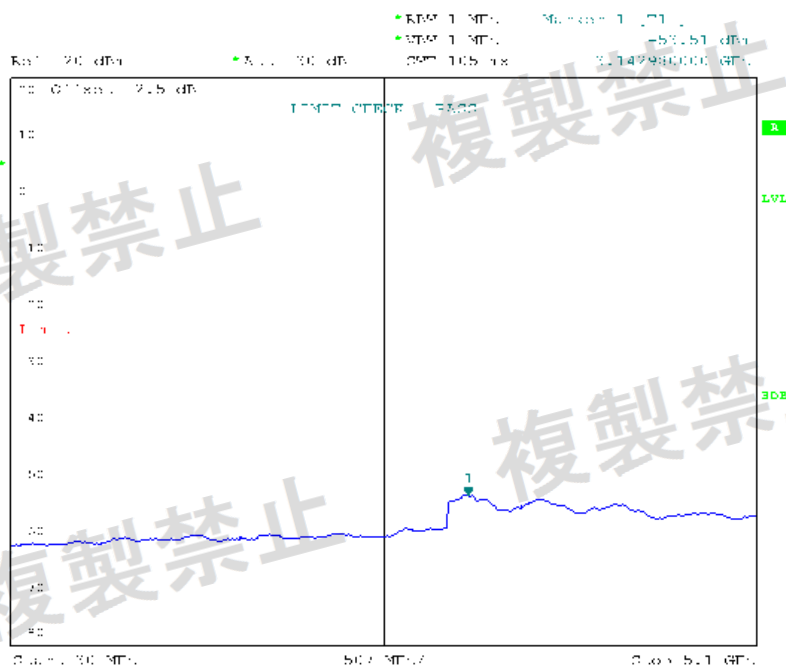
Date: 19.FEB.2018 13:20:55

Normal Voltage 5190MHz (5400 MHz < f $\leq$ 26000 MHz)



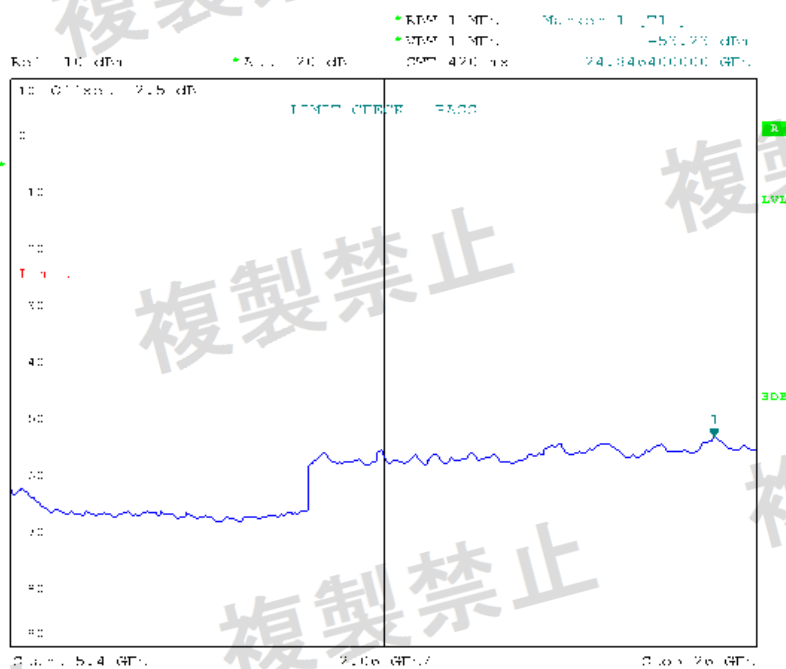
Date: 19.FEB.2018 13:22:35

Normal Voltage 5230MHz (30 MHz $\leq$ f $\leq$ 5100 MHz)



Date: 19.FEB.2016 13:25:37

Normal Voltage 5230MHz (5400 MHz < f $\leq$ 26000 MHz)

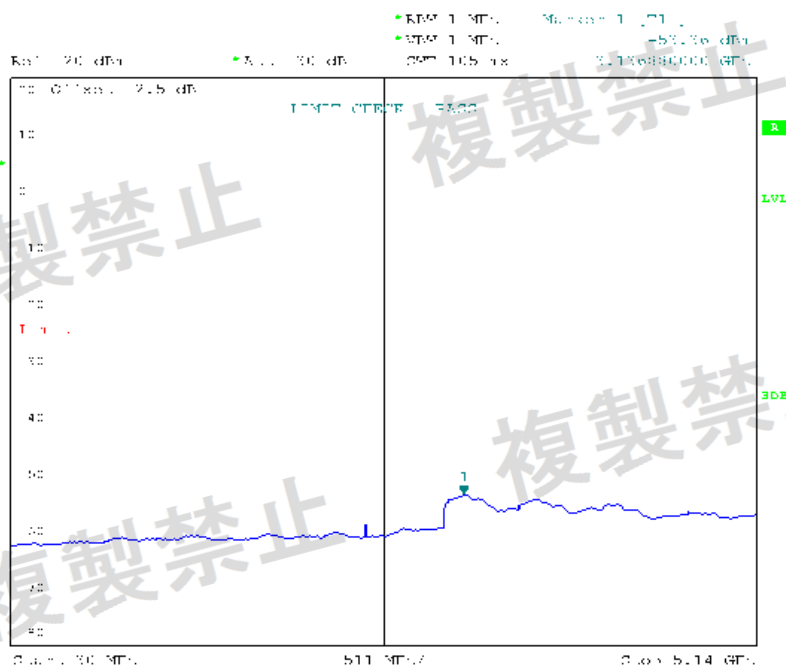


Date: 19.FEB.2016 13:27:21

Test Mode:	802.11ac(VHT20)
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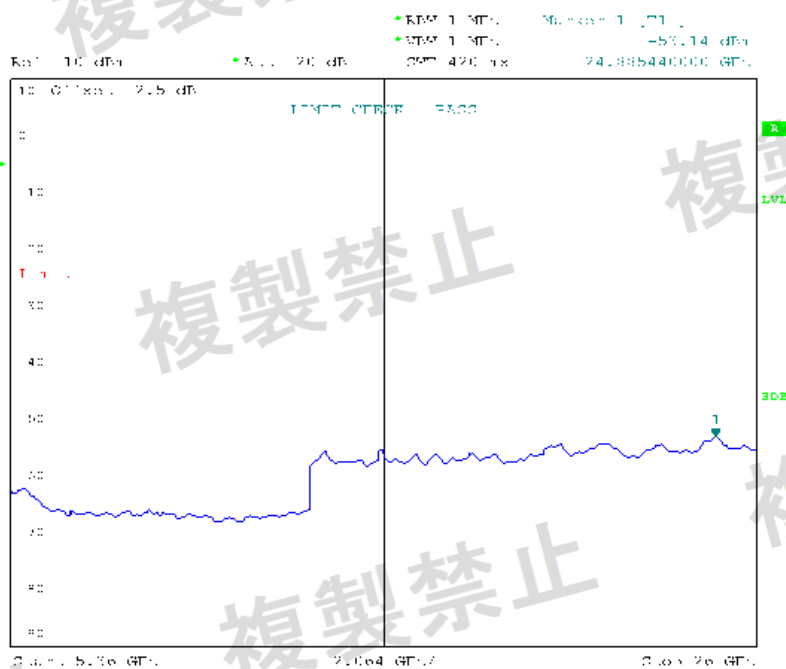
Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5180	5200	5240	Low/Mid/High of test frequency range
Unwanted Emission Intensity (Max value in the band)	MHz	3136.88	2462.36	2462.36	30MHz~5140MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26 dBm/MHz)
	dBm/MHz	-53.36	-50.07	-49.85	
	$\mu\text{W/MHz}$	0.00461	0.00984	0.01035	
	MHz	24885.44	24926.72	24844.16	5360MHz~26000MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26 dBm/MHz)
	dBm/MHz	-53.14	-53.21	-53.16	
	$\mu\text{W/MHz}$	0.00485	0.00478	0.00483	

Normal Voltage 5180MHz (30 MHz $\leq$ f $\leq$ 5140 MHz)



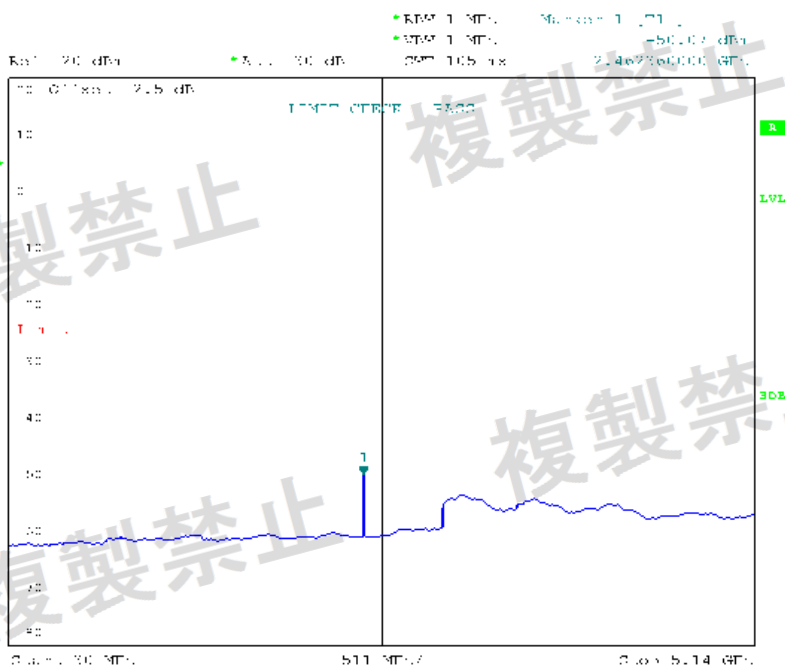
Date: 19.FEB.2018 12:59:27

Normal Voltage 5180MHz (5360 MHz < f $\leq$ 26000 MHz)



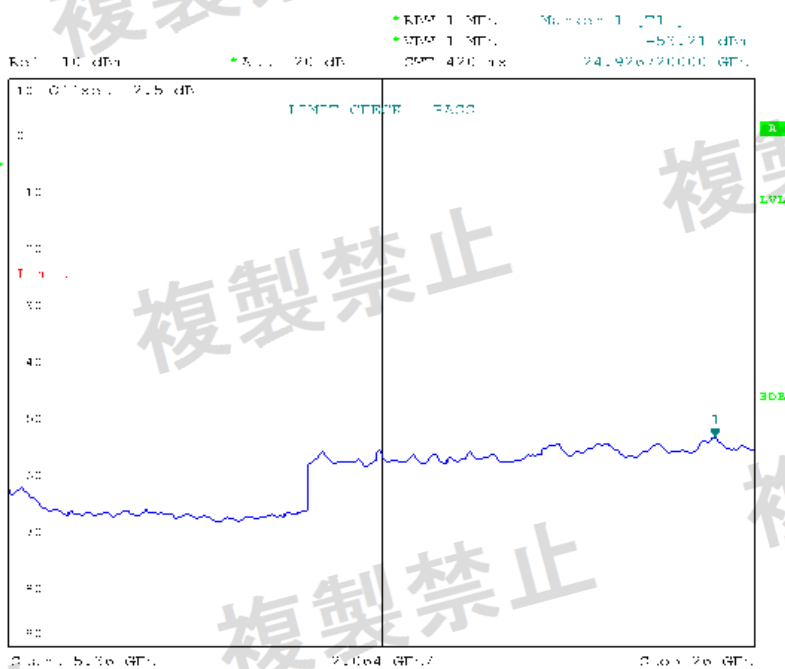
Date: 19.FEB.2018 13:01:07

Normal Voltage 5200MHz (30 MHz $\leq$ f $\leq$ 5140 MHz)



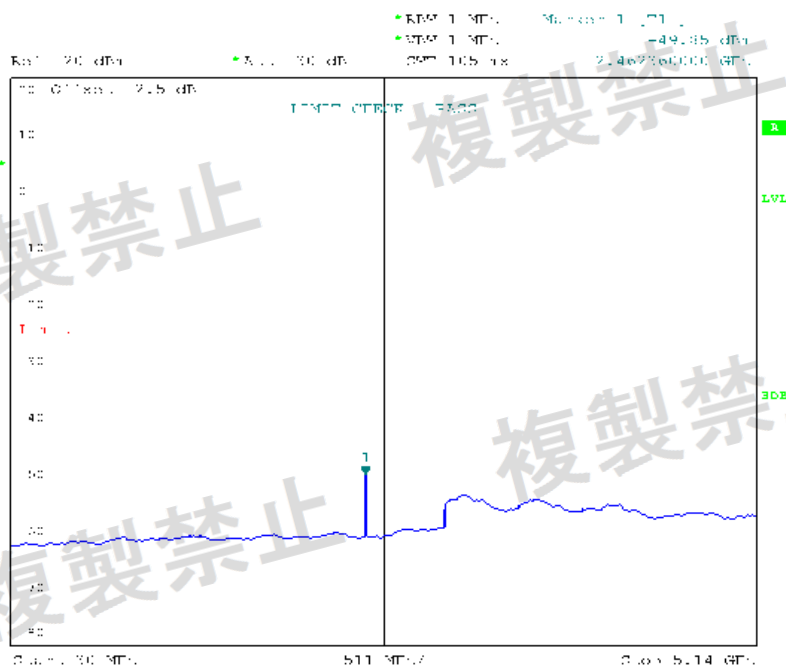
Date: 19.FEB.2018 13:04:18

Normal Voltage 5200MHz (5360 MHz < f $\leq$ 26000 MHz)



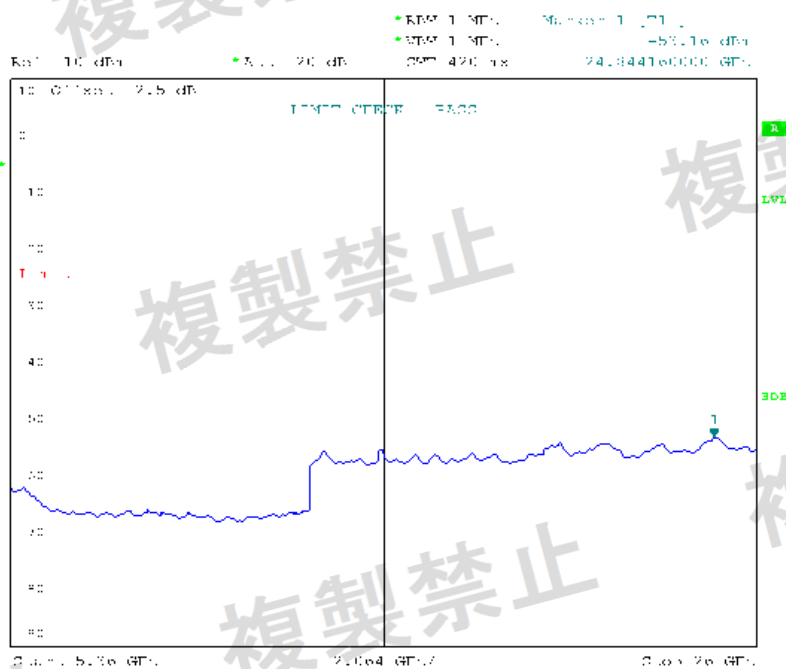
Date: 19.FEB.2018 13:05:59

Normal Voltage 5240MHz (30 MHz $\leq$ f $\leq$ 5140 MHz)



Date: 19.FEB.2018 13:09:54

Normal Voltage 5240MHz (5360 MHz < f $\leq$ 26000 MHz)

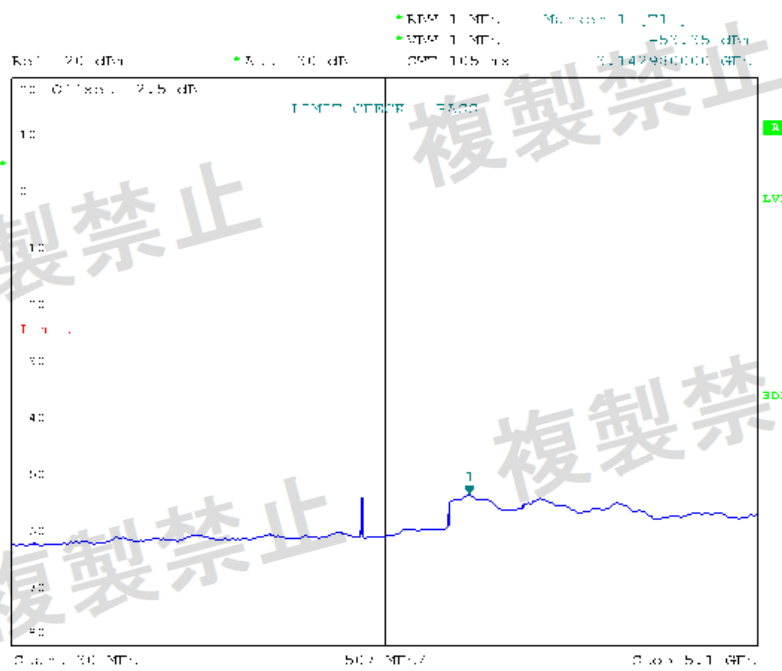


Date: 19.FEB.2018 13:11:32

Test Mode:	802.11ac(VHT40)
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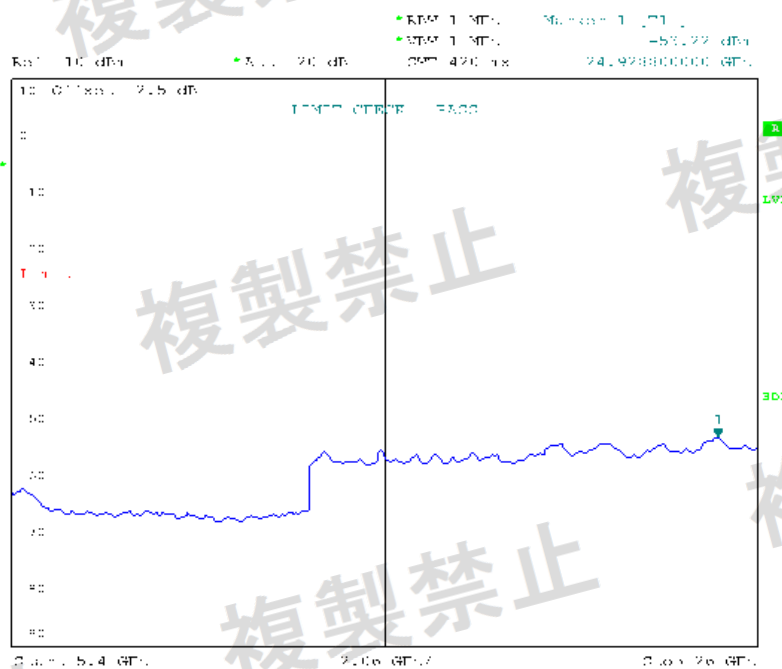
Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5190	5230	-	Low/Mid/High of test frequency range
Unwanted Emission Intensity (Max value in the band)	MHz	3142.98	2463.60	-	30MHz~5100MHz
	dBm/MHz	-53.35	-50.12	-	Limit $\leq$ 2.5 μ W/MHz
	μ W/MHz	0.00462	0.00973	-	(-26 dBm/MHz)
	MHz	24928.80	24805.20	-	5400MHz~26000MHz
	dBm/MHz	-53.22	-53.13	-	Limit $\leq$ 2.5 μ W/MHz
	μ W/MHz	0.00476	0.00486	-	(-26 dBm/MHz)

Normal Voltage 5190MHz (30 MHz $\leq$ f $\leq$ 5100 MHz)



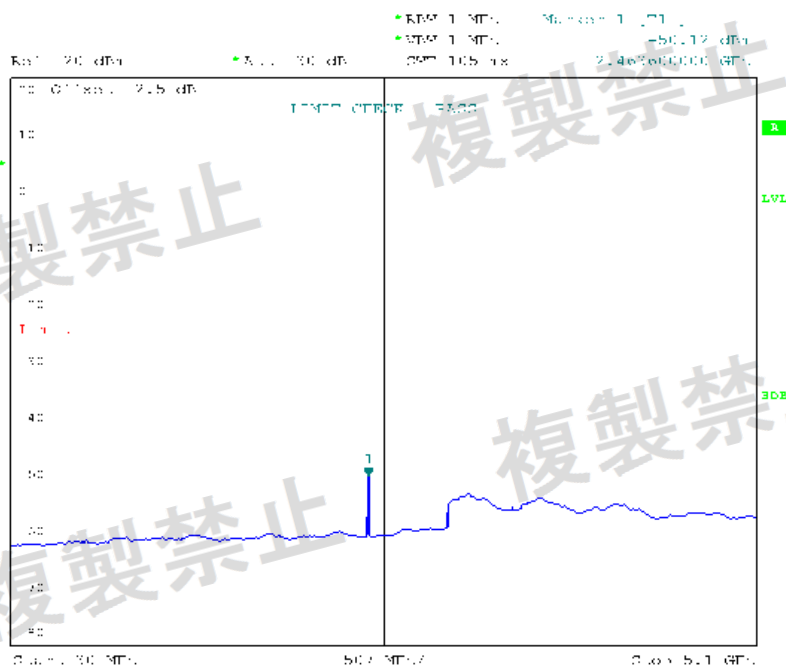
Date: 19.FEB.2018 13:30:21

Normal Voltage 5190MHz (5400 MHz < f $\leq$ 26000 MHz)



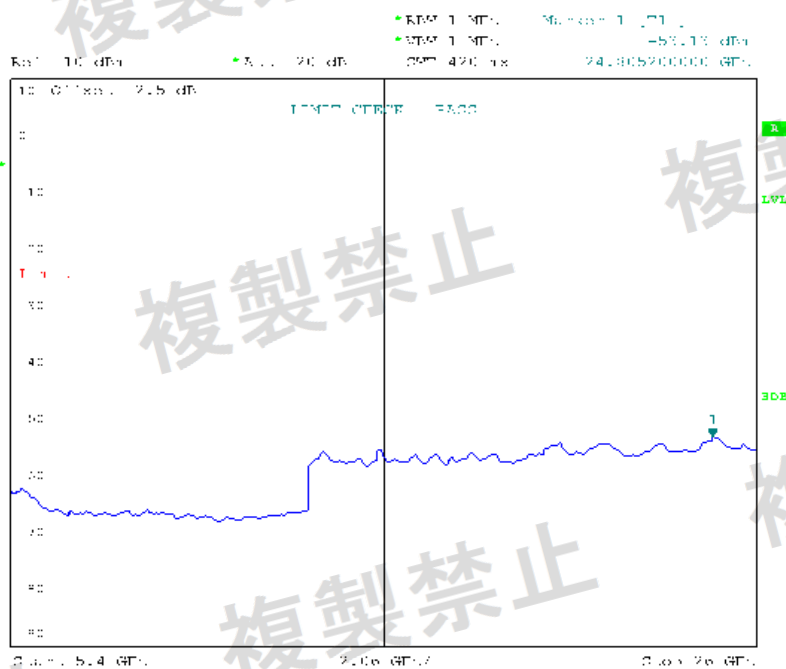
Date: 19.FEB.2018 13:32:03

Normal Voltage 5230MHz (30 MHz $\leq$ f $\leq$ 5100 MHz)



Date: 19.FEB.2018 13:34:52

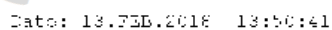
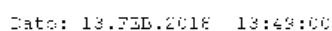
Normal Voltage 5230MHz (5400 MHz < f $\leq$ 26000 MHz)



Date: 19.FEB.2018 13:36:37

Test Mode:	802.11ac(VHT80)
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5210	-	-	Low/Mid/High of test frequency range
Unwanted Emission Intensity (Max value in the band)	MHz	2465.12	-	-	30MHz~5020MHz
	dBm/MHz	-49.18	-	-	Limit $\leq$ 2.5 μ W/MHz
	μ W/MHz	0.01208	-	-	(-26 dBm/MHz)
	MHz	24850.88	-	-	5480MHz~26000MHz
	dBm/MHz	-53.07	-	-	Limit $\leq$ 2.5 μ W/MHz
	μ W/MHz	0.00493	-	-	(-26 dBm/MHz)

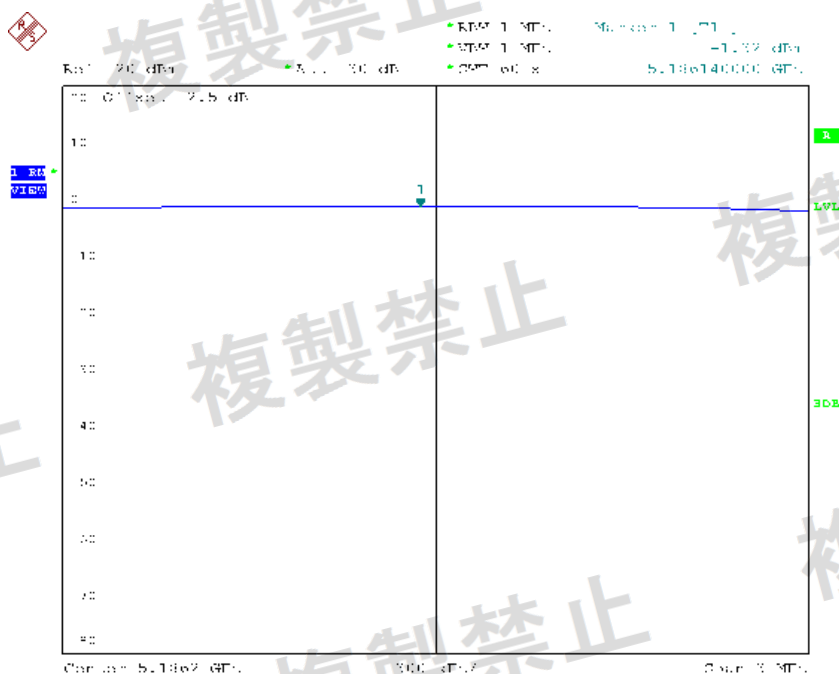


APPENDIX D - ANTENNA POWER ERROR

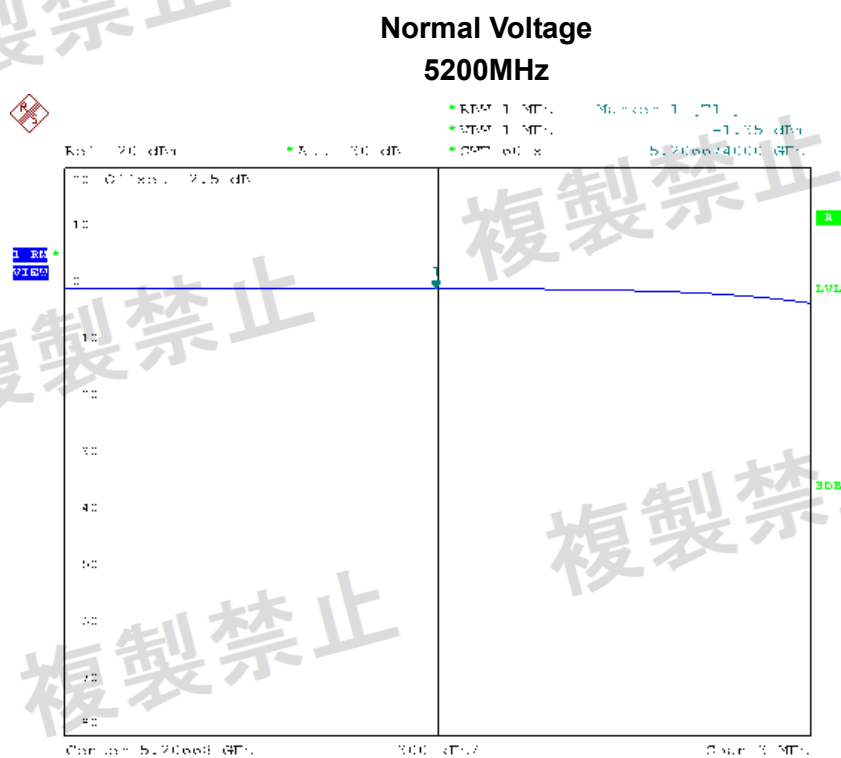
Test Mode:	802.11a
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Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5180	5200	5240	Low/Mid/High of test frequency range
Antenna Power (Conductive) (mW/MHz)	0.73790	0.73282	0.69984	Limit $\leq$ 10 mW/MHz
Antenna Power Error (mW/MHz)	-0.26210	-0.26718	-0.30016	-
Antenna Power Error (%)	-26.21	-26.72	-30.02	Limit + 20% ~ - 80%
Antenna Gain (dBi)	3.53			-
Antenna Power (EIRP) (mW/MHz)	1.66341	1.65196	1.57761	Limit $\leq$ 10mW/MHz

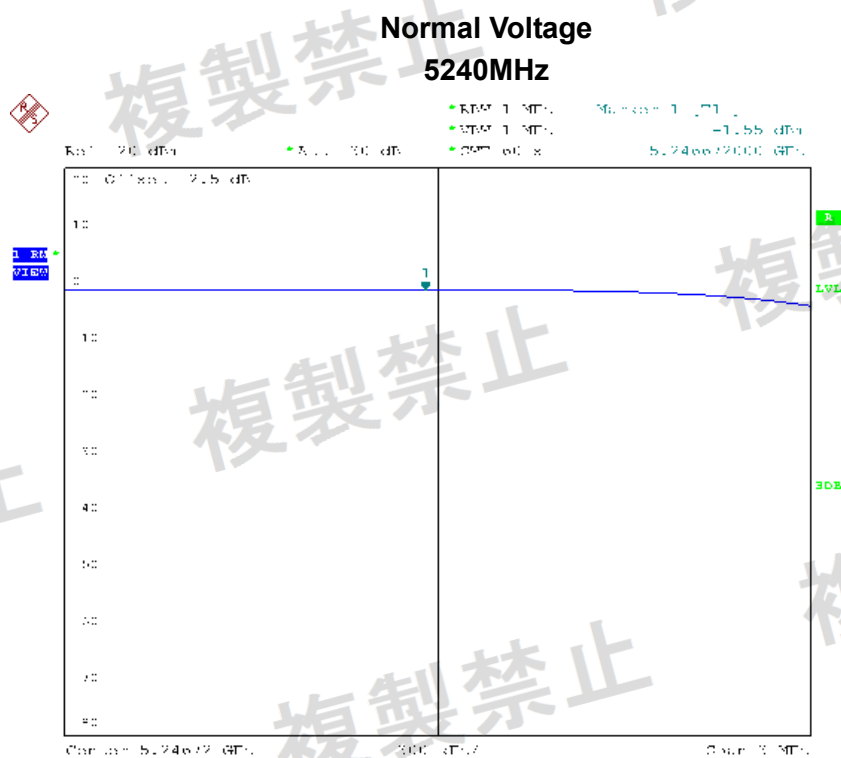
Normal Voltage 5180MHz



Date: 18.FEB.2018 10:41:39

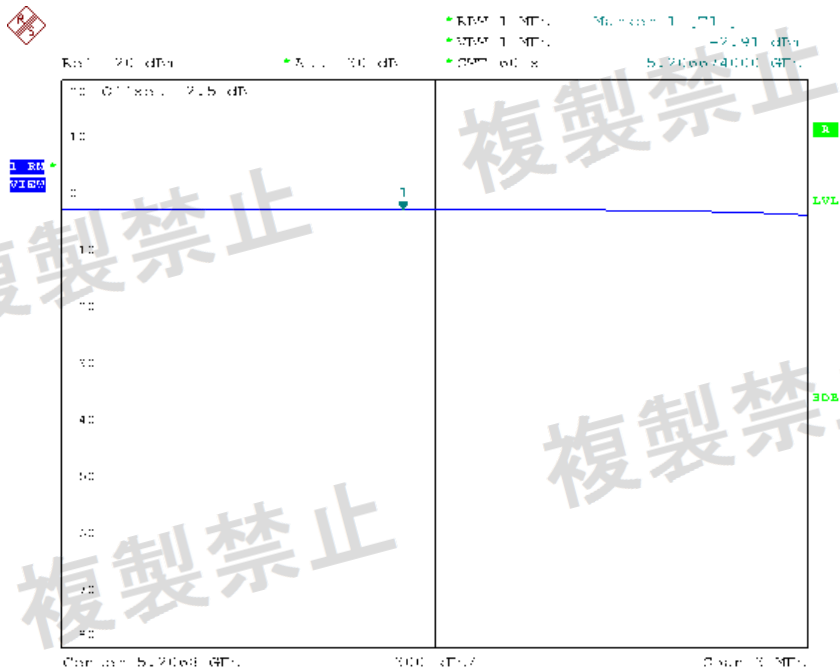


Date: 13.FEB.2018 11:05:11



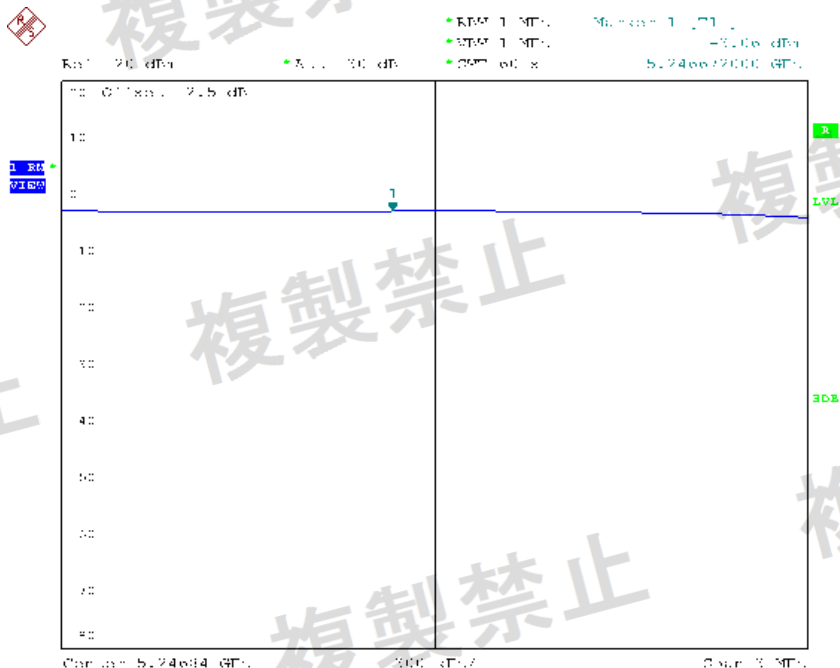
Date: 18.FEB.2018 12:37:39

Normal Voltage 5200MHz



Date: 18.FEB.2018 12:52:26

Normal Voltage 5240MHz

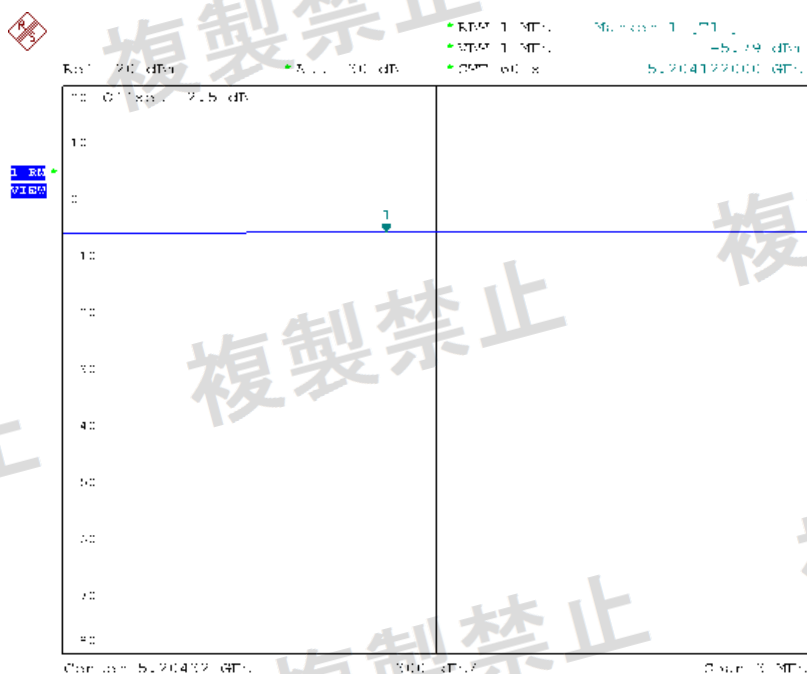


Date: 18.FEB.2018 12:57:03

Test Mode:	802.11n(HT40)
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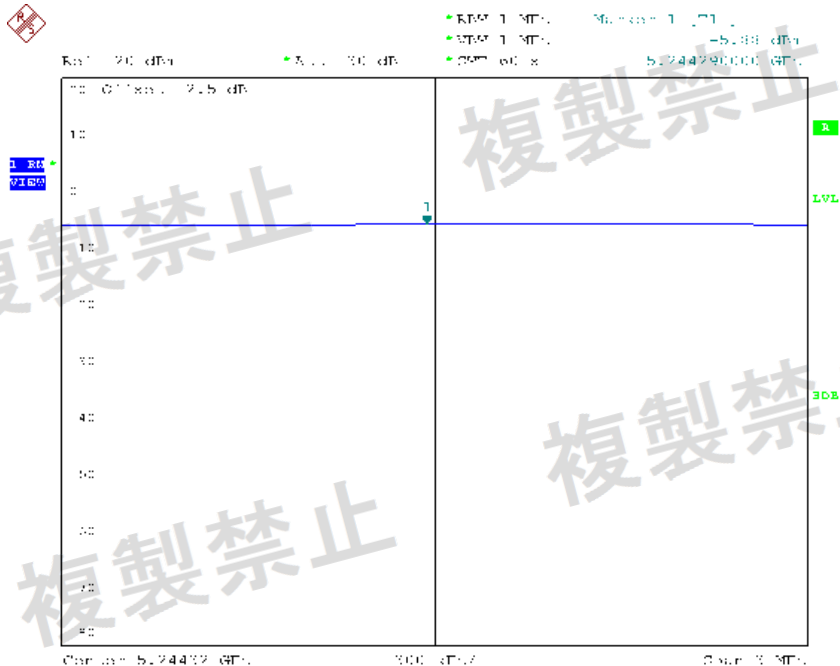
Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5190	5230	-	Low/Mid/High of test frequency range
Antenna Power (Conductive) (mW/MHz)	0.26363	0.25823	-	Limit $\leq$ 5 mW/MHz
Antenna Power Error (mW/MHz)	-0.03637	-0.04177	-	-
Antenna Power Error (%)	-12.12	-13.92	-	Limit + 20% ~ - 80%
Antenna Gain (dBi)	3.53			-
Antenna Power (EIRP) (mW/MHz)	0.59429	0.58210	-	Limit $\leq$ 5mW/MHz

Normal Voltage 5190MHz



Date: 18.FEB.2018 13:24:04

Normal Voltage 5230MHz

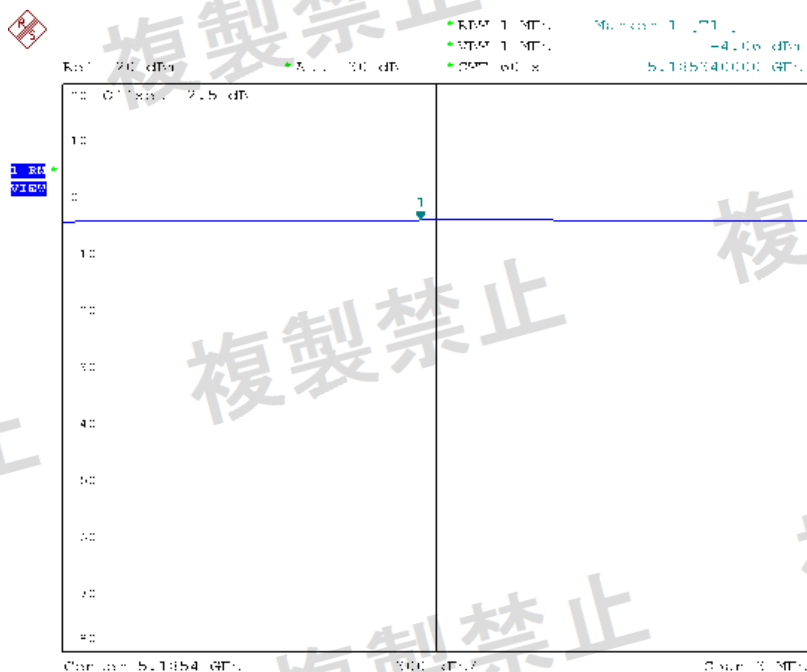


Date: 18.FEB.2018 13:28:50

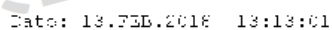
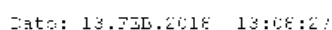
Test Mode:	802.11ac(VHT20)
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Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5180	5200	5240	Low/Mid/High of test frequency range
Antenna Power (Conductive) (mW/MHz)	0.39264	0.39537	0.41976	Limit $\leq$ 10 mW/MHz
Antenna Power Error (mW/MHz)	-0.60736	-0.60463	-0.58024	-
Antenna Power Error (%)	-60.74	-60.46	-58.02	Limit + 20% ~ - 80%
Antenna Gain (dBi)	3.53			-
Antenna Power (EIRP) (mW/MHz)	0.88512	0.89125	0.94624	Limit $\leq$ 10mW/MHz

Normal Voltage 5180MHz

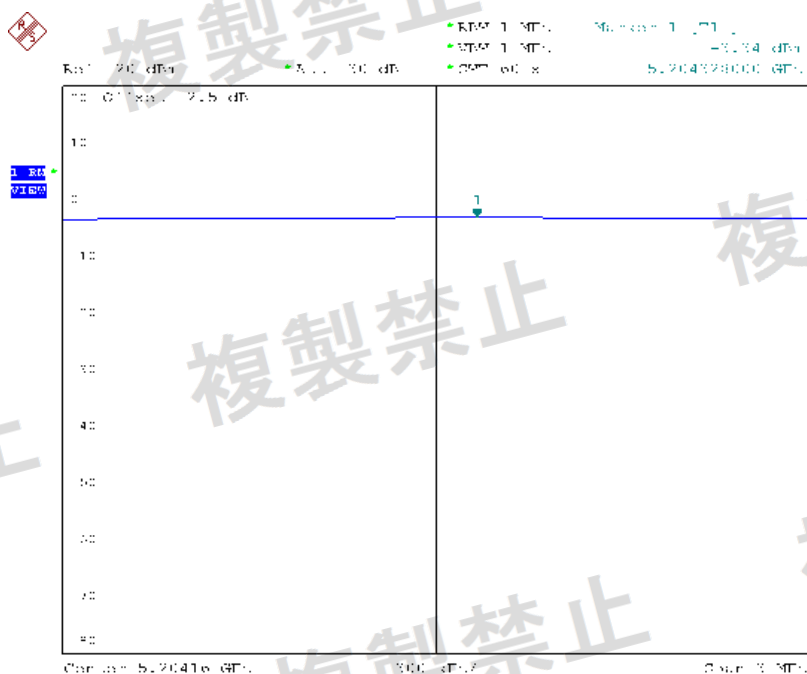


Date: 18.FEB.2018 13:02:30

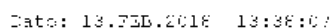


Test Mode:	802.11ac(VHT40)			
Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5190	5230	-	Low/Mid/High of test frequency range
Antenna Power (Conductive) (mW/MHz)	0.46345	0.16749	-	Limit ≤ 5 mW/MHz
Antenna Power Error (mW/MHz)	-0.03655	-0.33251	-	-
Antenna Power Error (%)	-7.31	-66.50	-	Limit + 20% ~ - 80%
Antenna Gain (dBi)	3.53			-
Antenna Power (EIRP) (mW/MHz)	1.04472	0.37757	-	Limit ≤ 5mW/MHz

Normal Voltage 5190MHz



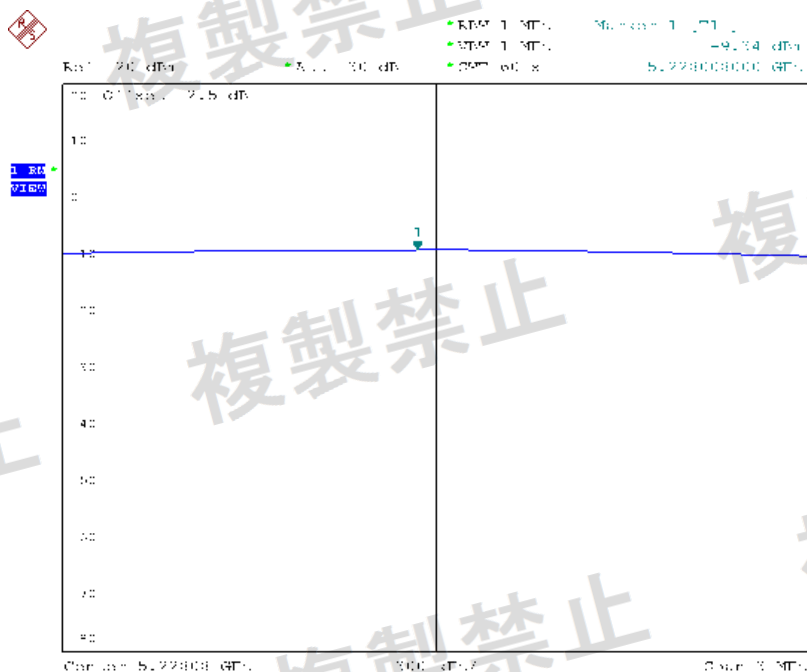
Data: 13.FEB.2018 13:33:31



Test Mode:	802.11ac(VHT80)
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Test Voltage (V)	Normal Voltage			Remarks
Test Frequency (MHz)	5210	-	-	Low/Mid/High of test frequency range
Antenna Power (Conductive) (mW/MHz)	0.11641	-	-	Limit $\leq$ 2.5 mW/MHz
Antenna Power Error (mW/MHz)	-0.18359	-	-	-
Antenna Power Error (%)	-61.20	-	-	Limit + 20% ~ - 80%
Antenna Gain (dBi)	3.53			-
Antenna Power (EIRP) (mW/MHz)	0.26242	-	-	Limit $\leq$ 2.5mW/MHz

Normal Voltage 5210MHz



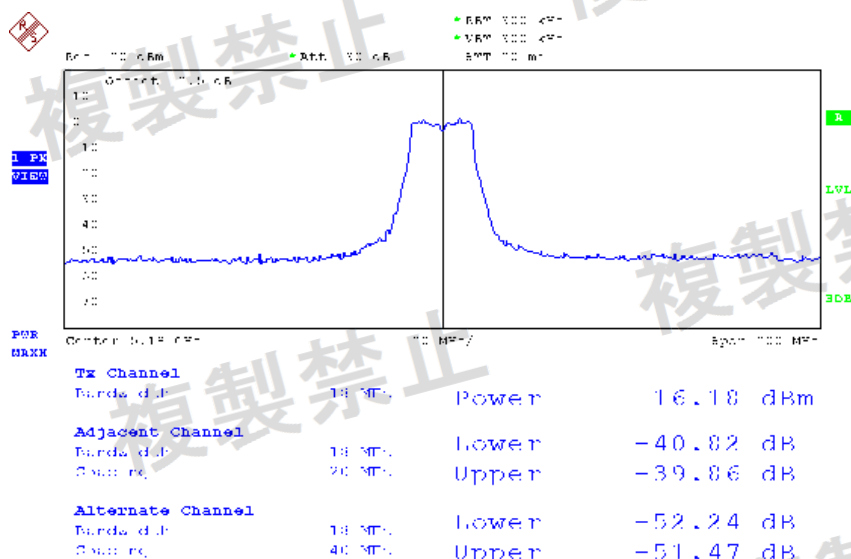
Date: 18.FEB.2018 13:52:10

APPENDIX E - ADJACENT CHANNEL POWER AND OUT OF BAND LEAKAGE POWER

Test Mode:	802.11a
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Test Voltage	V	Normal Voltage				Remarks
Test Frequency	MHz	5180	5200	5240	-	Low/Mid/High of test frequency range
Adjacent Channel Leakage Power	-20	40.82	40.11	40.58	dB	Limit $\geq$ 25dB (19MHz)
	+20	39.86	39.69	40.22	dB	Limit $\geq$ 25dB (19MHz)
	-40	52.24	52.49	51.86	dB	Limit $\geq$ 40dB (19MHz)
	+40	51.47	51.95	51.82	dB	Limit $\geq$ 40dB (19MHz)

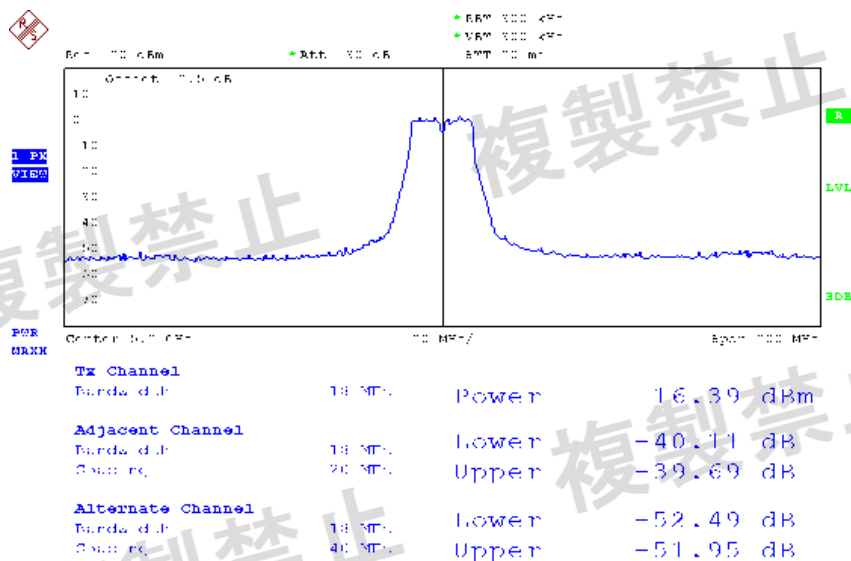
Normal Voltage 5180MHz



Date: 13.FEB.2018 10:38:15

Normal Voltage

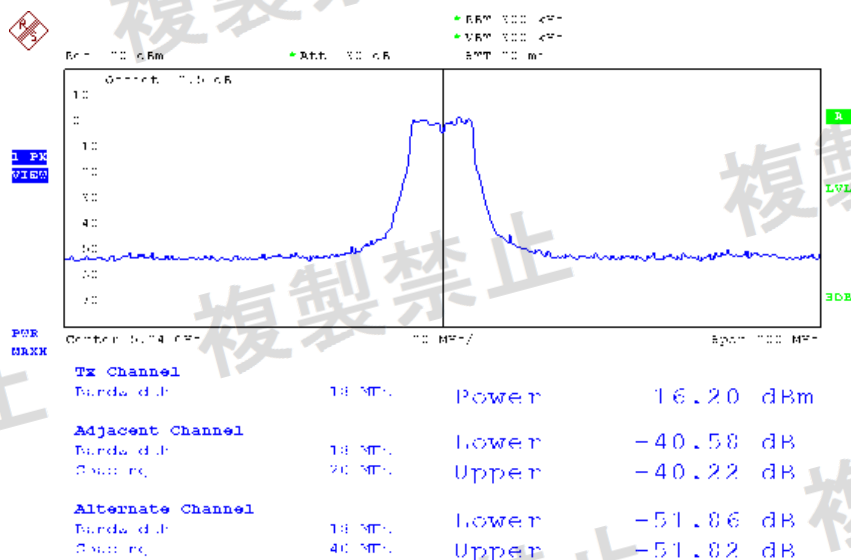
5200MHz



Date: 13.FEB.2016 11:01:54

Normal Voltage

5240MHz

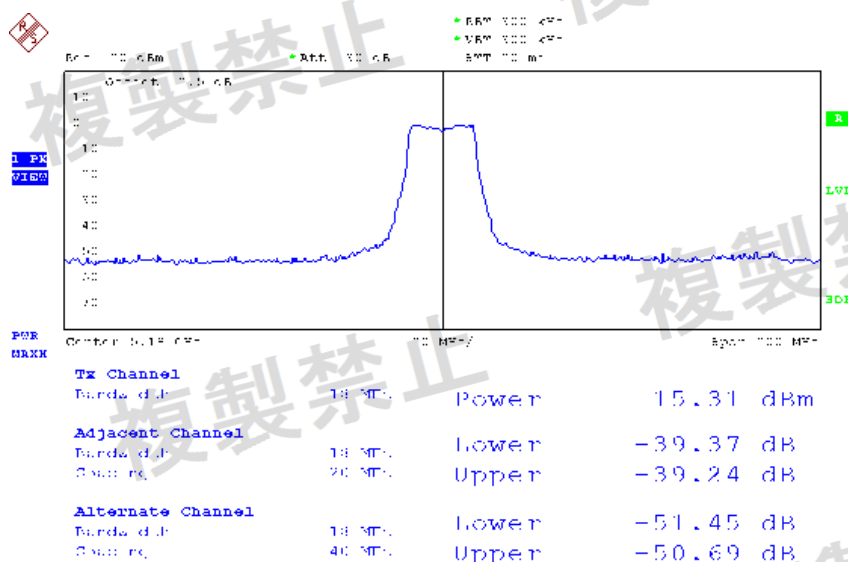


Date: 13.FEB.2016 12:34:21

Test Mode:	802.11n(HT20)
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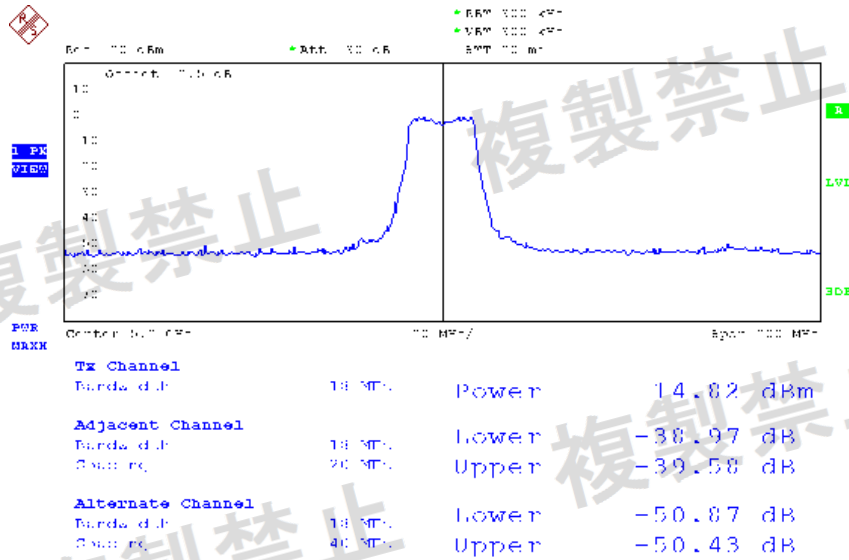
Test Voltage	V	Normal Voltage				Remarks
Test Frequency	MHz	5180	5200	5240	-	Low/Mid/High of test frequency range
Adjacent Channel Leakage Power	-20	39.37	38.97	38.76	dB	Limit $\geq$ 25dB (19MHz)
	+20	39.24	39.58	39.57	dB	Limit $\geq$ 25dB (19MHz)
	-40	51.45	50.87	50.48	dB	Limit $\geq$ 40dB (19MHz)
	+40	50.69	50.43	50.48	dB	Limit $\geq$ 40dB (19MHz)

Normal Voltage 5180MHz



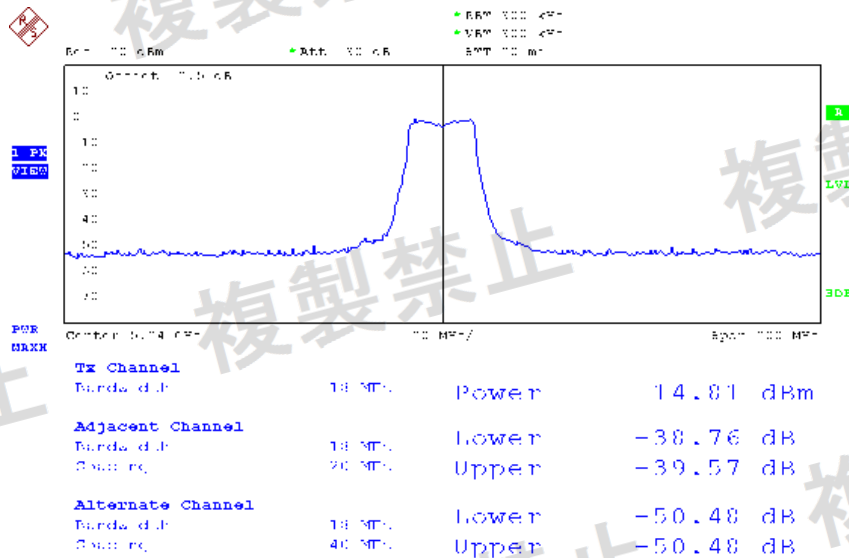
Date: 13.FEB.2018 12:42:30

Normal Voltage 5200MHz



Date: 13.FEB.2016 12:49:09

Normal Voltage 5240MHz

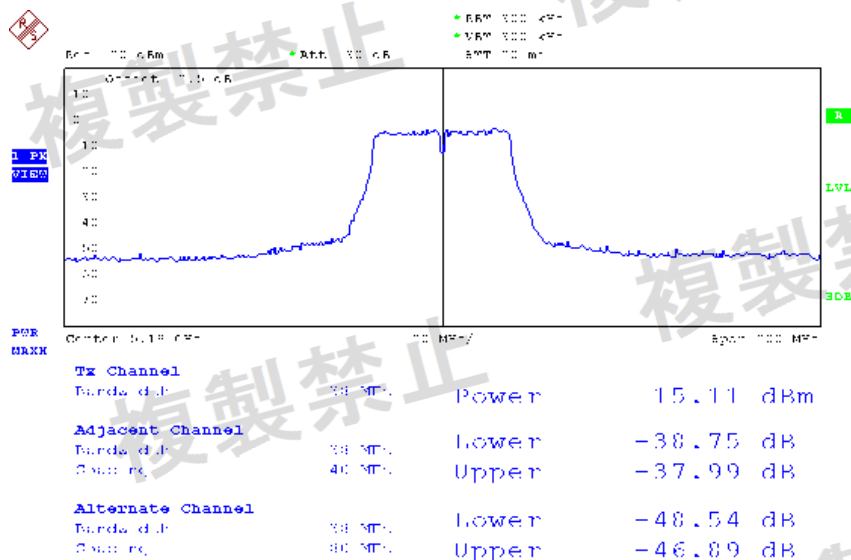


Date: 13.FEB.2016 12:53:45

Test Mode:	802.11n(HT40)
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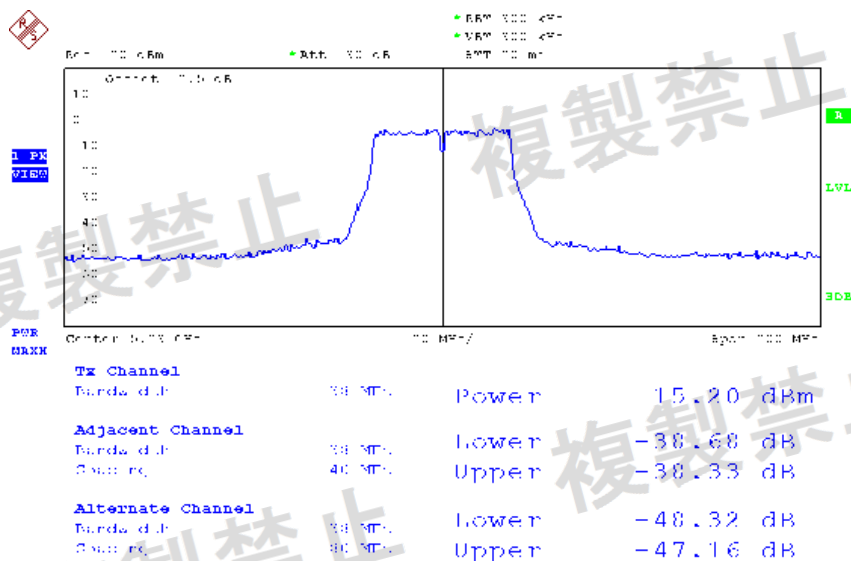
Test Voltage	V	Normal Voltage				Remarks
Test Frequency	MHz	5190	5230	-	-	Low/Mid/High of test frequency range
Adjacent Channel Leakage Power	-40	38.75	38.68	-	dB	Limit $\geq$ 25dB (38MHz)
	+40	37.99	38.33	-	dB	Limit $\geq$ 25dB (38MHz)
	-80	48.54	48.32	-	dB	Limit $\geq$ 40dB (38MHz)
	+80	46.89	47.16	-	dB	Limit $\geq$ 40dB (38MHz)

Normal Voltage 5190MHz



Date: 13.FEB.2018 13:20:45

Normal Voltage 5230MHz

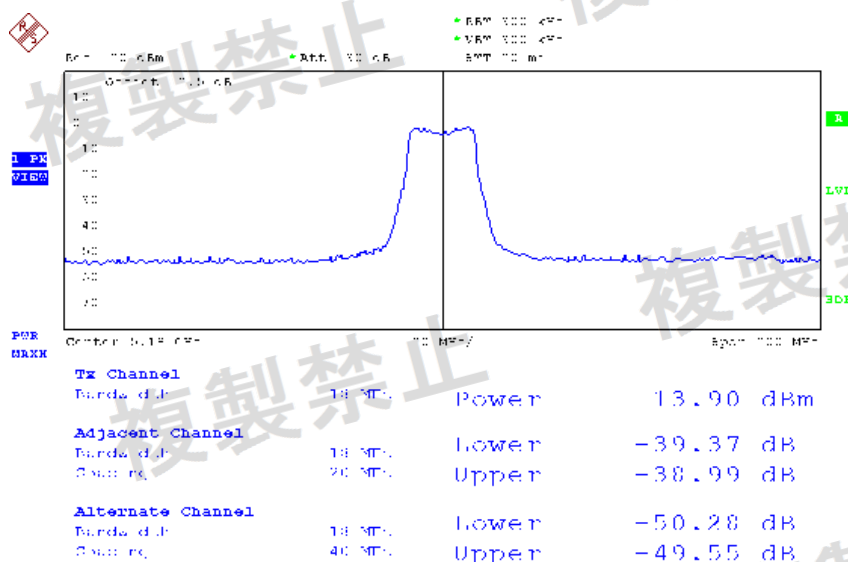


Date: 13.FEB.2016 13:25:26

Test Mode:	802.11ac(VHT20)
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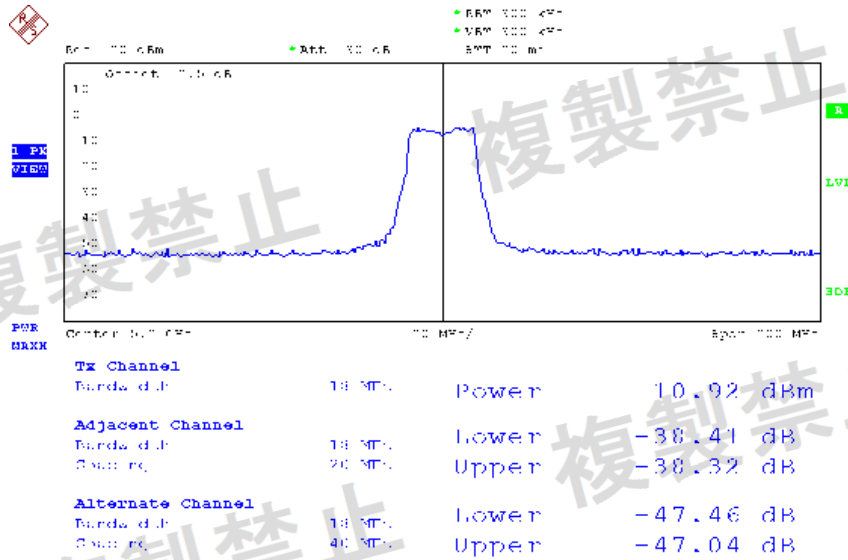
Test Voltage	V	Normal Voltage				Remarks
Test Frequency	MHz	5180	5200	5240	-	Low/Mid/High of test frequency range
Adjacent Channel Leakage Power	-20	39.37	38.41	38.93	dB	Limit $\geq$ 25dB (19MHz)
	+20	38.99	38.32	38.37	dB	Limit $\geq$ 25dB (19MHz)
	-40	50.28	47.46	52.57	dB	Limit $\geq$ 40dB (19MHz)
	+40	49.55	47.04	52.36	dB	Limit $\geq$ 40dB (19MHz)

Normal Voltage 5180MHz



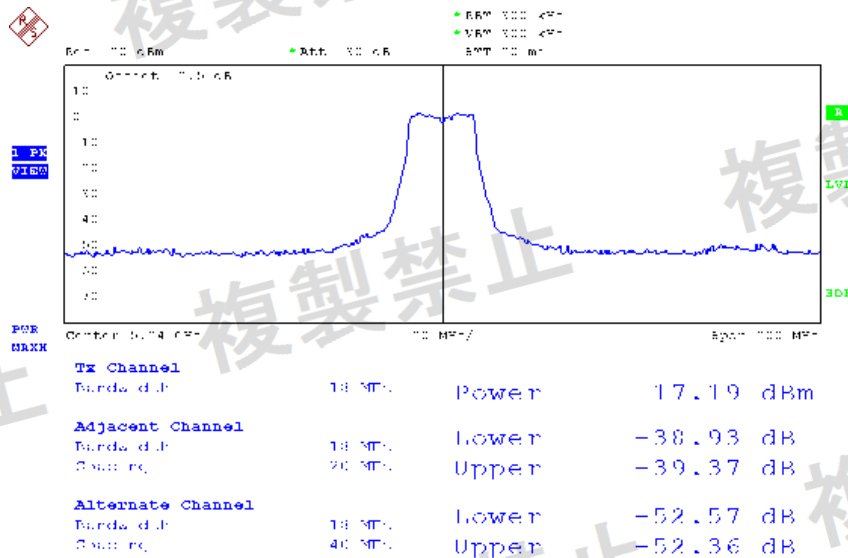
Date: 13.FEB.2018 12:59:15

Normal Voltage 5200MHz



Date: 31.MAR.2016 15:26:13

Normal Voltage 5240MHz

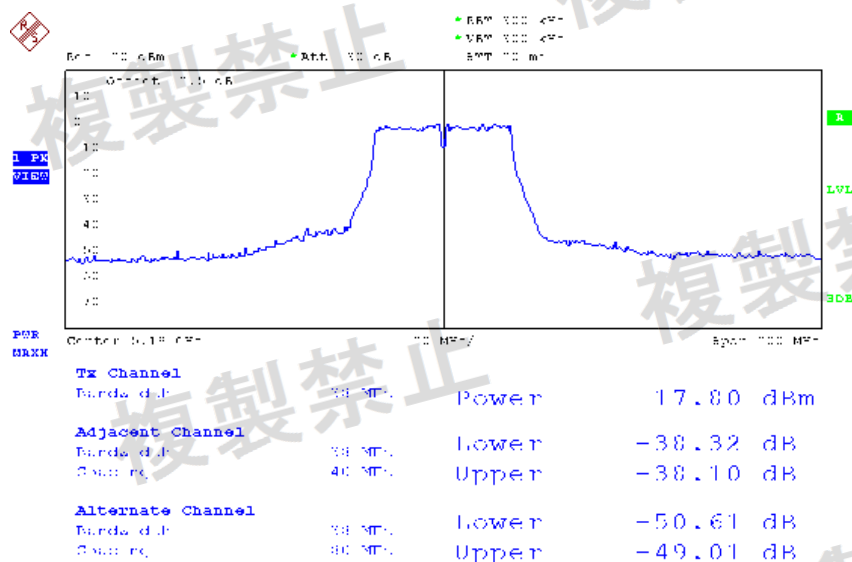


Date: 13.FEB.2016 15:04:48

Test Mode:	802.11ac(VHT40)
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Test Voltage	V	Normal Voltage				Remarks
Test Frequency	MHz	5190	5230	-	-	Low/Mid/High of test frequency range
Adjacent Channel Leakage Power	-40	38.12	38.38	-	dB	Limit $\geq$ 25dB (38MHz)
	+40	38.10	37.75	-	dB	Limit $\geq$ 25dB (38MHz)
	-80	50.61	46.24	-	dB	Limit $\geq$ 40dB (38MHz)
	+80	49.01	45.35	-	dB	Limit $\geq$ 40dB (38MHz)

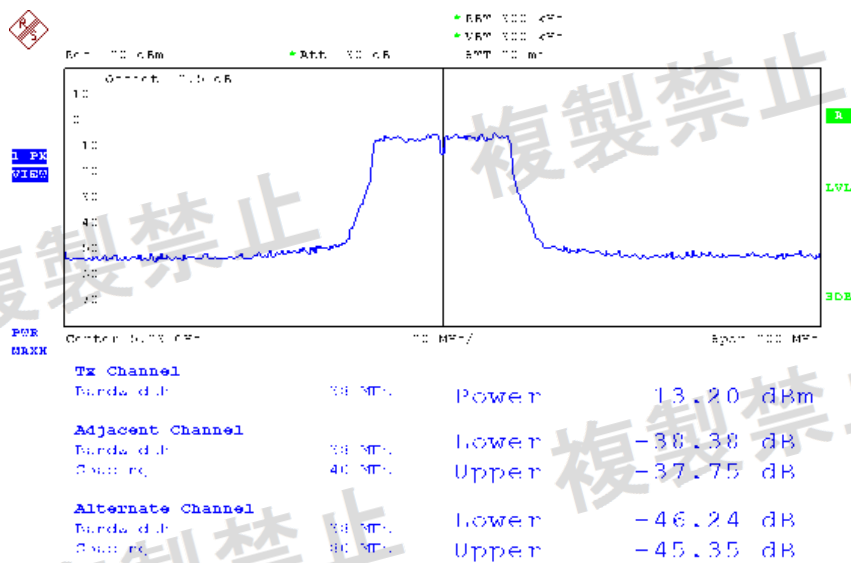
Normal Voltage 5190MHz



Date: 13.FEB.2018 13:30:10

Normal Voltage

5230MHz

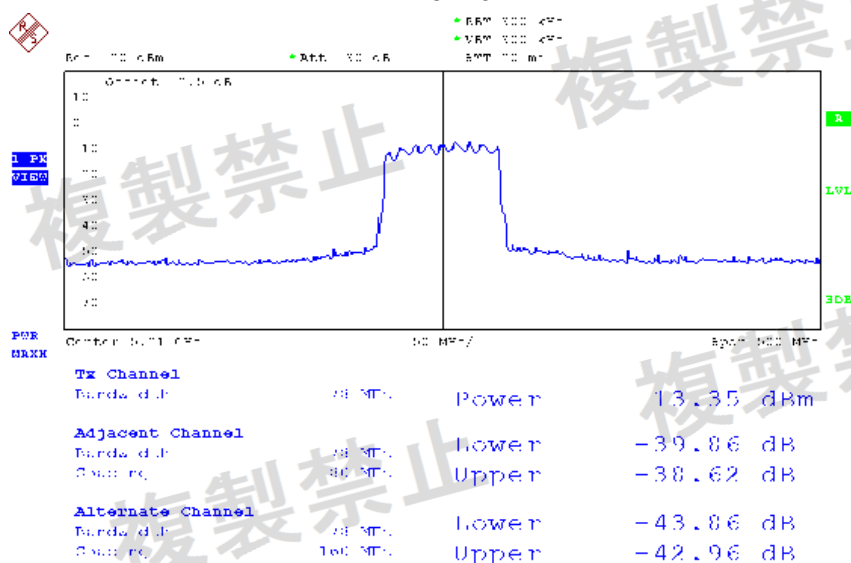


Date: 13.FEB.2016 13:34:42

Test Mode:	802.11ac(VHT80)
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Test Voltage	V	Normal Voltage				Remarks
Test Frequency	MHz	5210	-	-	-	Low/Mid/Low of test frequency range
Adjacent Channel	-80	39.86	-	-	dB	Limit $\geq$ 25dB (78MHz)
Leakage Power	+80	38.62	-	-	dB	Limit $\geq$ 25dB (78MHz)

Normal Voltage 5210MHz

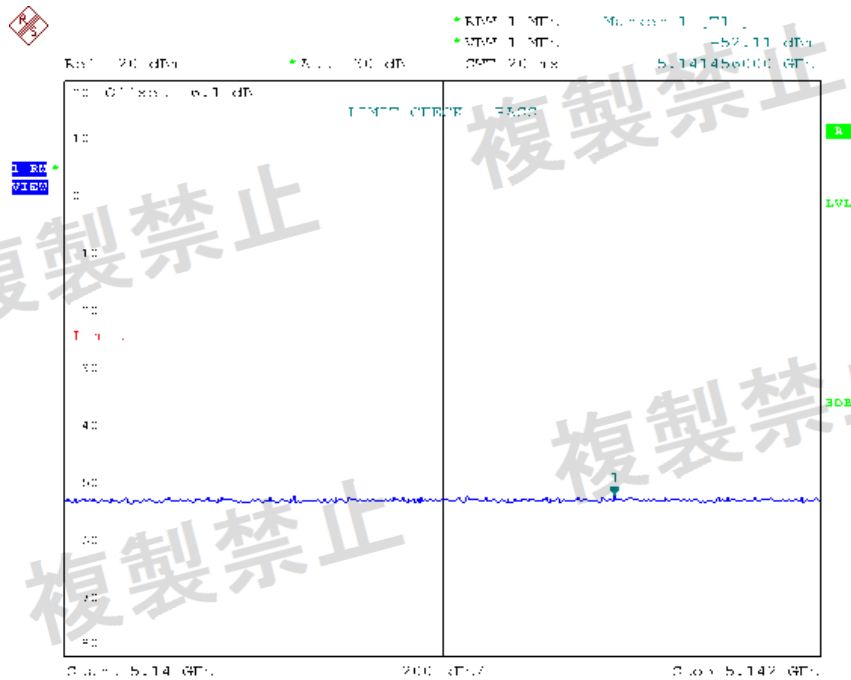


Date: 13.FEB.2016 13:46:49

Test Mode: 802.11a

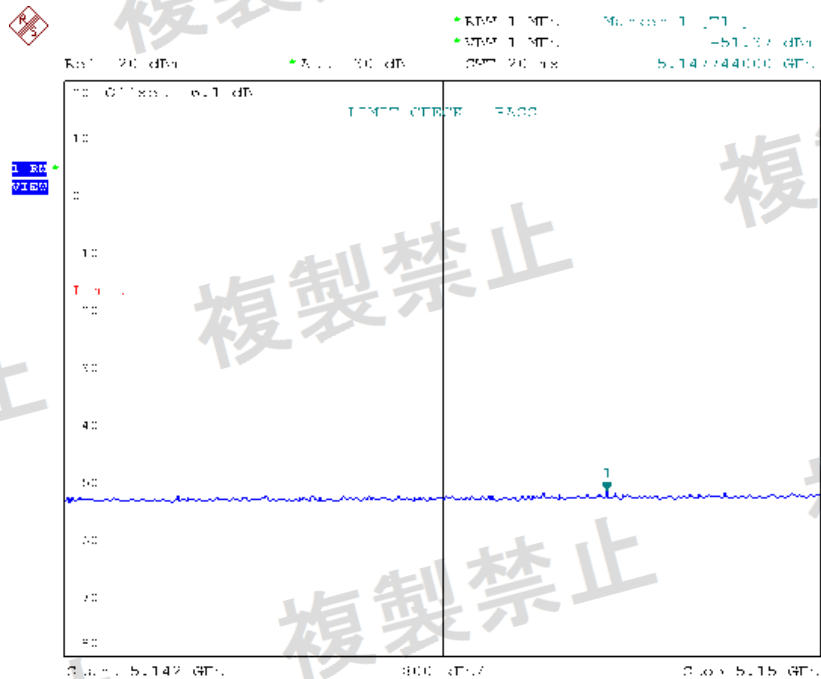
Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5180	5200	5240	Low/Mid/High of test frequency range
Out-Band Leakage Power (EIRP) (Max value in the band)	MHz	5141.46	5141.64	5141.75	5140MHz~5142MHz
	dBm/MHz	-52.11	-52.23	-52.16	Limit $\leq$ 2.5 μ W/MHz
	μ W/MHz	0.00615	0.00598	0.00608	(-26 dBm/MHz)
	MHz	5147.74	5148.13	5147.54	5142MHz~5150MHz
	dBm/MHz	-51.37	-52.25	-51.77	Limit $\leq$ 15 μ W/MHz
	μ W/MHz	0.00729	0.00596	0.00665	(-18.24 dBm/MHz)
	MHz	5251.00	5250.99	5250.99	5250MHz~5251MHz
	dBm/MHz	-52.56	-52.29	-26.22	Limit $\leq$ 1000 ~ 100 μ W/MHz
	μ W/MHz	0.00555	0.00590	2.38781	(0 ~ -10 dBm/MHz)
	MHz	5259.84	5259.78	5251.07	5251MHz~5260MHz
	dBm/MHz	-51.72	-52.00	-25.96	Limit $\leq$ 100 ~ 15.8 μ W/MHz
	μ W/MHz	0.00673	0.00631	2.53513	(-10 ~ -18 dBm/MHz)
	MHz	5266.42	5266.19	5266.62	5260MHz~5266.7MHz
	dBm/MHz	-51.45	-51.82	-50.30	Limit $\leq$ 15.8 ~ 2.5 μ W/MHz
	μ W/MHz	0.00716	0.00658	0.00933	(-18 ~ -26 dBm/MHz)
	MHz	5340.41	5360.00	5267.45	5266.7MHz~5360MHz
	dBm/MHz	-51.16	-50.88	-50.49	Limit $\leq$ 2.5 μ W/MHz
	μ W/MHz	0.00766	0.00817	0.00893	(-26 dBm/MHz)

Normal Voltage
5180MHz (5140 MHz $\leq f \leq$ 5142 MHz)



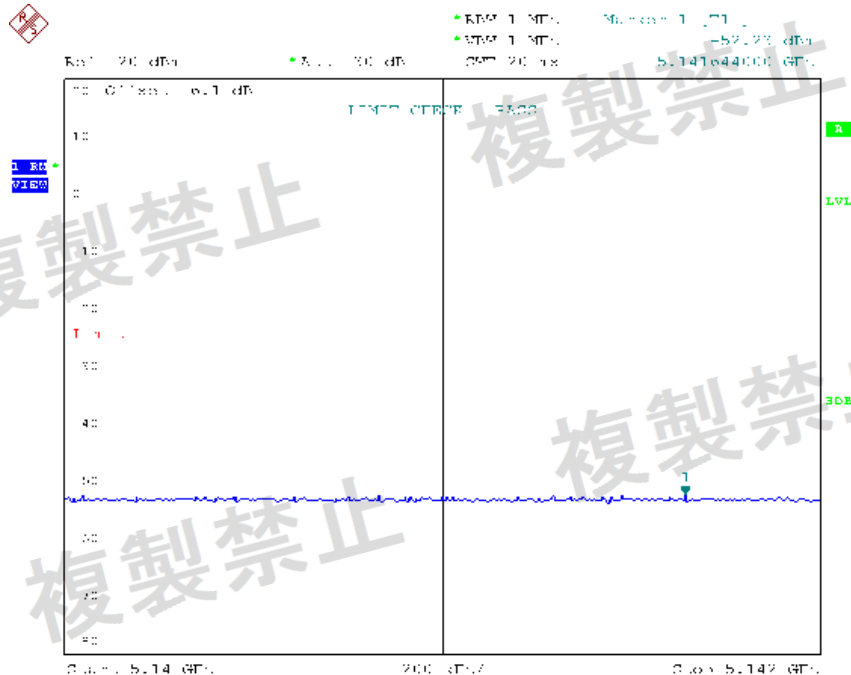
Date: 31.MAR.2016 14:42:21

Normal Voltage
5180MHz (5142 MHz $< f \leq$ 5150 MHz)



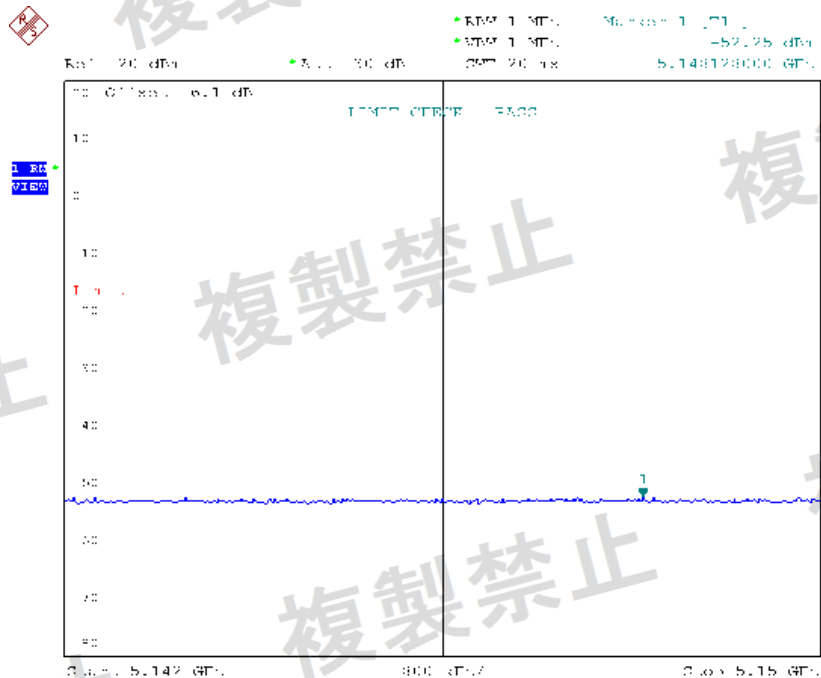
Date: 31.MAR.2016 14:42:27

Normal Voltage 5200MHz (5140 MHz $\leq$ f $\leq$ 5142 MHz)



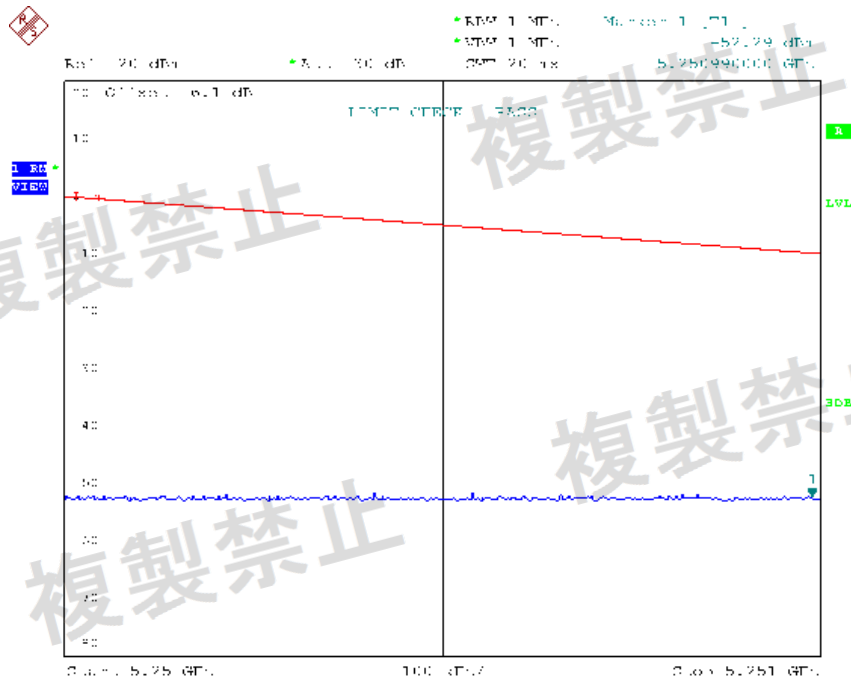
Date: 31.MAR.2018 14:44:08

Normal Voltage 5200MHz (5142 MHz < f $\leq$ 5150 MHz)



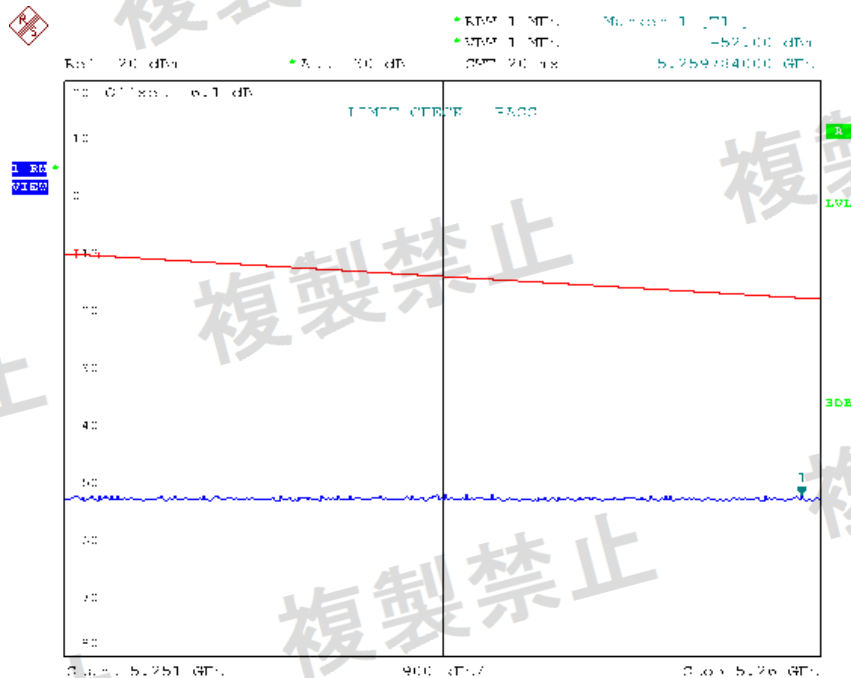
Date: 31.MAR.2018 14:44:14

Normal Voltage 5200MHz (5250 MHz $\leq$ f < 5251 MHz)

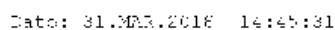
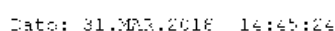


Date: 31.MAR.2016 14:44:37

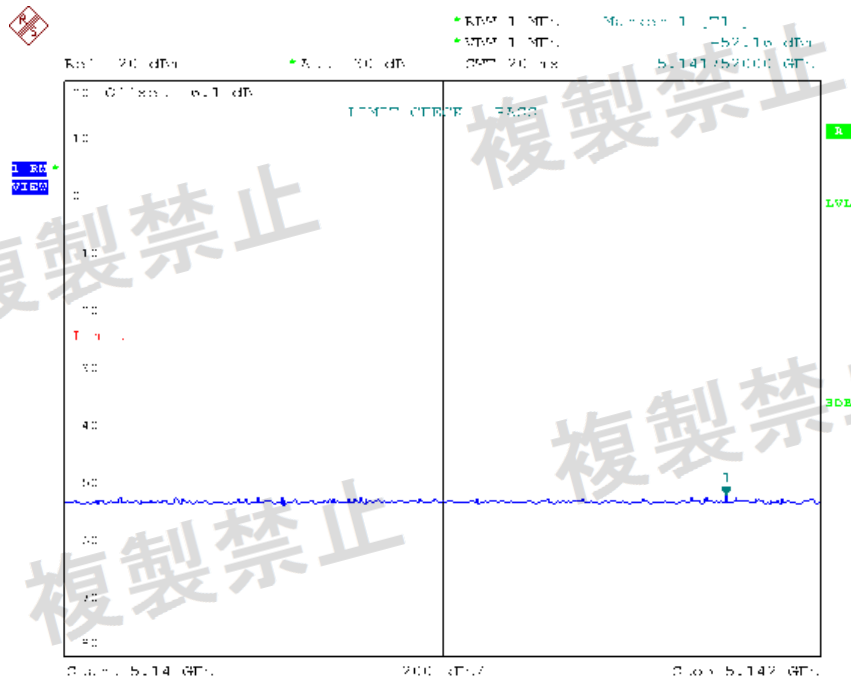
Normal Voltage 5200MHz (5251 MHz $\leq$ f < 5260 MHz)



Date: 31.MAR.2016 14:45:01

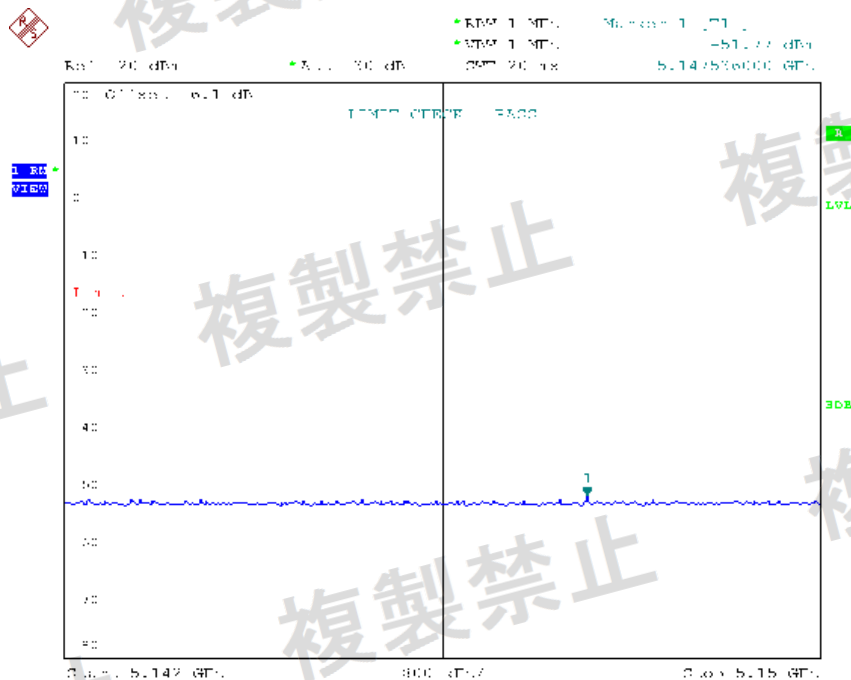


Normal Voltage 5240MHz (5140 MHz $\leq$ f $\leq$ 5142 MHz)



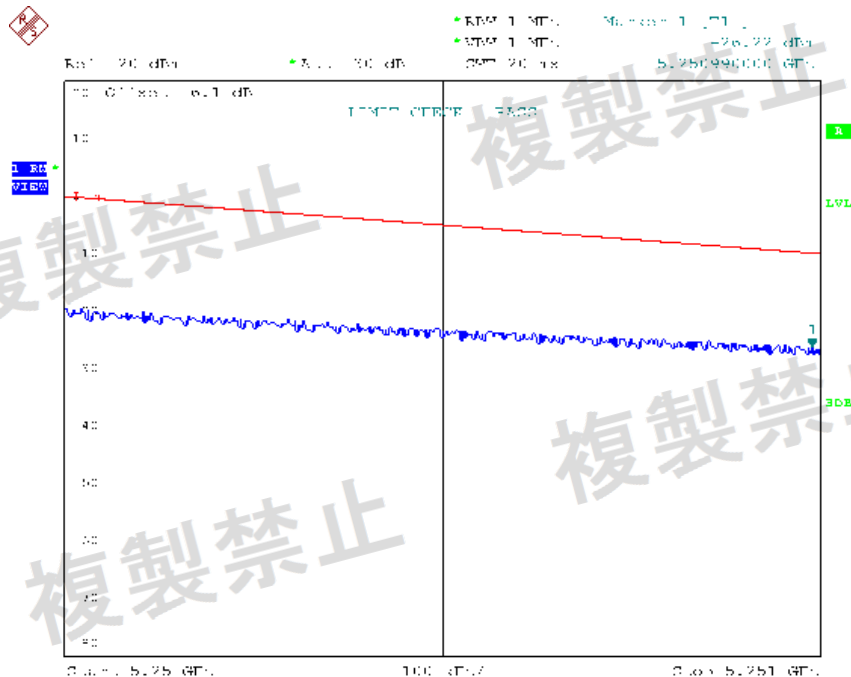
Date: 31.MAR.2016 14:45:46

Normal Voltage 5240MHz (5142 MHz < f $\leq$ 5150 MHz)



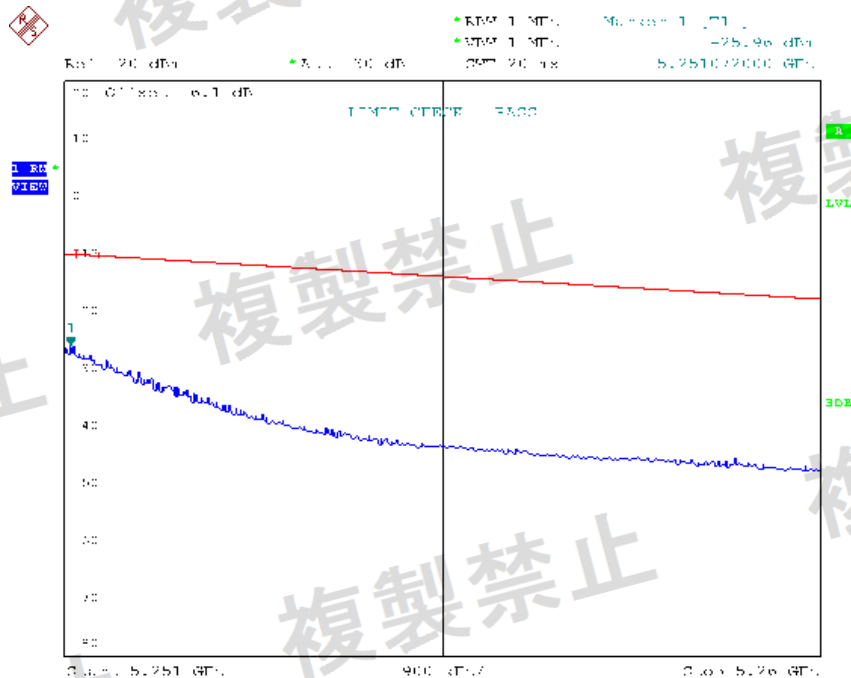
Date: 31.MAR.2016 14:45:54

Normal Voltage 5240MHz (5250 MHz $\leq$ f < 5251 MHz)



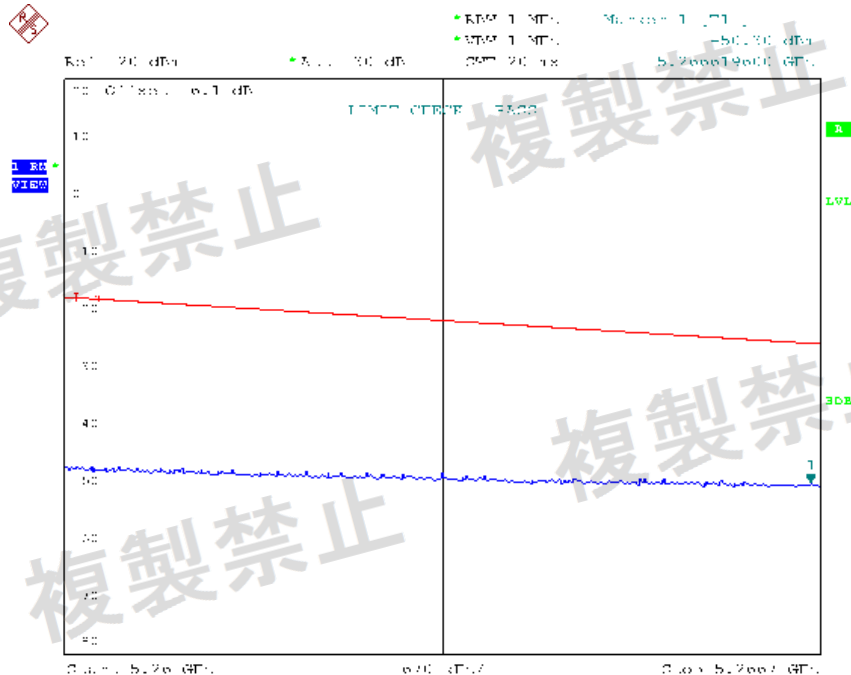
Date: 31.MAR.2018 14:46:17

Normal Voltage 5240MHz (5251 MHz $\leq$ f < 5260 MHz)



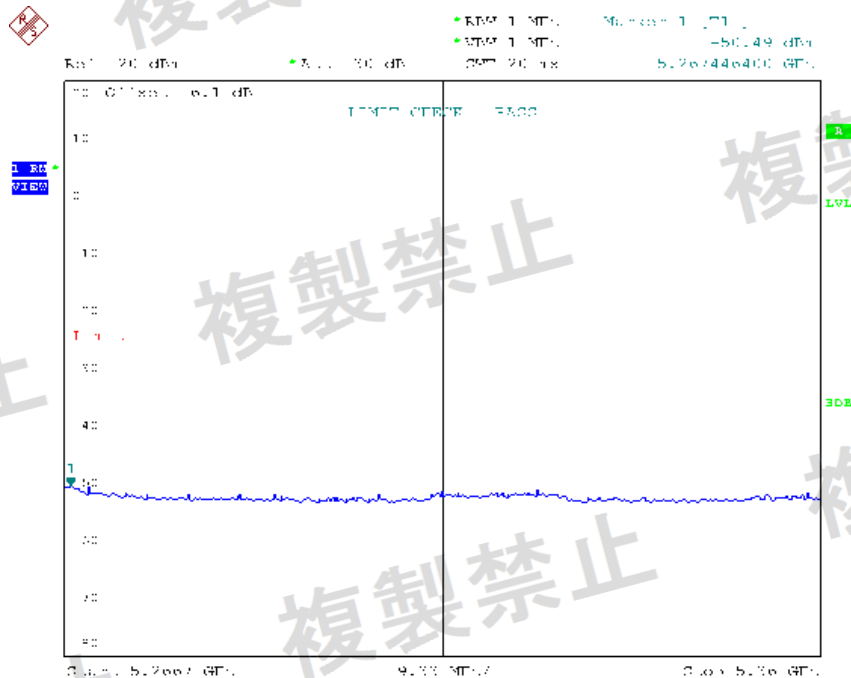
Date: 31.MAR.2018 14:46:41

Normal Voltage 5240MHz (5260 MHz $\leq$ f < 5266.7 MHz)



Date: 31.MAR.2016 14:47:05

Normal Voltage 5240MHz (5266.7 MHz $\leq$ f $\leq$ 5360 MHz)

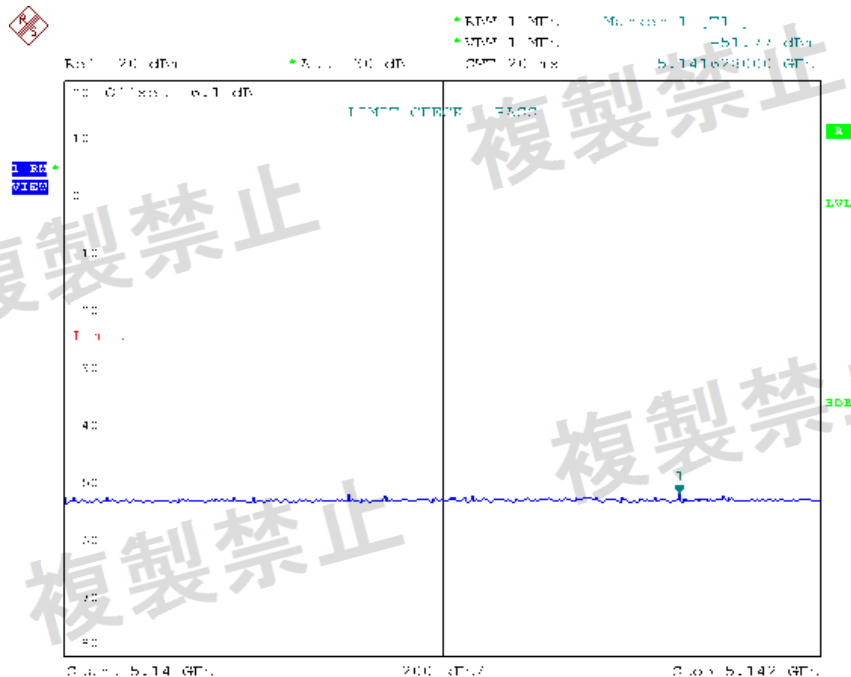


Date: 31.MAR.2016 14:47:11

Test Mode:	802.11n(HT20)
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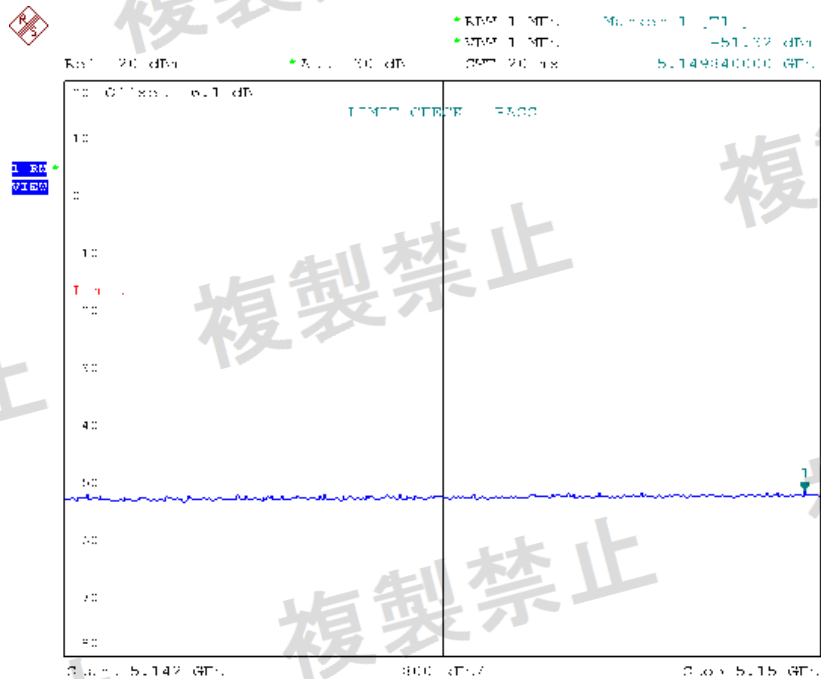
Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5180	5200	5240	Low/Mid/High of test frequency range
Out-Band Leackage Power (EIRP) (Max value in the band)	MHz	5141.63	5141.95	5141.61	5140MHz~5142MHz
	dBm/MHz	-51.77	-52.20	-52.42	Limit $\leq$ 2.5 μ W/MHz
	μ W/MHz	0.00665	0.00603	0.00573	(-26 dBm/MHz)
	MHz	5149.84	5144.05	5147.25	5142MHz~5150MHz
	dBm/MHz	-51.32	-51.98	-52.37	Limit $\leq$ 15 μ W/MHz
	μ W/MHz	0.00738	0.00634	0.00579	(-18.24 dBm/MHz)
	MHz	5250.99	5250.99	5250.01	5250MHz~5251MHz
	dBm/MHz	-52.18	-52.22	-15.76	Limit $\leq$ 1000 ~ 100 μ W/MHz
	μ W/MHz	0.00757	0.00612	2.53513	(0 ~ -10 dBm/MHz)
	MHz	5259.84	5259.93	5251.02	5251MHz~5260MHz
	dBm/MHz	-51.21	-52.13	-25.96	Limit $\leq$ 100 ~ 15.8 μ W/MHz
	μ W/MHz	0.00757	0.00612	2.53513	(-10 ~ -18 dBm/MHz)
	MHz	5266.54	5266.69	5266.69	5260MHz~5266.7MHz
	dBm/MHz	-51.67	-52.24	-49.87	Limit $\leq$ 15.8 ~ 2.5 μ W/MHz
	μ W/MHz	0.00681	0.00597	0.01030	(-18 ~ -26 dBm/MHz)
	MHz	5340.41	5356.45	5268.38	5266.7MHz~5360MHz
	dBm/MHz	-51.34	-51.34	-50.37	Limit $\leq$ 2.5 μ W/MHz
	μ W/MHz	0.00735	0.00735	0.00918	(-26 dBm/MHz)

Normal Voltage 5180MHz (5140 MHz ≤ f ≤ 5142 MHz)



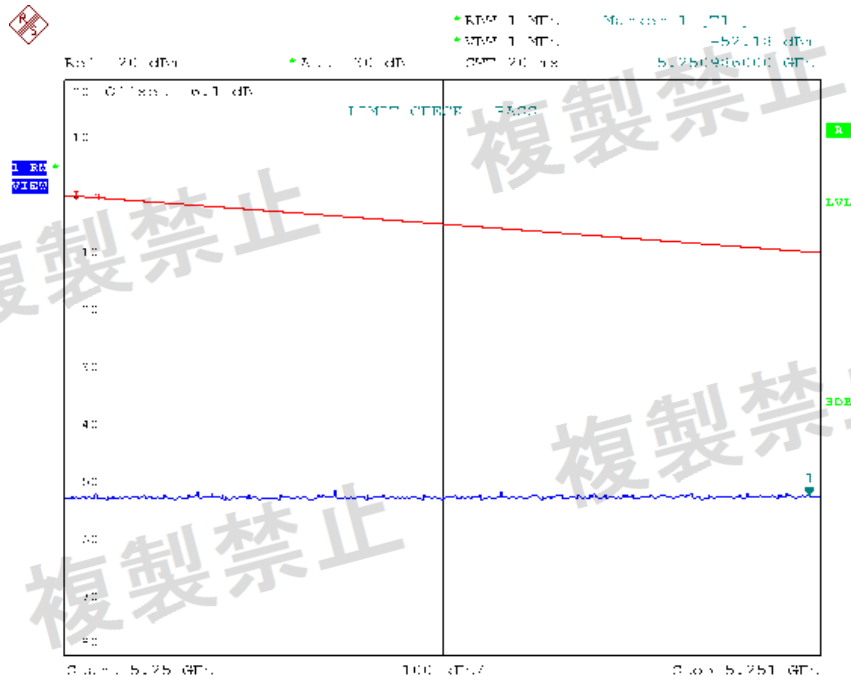
Date: 31.MAR.2016 14:48:29

Normal Voltage 5180MHz (5142 MHz < f ≤ 5150 MHz)



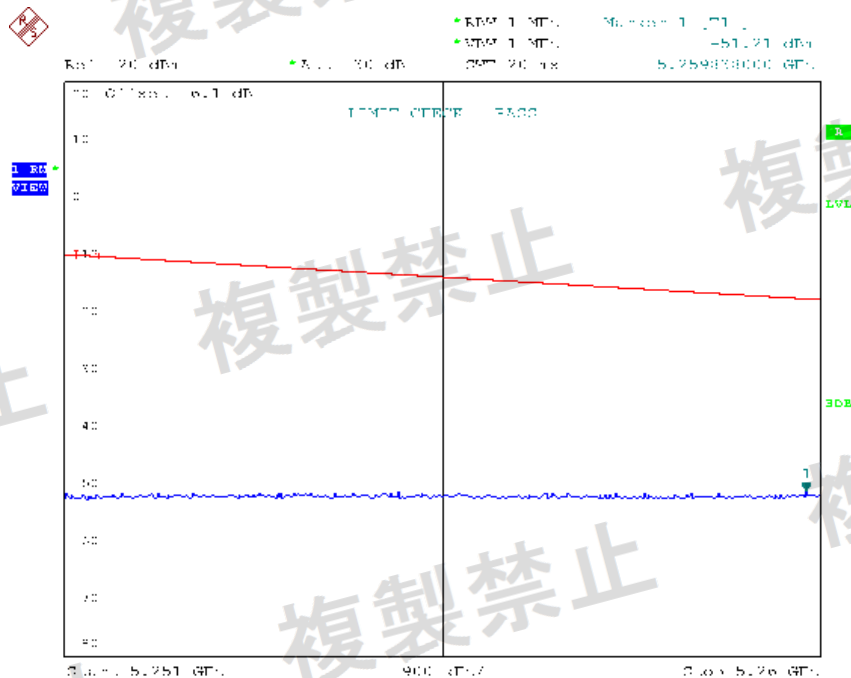
Date: 31.MAR.2016 14:48:35

Normal Voltage 5180MHz (5250 MHz ≤ f < 5251 MHz)

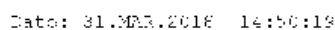
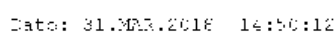


Date: 31.MAR.2016 14:48:59

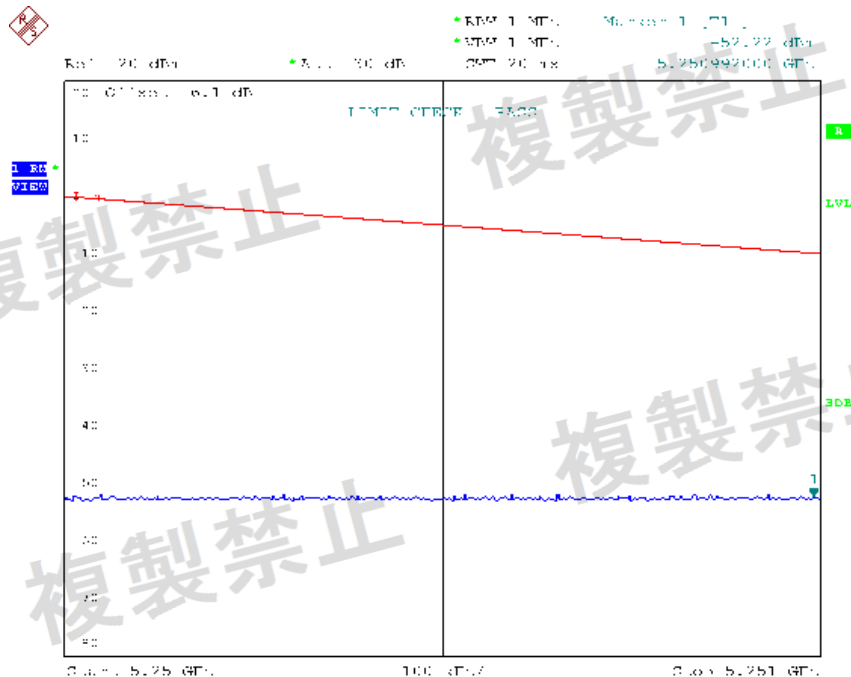
Normal Voltage 5180MHz (5251 MHz ≤ f < 5260 MHz)



Date: 31.MAR.2016 14:49:23

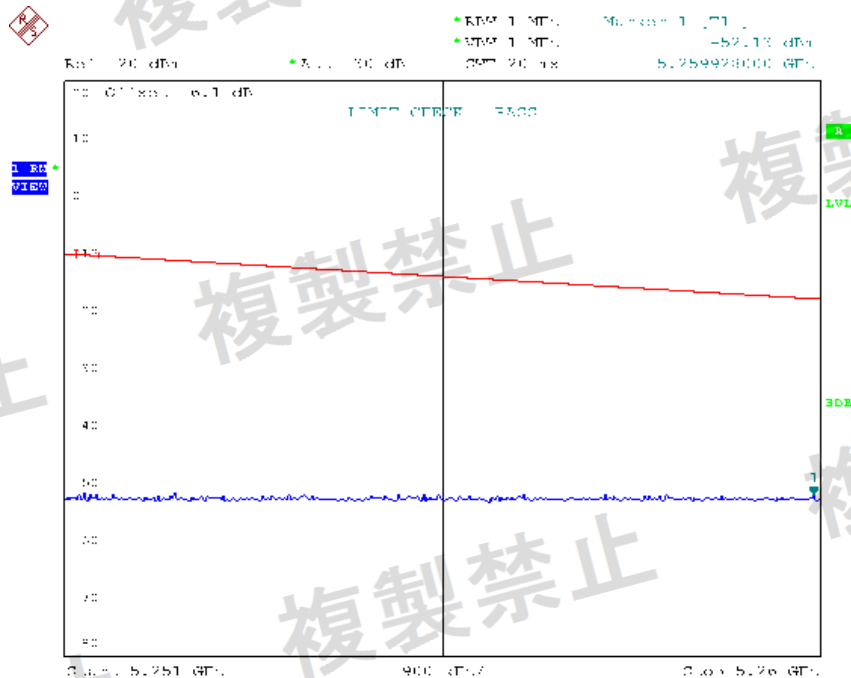


Normal Voltage 5200MHz (5250 MHz $\leq$ f < 5251 MHz)



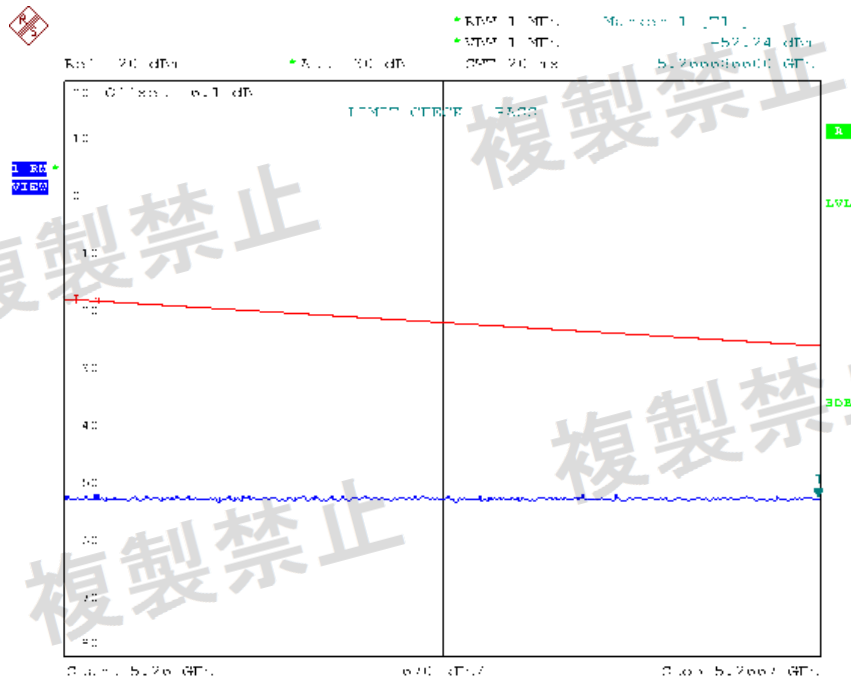
Date: 31.MAR.2016 14:50:41

Normal Voltage 5200MHz (5251 MHz $\leq$ f < 5260 MHz)



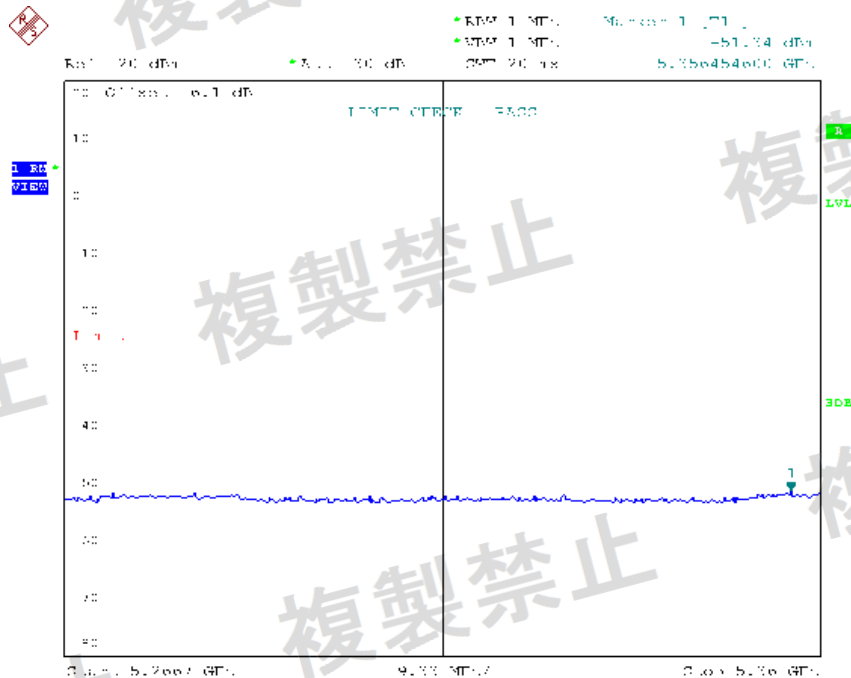
Date: 31.MAR.2016 14:51:05

Normal Voltage 5200MHz (5260 MHz $\leq$ f < 5266.7 MHz)

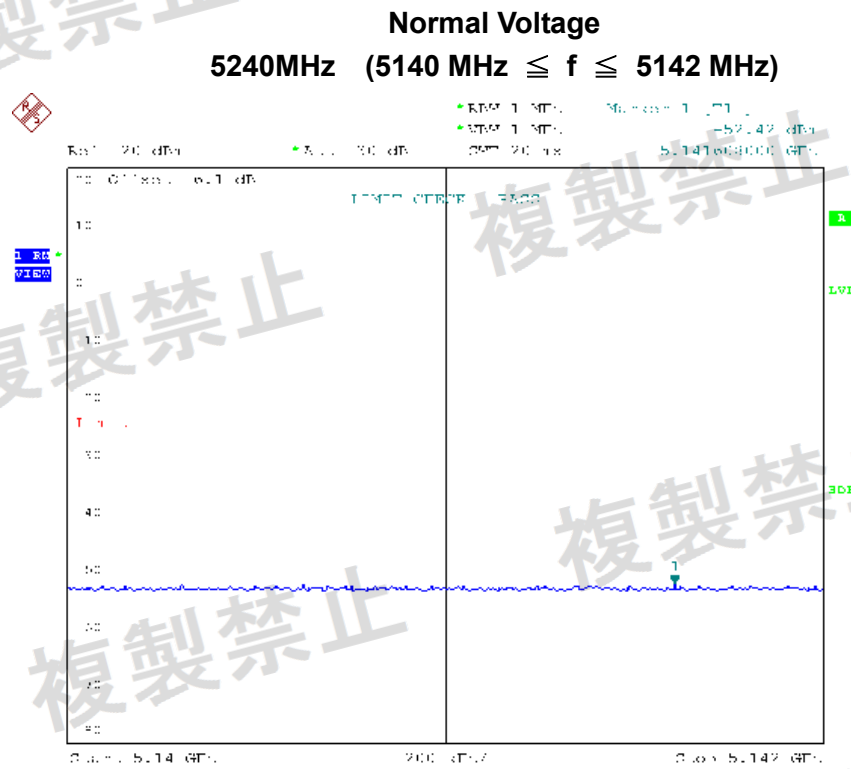


Date: 31.MAR.2016 14:51:28

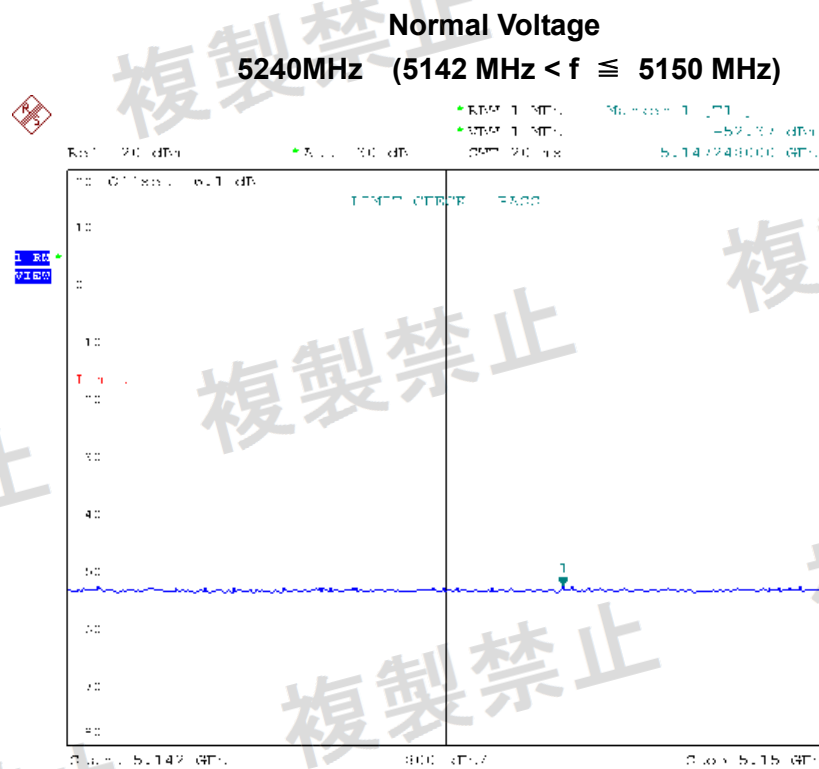
Normal Voltage 5200MHz (5266.7 MHz $\leq$ f $\leq$ 5360 MHz)



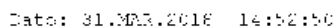
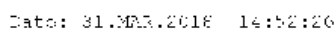
Date: 31.MAR.2016 14:51:35

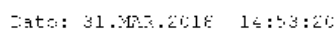
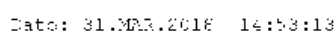


Date: 31.MAR.2018 14:51:56



Date: 31.MAR.2018 14:52:03

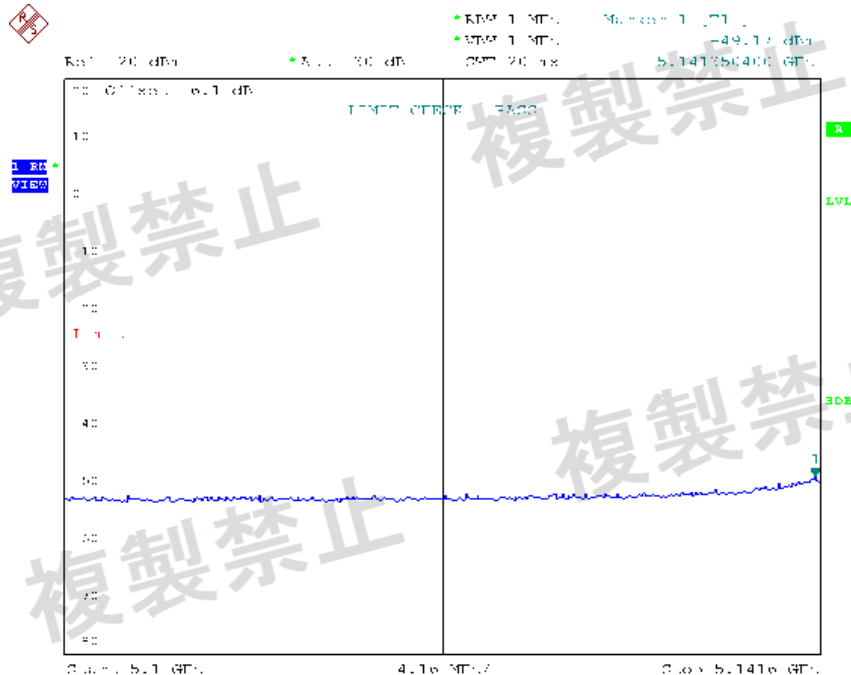




Test Mode:	802.11n(HT40)
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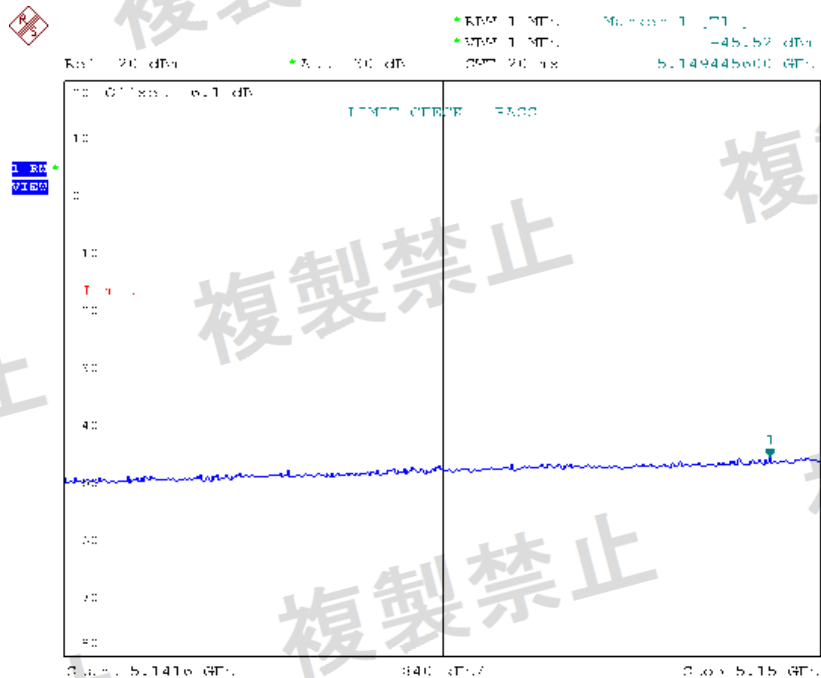
Test Voltage	V	Normal Voltage		Remarks
Test Frequency	MHz	5190	5230	Low/Mid/High of test frequency range
Out-Band Leakage Power (EIRP) (Max value in the band)	MHz	5141.35	5114.89	5100MHz~5141.6MHz Limit $\leq$ 2.5 μ W/MHz (-26 dBm/MHz)
	dBm/MHz	-49.17	-52.16	
	μ W/MHz	0.01211	0.00608	
	MHz	5149.45	5144.52	5141.6MHz~5150MHz Limit $\leq$ 15 μ W/MHz (-18.24 dBm/MHz)
	dBm/MHz	-45.52	-52.15	
	μ W/MHz	0.02805	0.00610	
	MHz	5251.00	5251.00	5250MHz~5251MHz Limit $\leq$ (-3~-13 dBm/MHz)
	dBm/MHz	-51.37	-27.76	
	μ W/MHz	0.00729	1.67494	
	MHz	5270.00	5251.00	5251MHz~5270MHz Limit $\leq$ (-13~-21 dBm/MHz)
	dBm/MHz	-51.75	-28.58	
	μ W/MHz	0.00668	1.38676	
	MHz	5278.00	5278.32	5270MHz~5278.4MHz Limit $\leq$ (-21~-26 dBm/MHz)
	dBm/MHz	-51.82	-50.56	
	μ W/MHz	0.00658	0.00879	
	MHz	5360.12	5278.40	5278.4MHz~5400MHz Limit $\leq$ 2.5 μ W/MHz (-26 dBm/MHz)
	dBm/MHz	-51.33	-50.65	
	μ W/MHz	0.00736	0.00861	

Normal Voltage 5190MHz (5100 MHz $\leq$ f $\leq$ 5141.6 MHz)



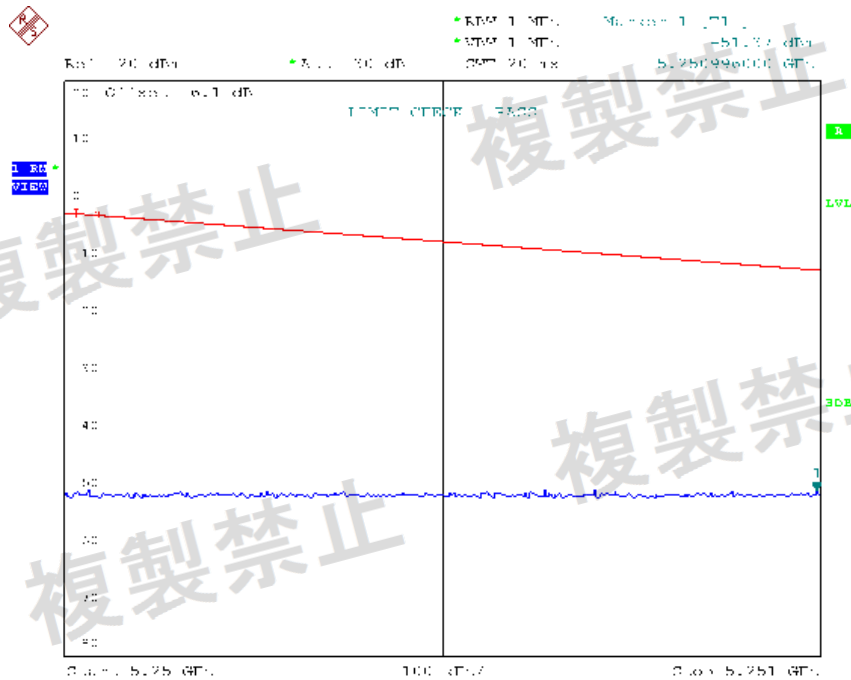
Date: 31.MAR.2016 15:01:30

Normal Voltage 5190MHz (5141.6 MHz < f $\leq$ 5150 MHz)



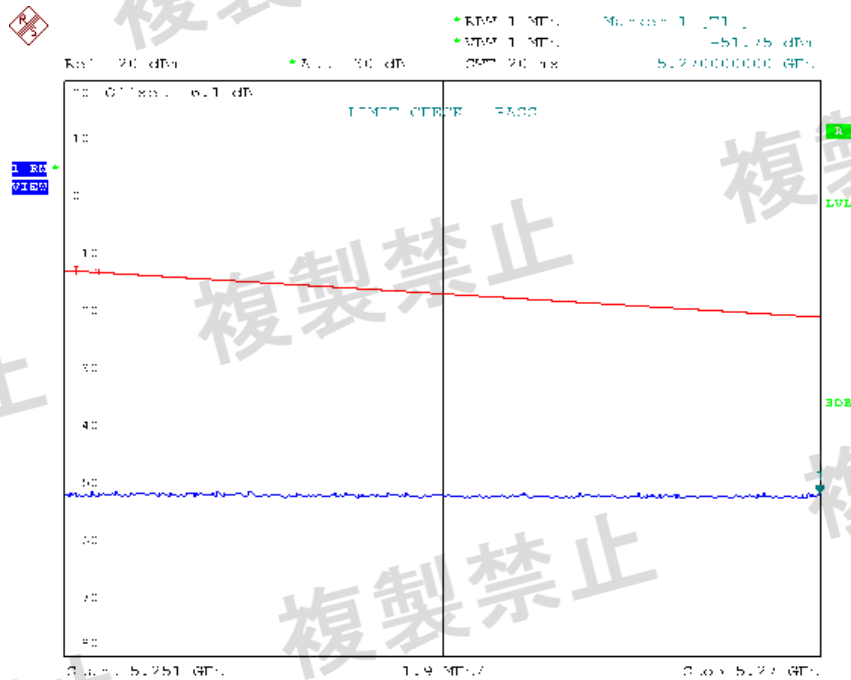
Date: 31.MAR.2016 15:01:30

Normal Voltage 5190MHz (5250 MHz $\leq$ f < 5251 MHz)

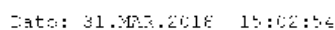
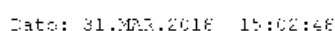


Date: 31.MAR.2016 15:01:59

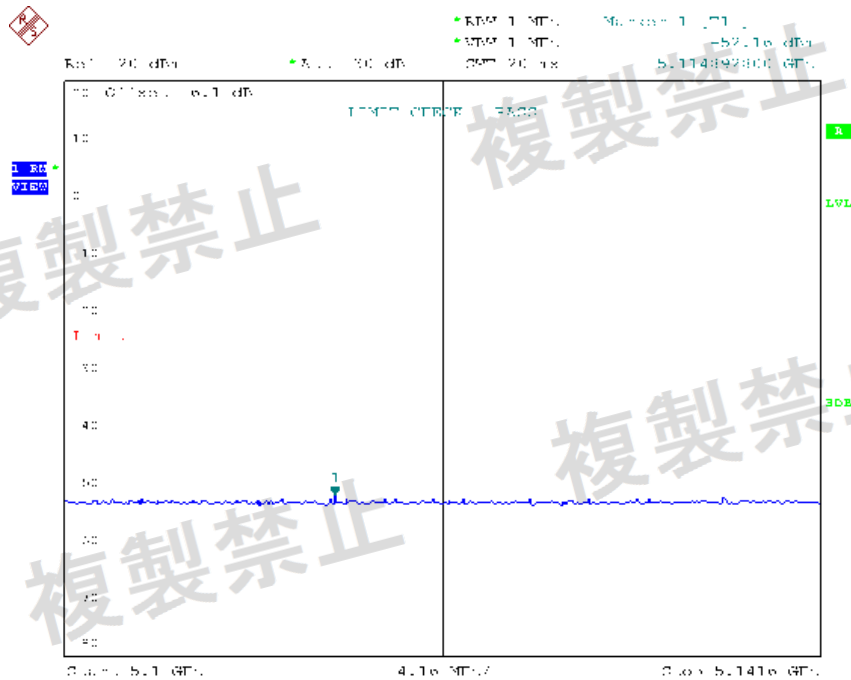
Normal Voltage 5190MHz (5251 MHz $\leq$ f < 5270 MHz)



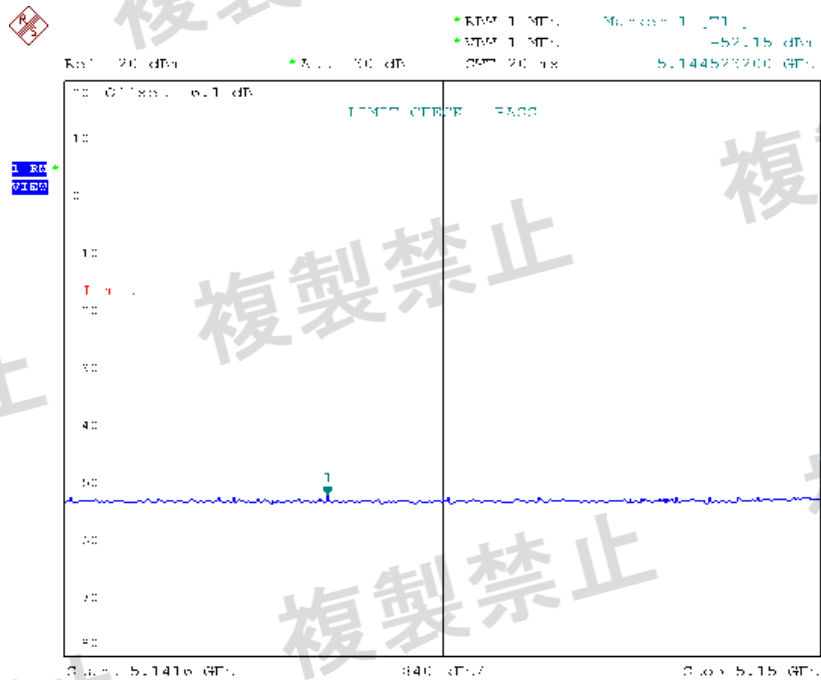
Date: 31.MAR.2016 15:02:23



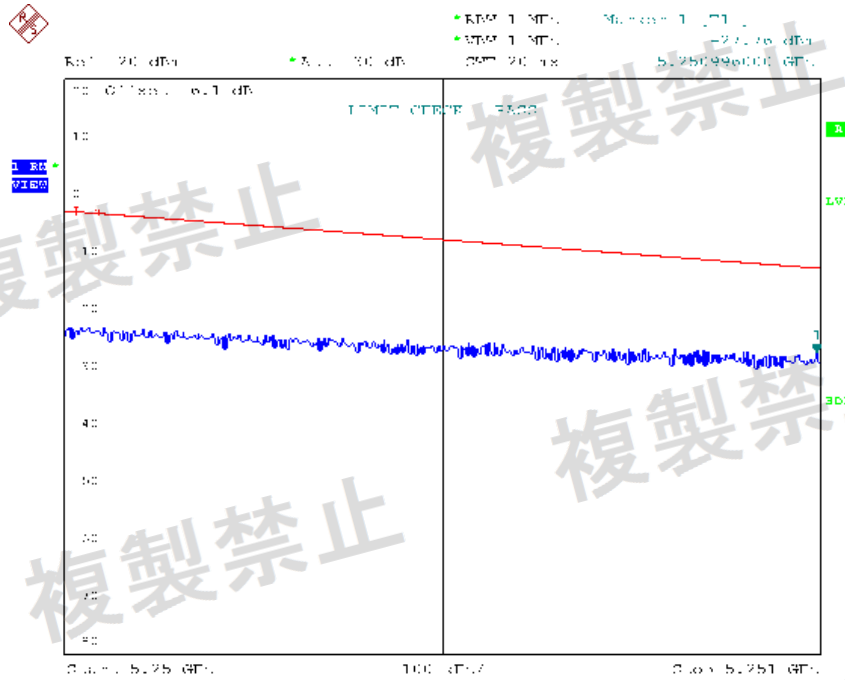
Normal Voltage
5230MHz (5100 MHz $\leq$ f $\leq$ 5141.6 MHz)



Normal Voltage
5230MHz (5141.6 MHz < f $\leq$ 5150 MHz)

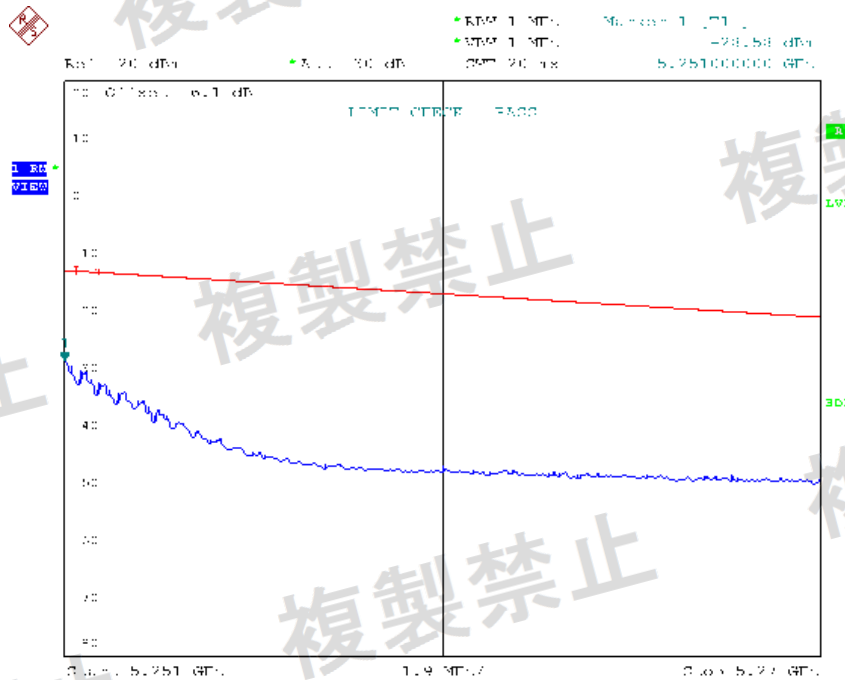


Normal Voltage 5230MHz (5250 MHz $\leq$ f < 5251 MHz)

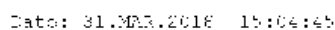
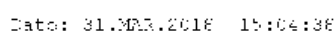


Date: 31.MAR.2016 15:03:49

Normal Voltage 5230MHz (5251 MHz $\leq$ f < 5270 MHz)



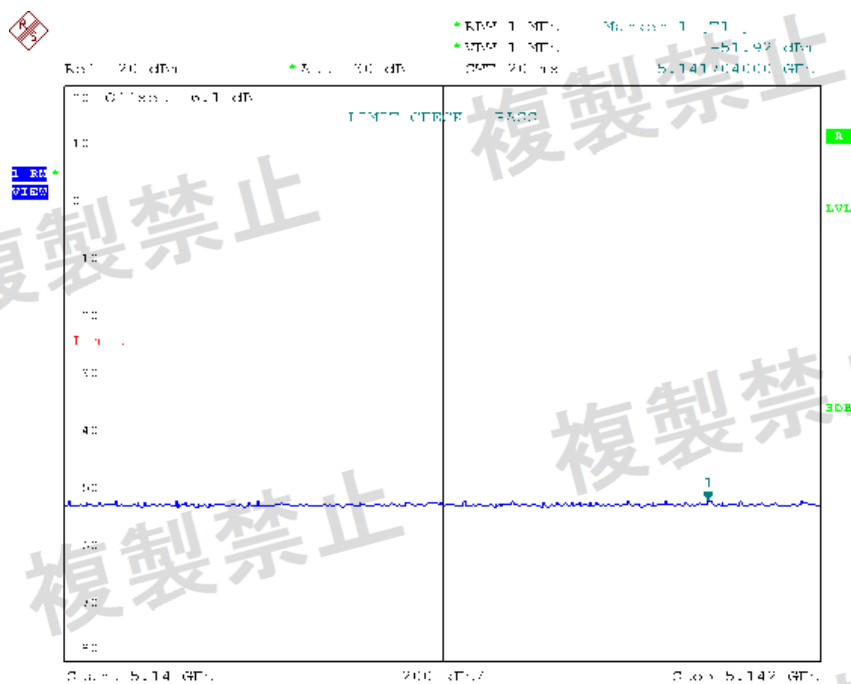
Date: 31.MAR.2016 15:04:13



Test Mode:	802.11ac(VHT20)
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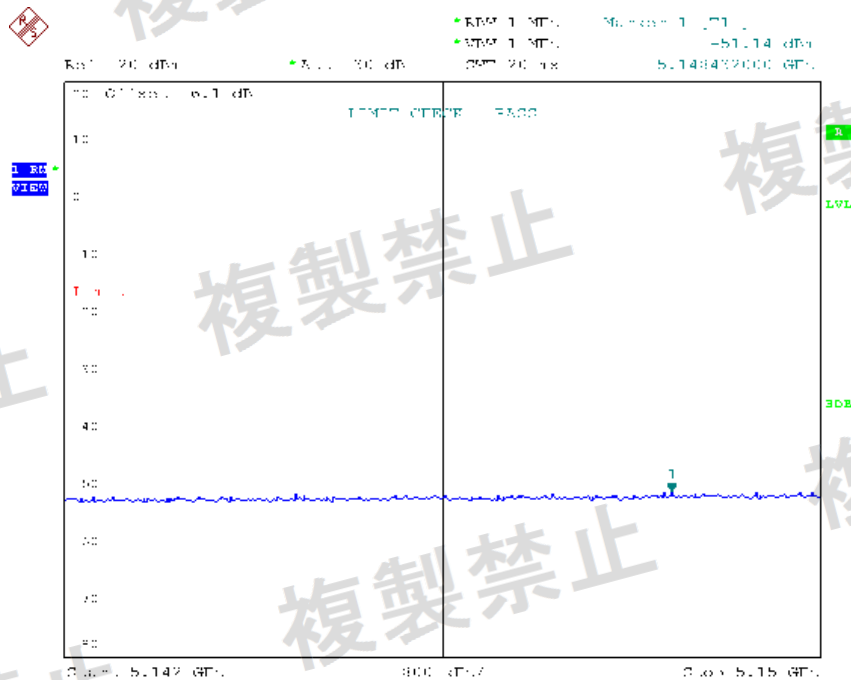
Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5180	5200	5240	Low/Mid/High of test frequency range
Out-Band Leackage Power (EIRP) (Max value in the band)	MHz	5141.70	5140.38	5140.55	5140MHz~5142MHz
	dBm/MHz	-51.92	-51.93	-52.17	Limit $\leq$ 2.5 μ W/MHz
	μ W/MHz	0.00643	0.00641	0.00607	(-26 dBm/MHz)
	MHz	5148.43	5148.88	5149.33	5142MHz~5150MHz
	dBm/MHz	-51.14	-51.98	-52.18	Limit $\leq$ 15 μ W/MHz
	μ W/MHz	0.00769	0.00634	0.00605	(-18.24 dBm/MHz)
	MHz	5250.98	5250.99	5250.01	5250MHz~5251MHz
	dBm/MHz	-51.75	-51.99	-15.17	Limit $\leq$ 1000 ~ 100 μ W/MHz
	μ W/MHz	0.00668	0.00632	30.40885	(0 ~ -10 dBm/MHz)
	MHz	5259.93	5259.87	5251.00	5251MHz~5260MHz
	dBm/MHz	-51.58	-52.32	-25.40	Limit $\leq$ 100 ~ 15.8 μ W/MHz
	μ W/MHz	0.00695	0.00586	2.88403	(-10 ~ -18 dBm/MHz)
	MHz	5266.70	5266.50	5266.58	5260MHz~5266.7MHz
	dBm/MHz	-51.88	-52.14	-49.93	Limit $\leq$ 15.8 ~ 2.5 μ W/MHz
	μ W/MHz	0.00649	0.00611	0.01016	(-18 ~ -26 dBm/MHz)
	MHz	5340.03	5355.15	5268.38	5266.7MHz~5360MHz
	dBm/MHz	-50.79	-51.11	-50.15	Limit $\leq$ 2.5 μ W/MHz
	μ W/MHz	0.00834	0.00774	0.00966	(-26 dBm/MHz)

Normal Voltage
5180MHz (5140 MHz $\leq$ f $\leq$ 5142 MHz)



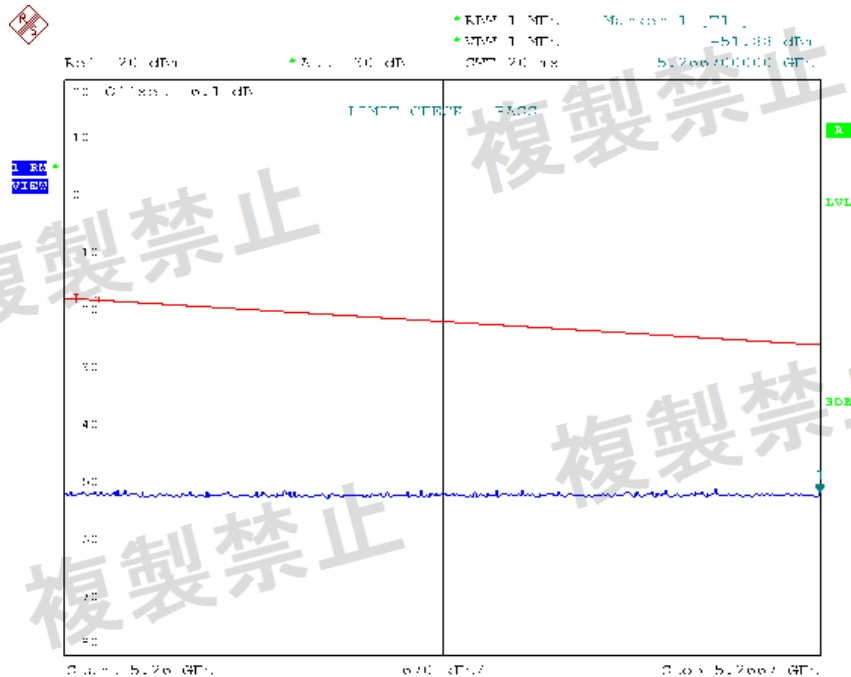
Date: 31.MAR.2018 14:54:15

Normal Voltage
5180MHz (5142 MHz < f $\leq$ 5150 MHz)



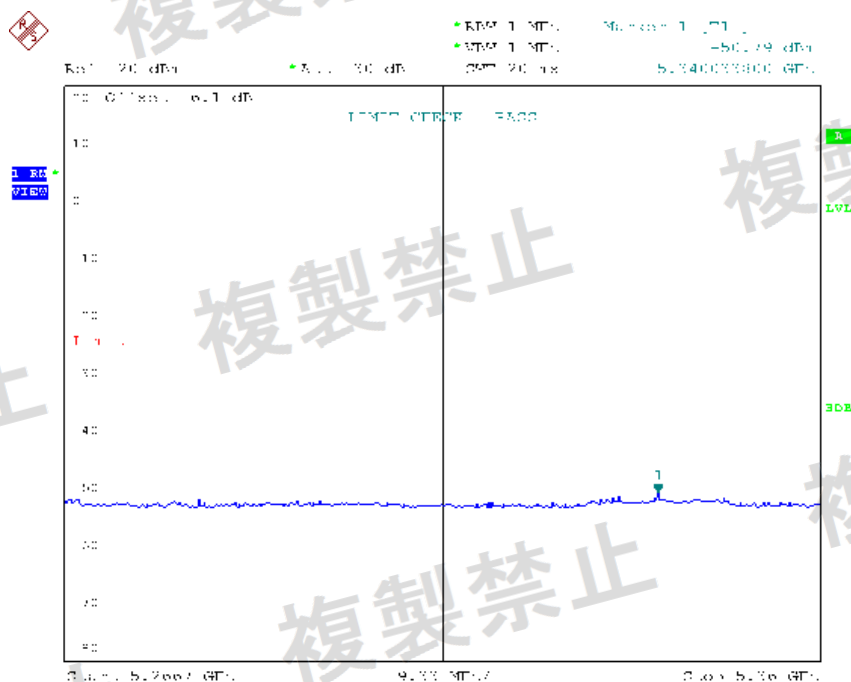
Date: 31.MAR.2018 14:54:21

Normal Voltage 5180MHz (5260 MHz $\leq$ f < 5266.7 MHz)



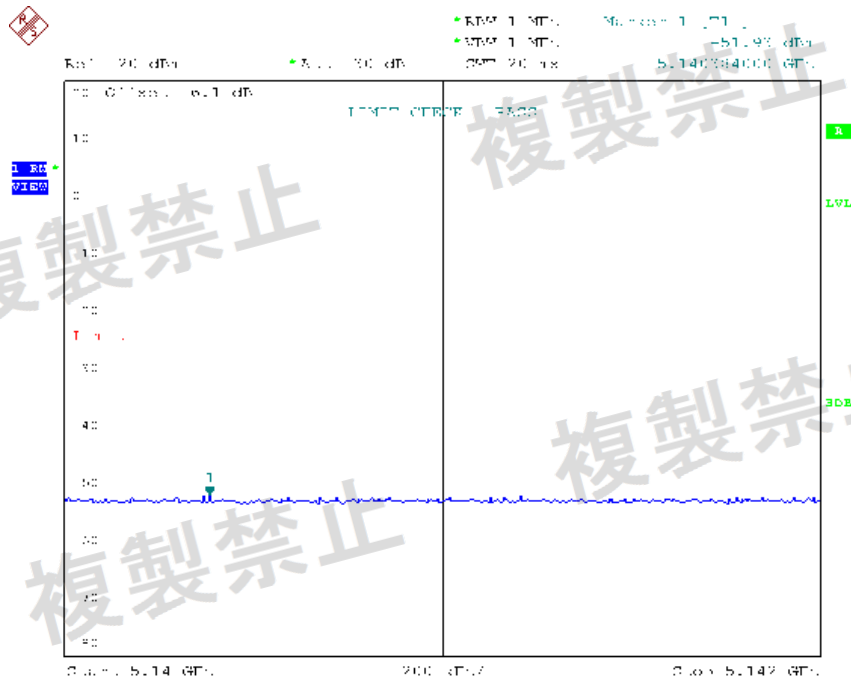
Date: 31.MAR.2016 14:55:32

Normal Voltage 5180MHz (5266.7 MHz $\leq$ f $\leq$ 5360 MHz)



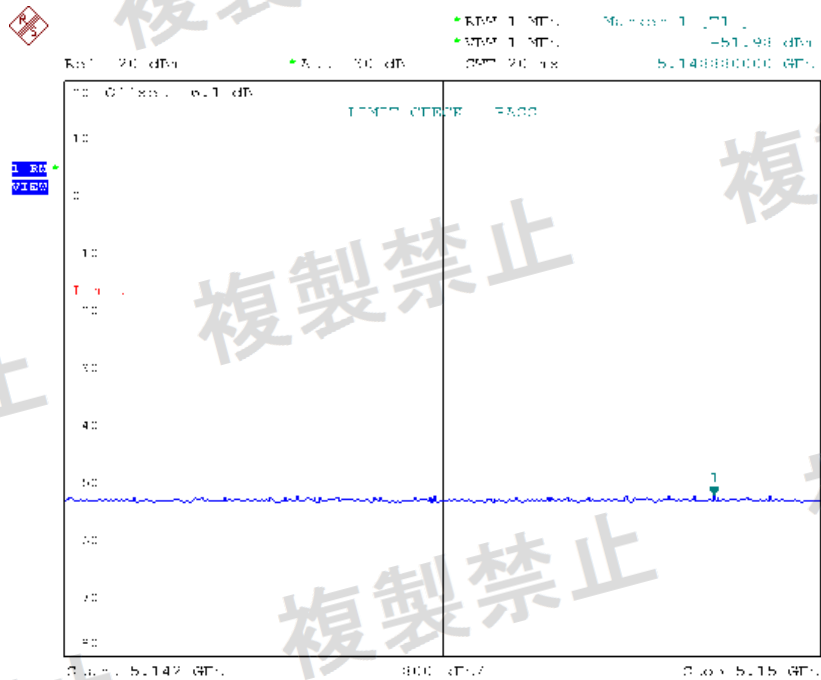
Date: 31.MAR.2016 14:55:36

Normal Voltage
5200MHz (5140 MHz $\leq$ f $\leq$ 5142 MHz)



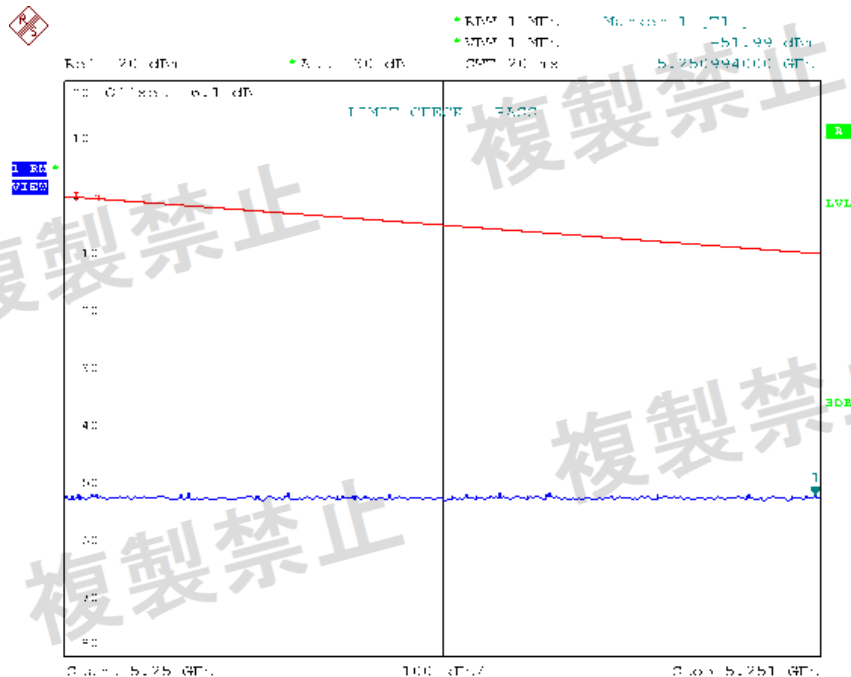
Date: 31.MAR.2018 14:56:02

Normal Voltage
5200MHz (5142 MHz < f $\leq$ 5150 MHz)



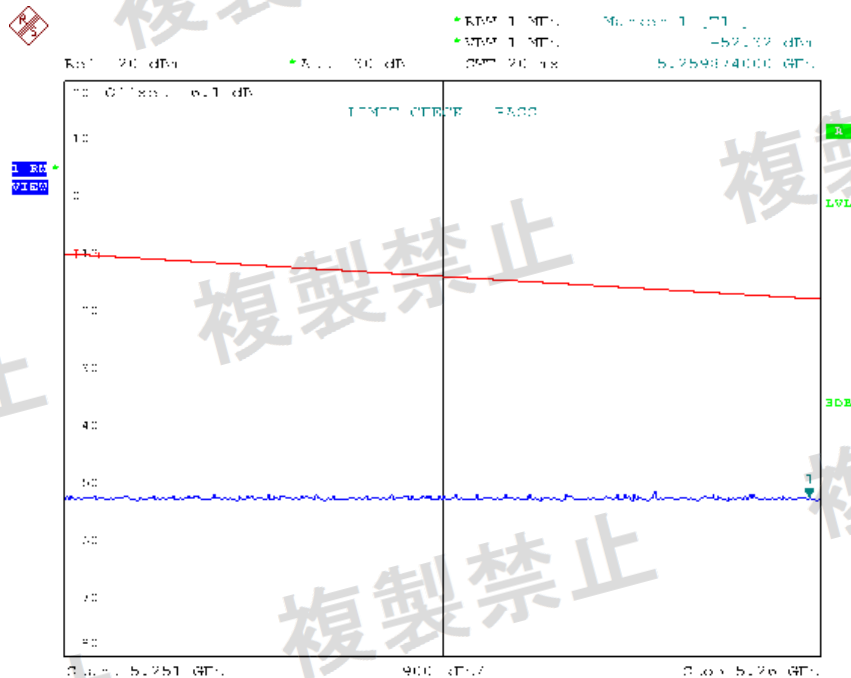
Date: 31.MAR.2018 14:56:09

Normal Voltage 5200MHz (5250 MHz $\leq$ f < 5251 MHz)



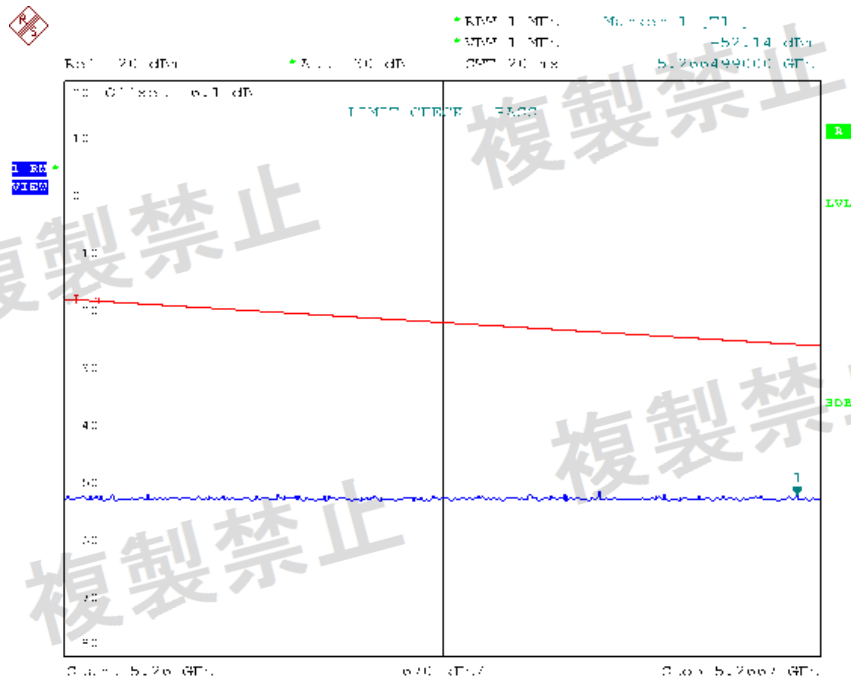
Date: 31.MAR.2016 14:56:32

Normal Voltage 5200MHz (5251 MHz $\leq$ f < 5260 MHz)



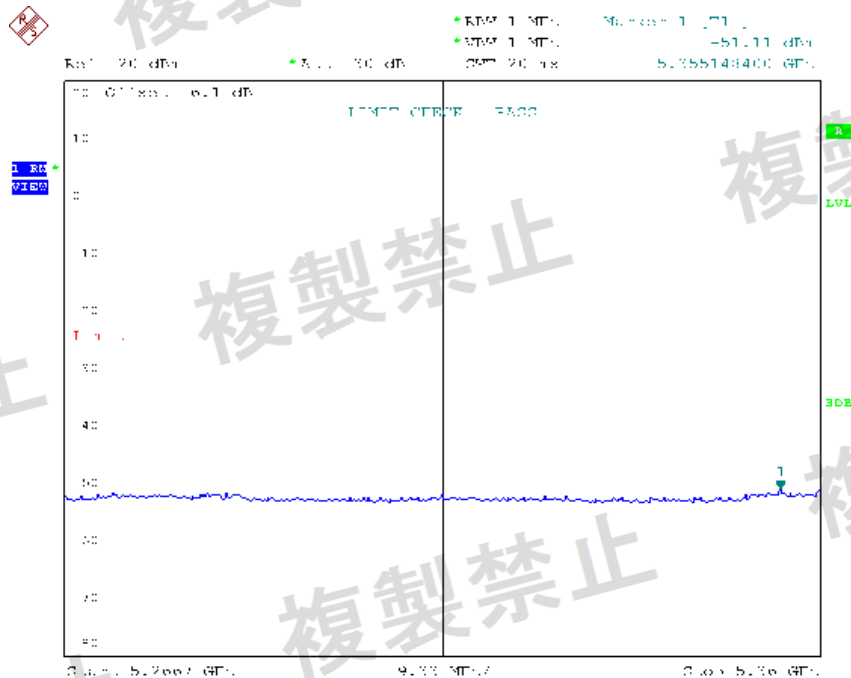
Date: 31.MAR.2016 14:56:56

Normal Voltage 5200MHz (5260 MHz $\leq$ f < 5266.7 MHz)



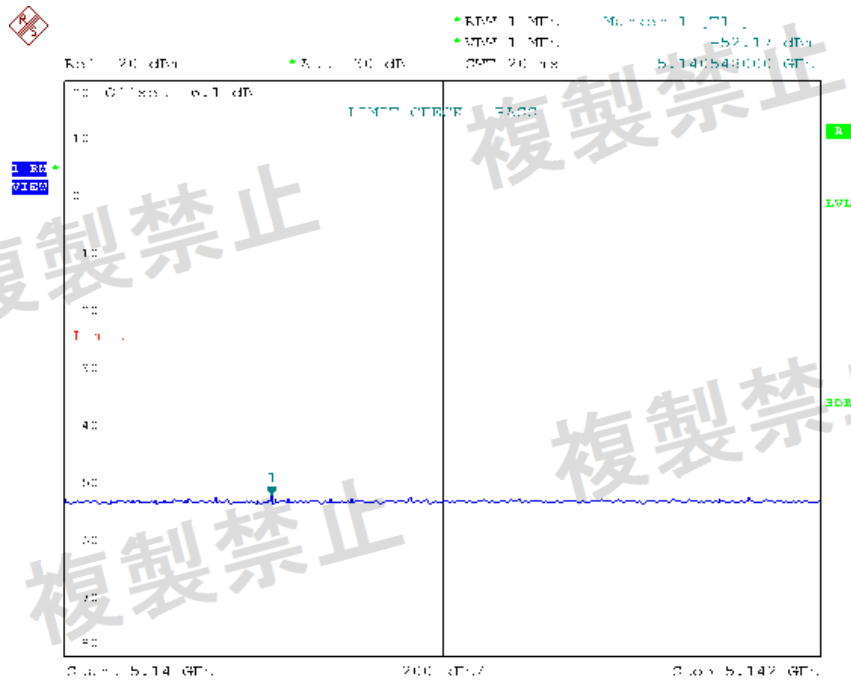
Date: 31.MAR.2018 14:57:20

Normal Voltage 5200MHz (5266.7 MHz $\leq$ f $\leq$ 5360 MHz)



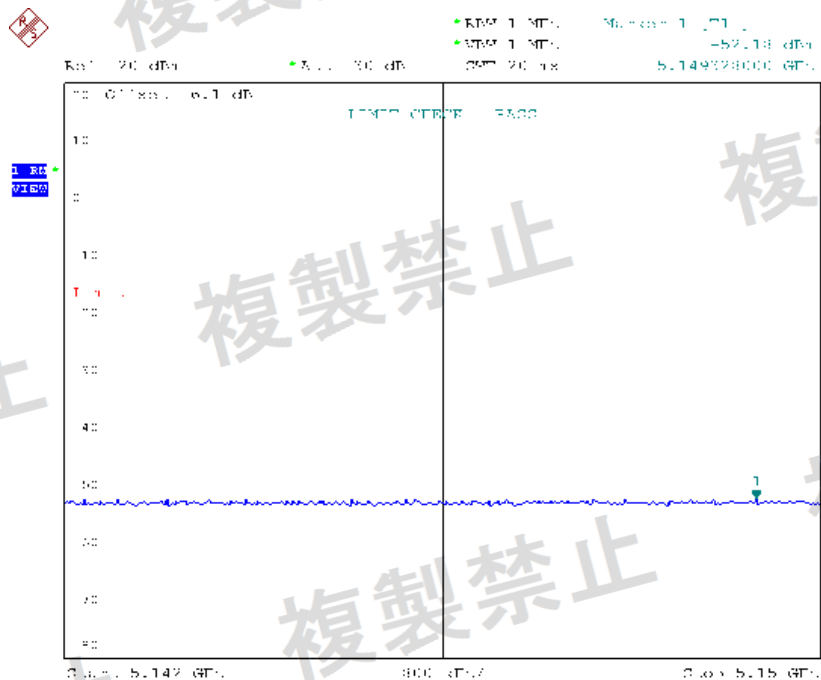
Date: 31.MAR.2018 14:57:20

Normal Voltage
5240MHz (5140 MHz $\leq$ f $\leq$ 5142 MHz)



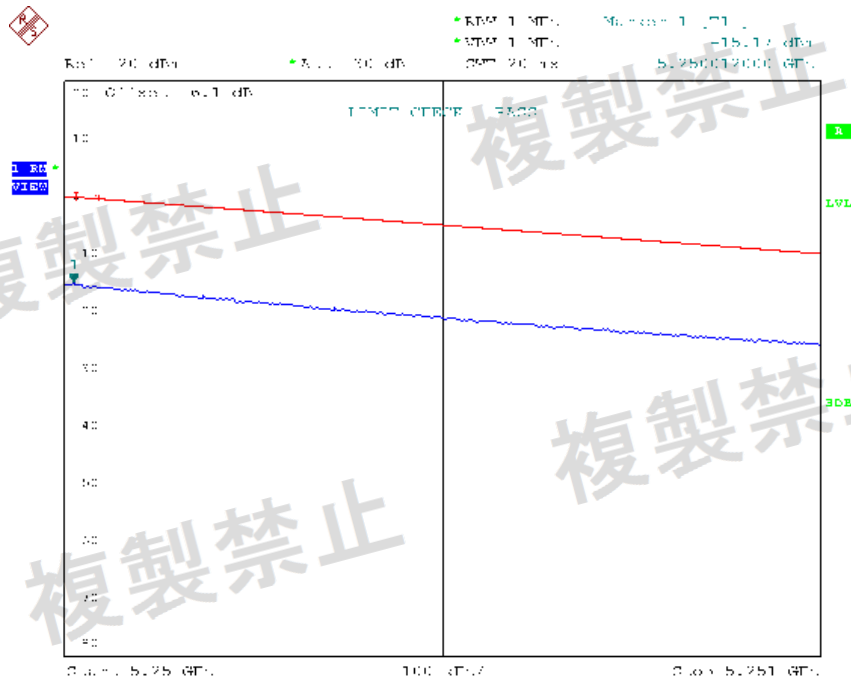
Date: 31.MAR.2016 14:56:22

Normal Voltage
5240MHz (5142 MHz < f $\leq$ 5150 MHz)



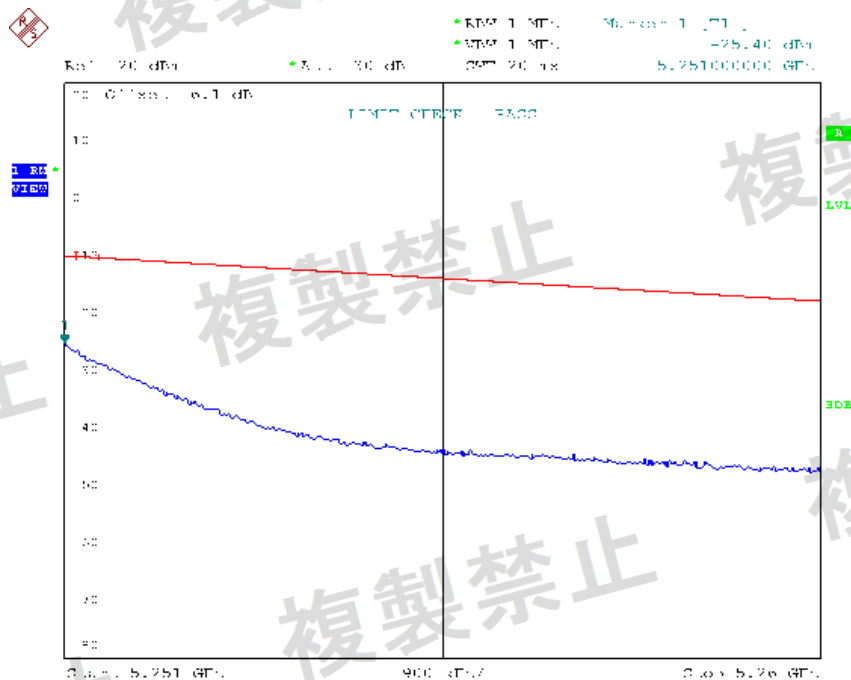
Date: 31.MAR.2016 14:56:26

Normal Voltage 5240MHz (5250 MHz $\leq$ f < 5251 MHz)



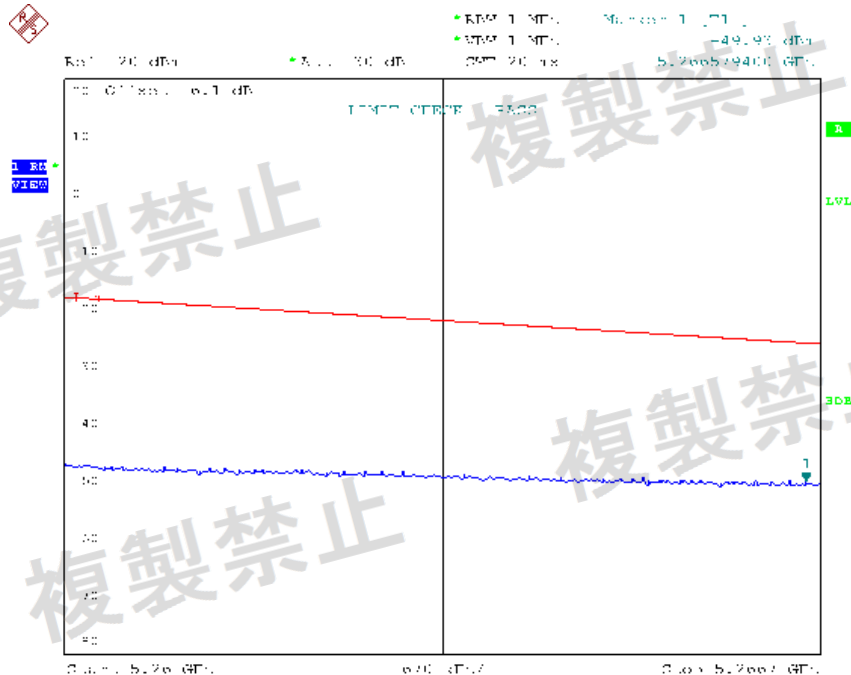
Date: 31.MAR.2016 14:58:51

Normal Voltage 5240MHz (5251 MHz $\leq$ f < 5260 MHz)



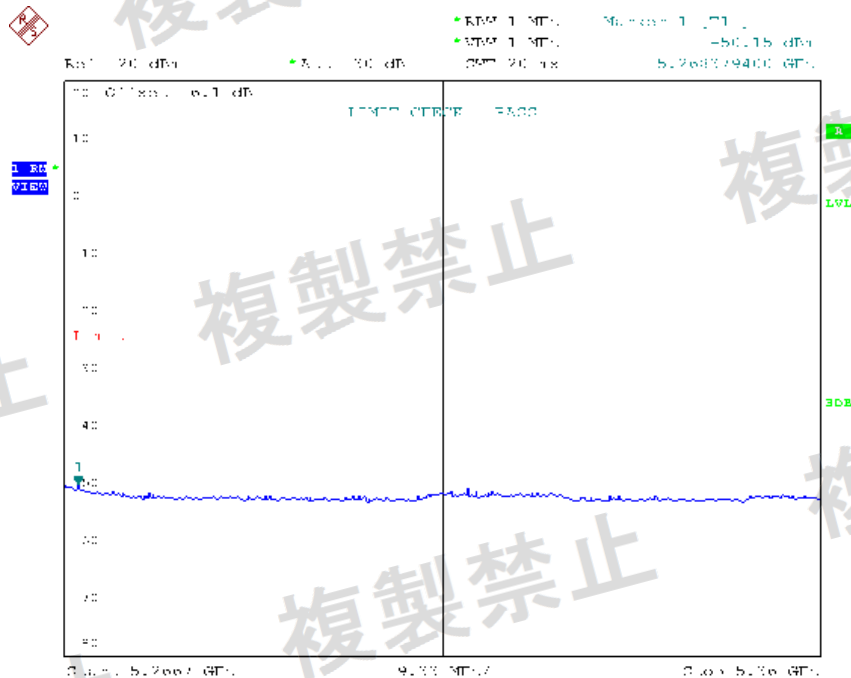
Date: 31.MAR.2016 14:59:15

Normal Voltage 5240MHz (5260 MHz $\leq$ f < 5266.7 MHz)



Date: 31.MAR.2016 14:59:39

Normal Voltage 5240MHz (5266.7 MHz $\leq$ f $\leq$ 5360 MHz)

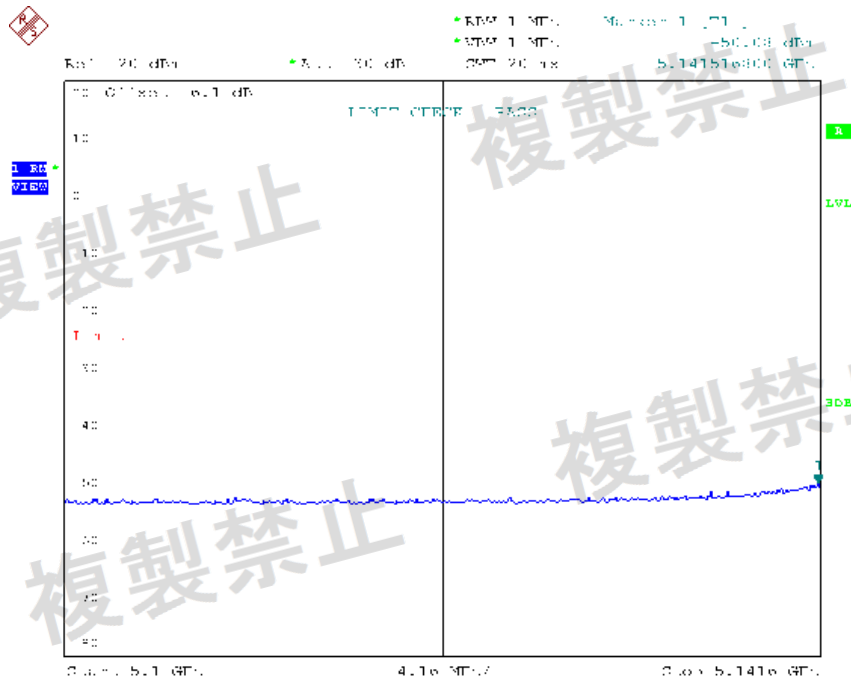


Date: 31.MAR.2016 14:59:45

Test Mode:	802.11ac(VHT40)
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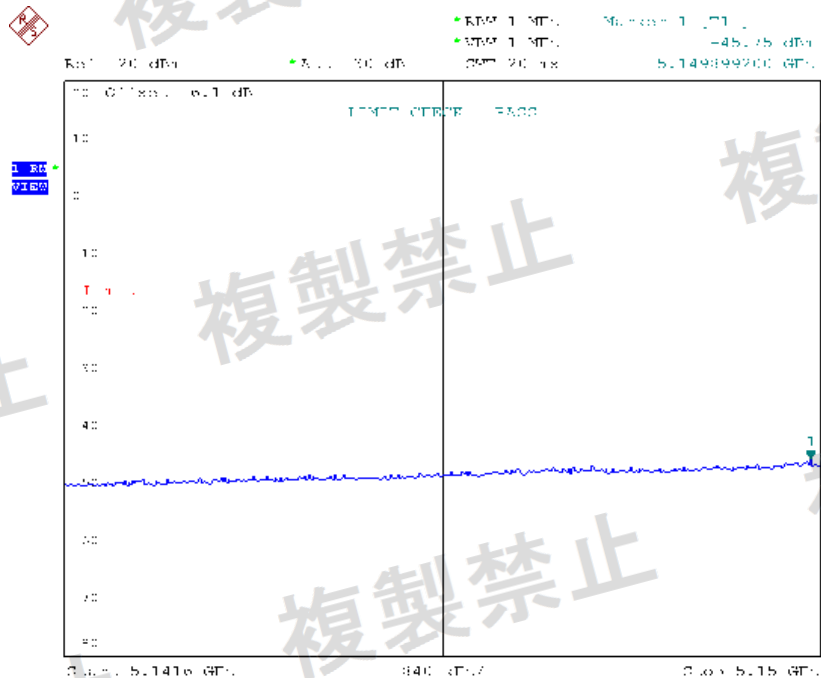
Test Voltage	V	Normal Voltage		Remarks
Test Frequency	MHz	5190	5230	Low/Mid/High of test frequency range
Out-Band Leackage Power (EIRP) (Max value in the band)	MHz	5141.52	5103.08	5100MHz~5141.6MHz Limit $\leq$ 2.5 μ W/MHz (-26 dBm/MHz)
	dBm/MHz	-50.08	-52.38	
	μ W/MHz	0.00982	0.00578	
	MHz	5149.90	5149.16	5141.6MHz~5150MHz Limit $\leq$ 15 μ W/MHz (-18.24 dBm/MHz)
	dBm/MHz	-45.75	-52.19	
	μ W/MHz	0.02661	0.00604	
	MHz	5250.98	5250.92	5250MHz~5251MHz Limit $\leq$ (-3~-13 dBm/MHz)
	dBm/MHz	-51.71	-27.72	
	μ W/MHz	0.00675	1.69044	
	MHz	5269.16	5251.04	5251MHz~5270MHz Limit $\leq$ (-13~-21 dBm/MHz)
	dBm/MHz	-51.74	-29.36	
	μ W/MHz	0.00670	1.15878	
	MHz	5278.06	5278.11	5270MHz~5278.4MHz Limit $\leq$ (-21~-26 dBm/MHz)
	dBm/MHz	-52.17	-50.39	
	μ W/MHz	0.00607	0.00914	
	MHz	5353.06	5279.86	5278.4MHz~5400MHz Limit $\leq$ 2.5 μ W/MHz (-26 dBm/MHz)
	dBm/MHz	-51.61	-50.71	
	μ W/MHz	0.00690	0.00849	

Normal Voltage 5190MHz (5100 MHz $\leq$ f $\leq$ 5141.6 MHz)



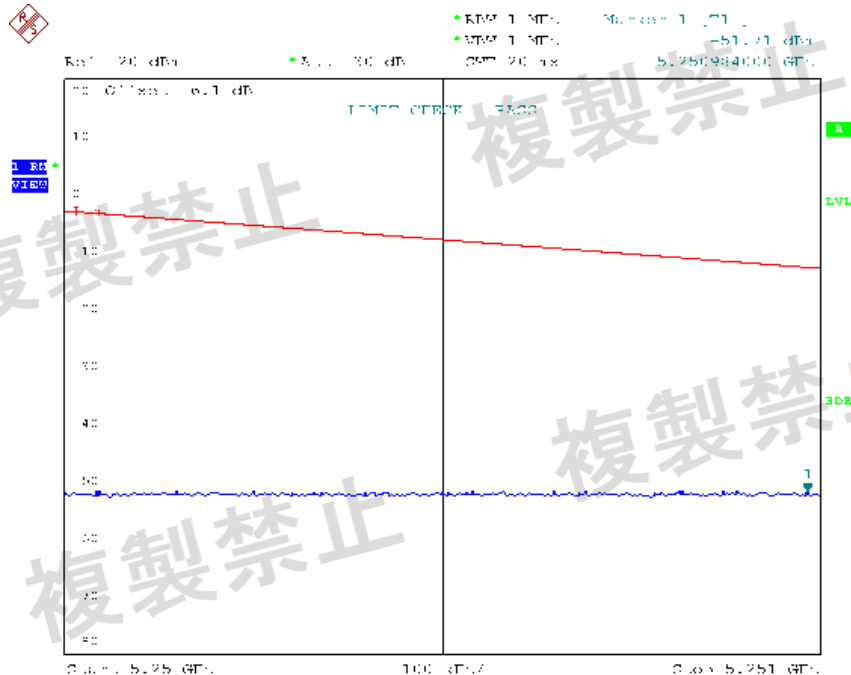
Date: 31.MAR.2016 15:08:09

Normal Voltage 5190MHz (5141.6 MHz < f $\leq$ 5150 MHz)



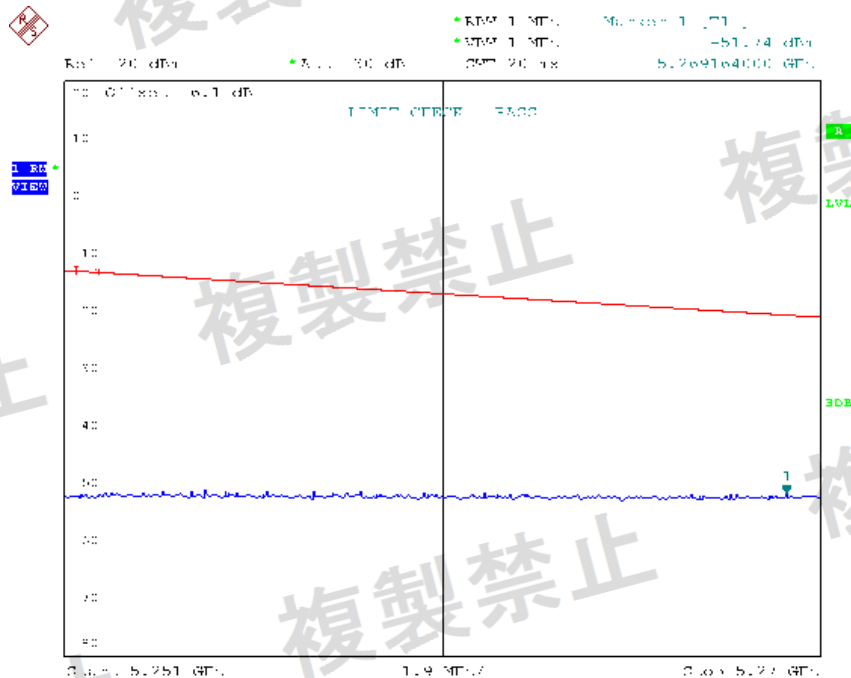
Date: 31.MAR.2016 15:08:15

Normal Voltage 5190MHz (5250 MHz $\leq$ f < 5251 MHz)



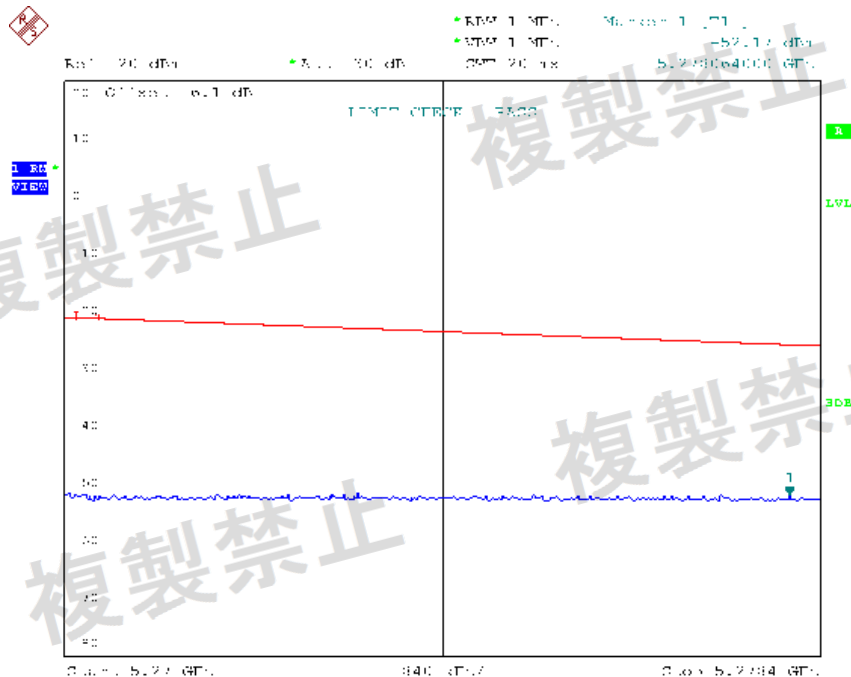
Date: 31.MAR.2016 15:08:37

Normal Voltage 5190MHz (5251 MHz $\leq$ f < 5270 MHz)



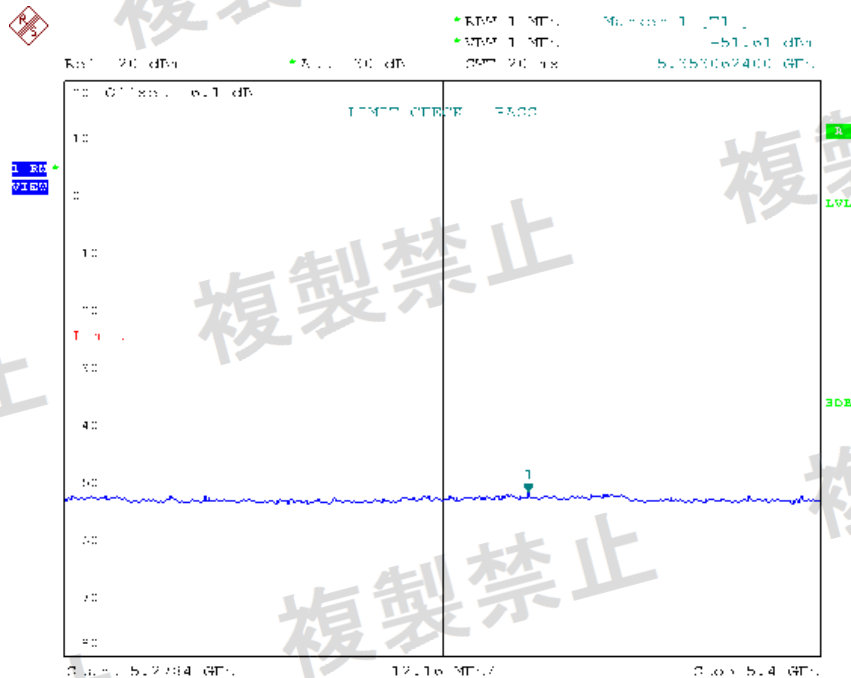
Date: 31.MAR.2016 15:09:01

Normal Voltage 5190MHz (5270 MHz $\leq$ f < 5278.4 MHz)



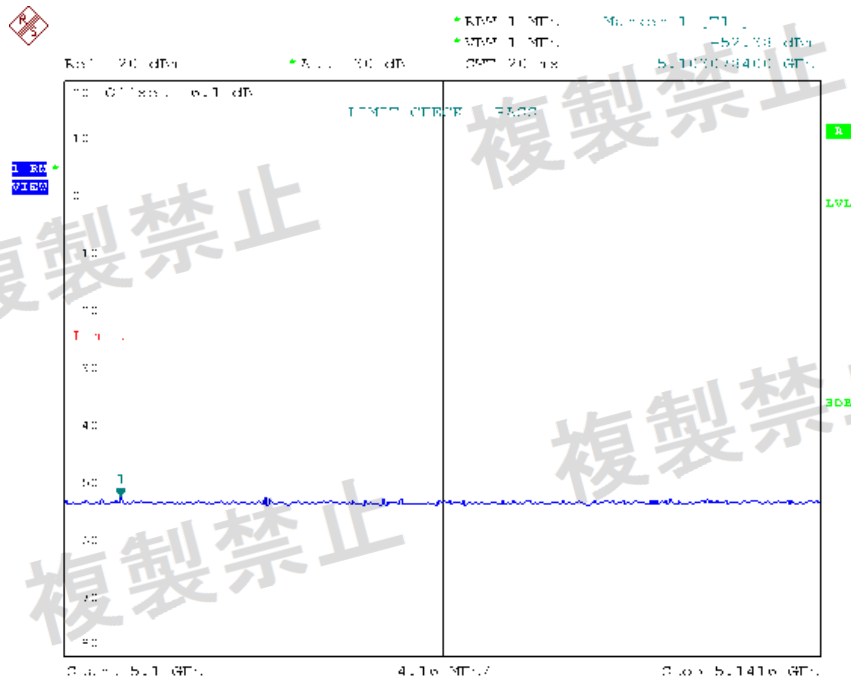
Date: 31.MAR.2016 15:09:26

Normal Voltage 5190MHz (5278.4 MHz $\leq$ f $\leq$ 5400 MHz)



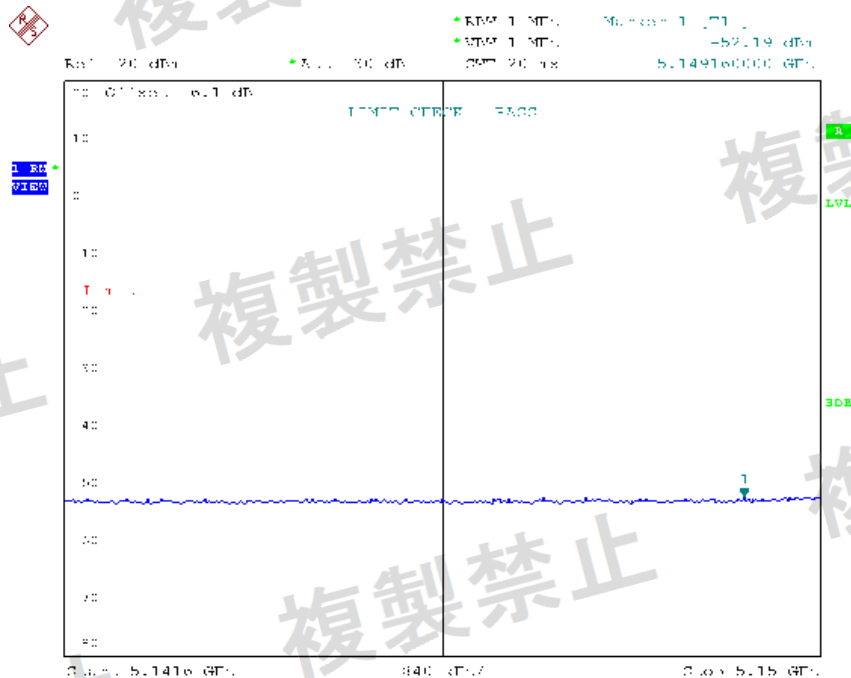
Date: 31.MAR.2016 15:09:32

Normal Voltage 5230MHz (5100 MHz ≤ f ≤ 5141.6 MHz)



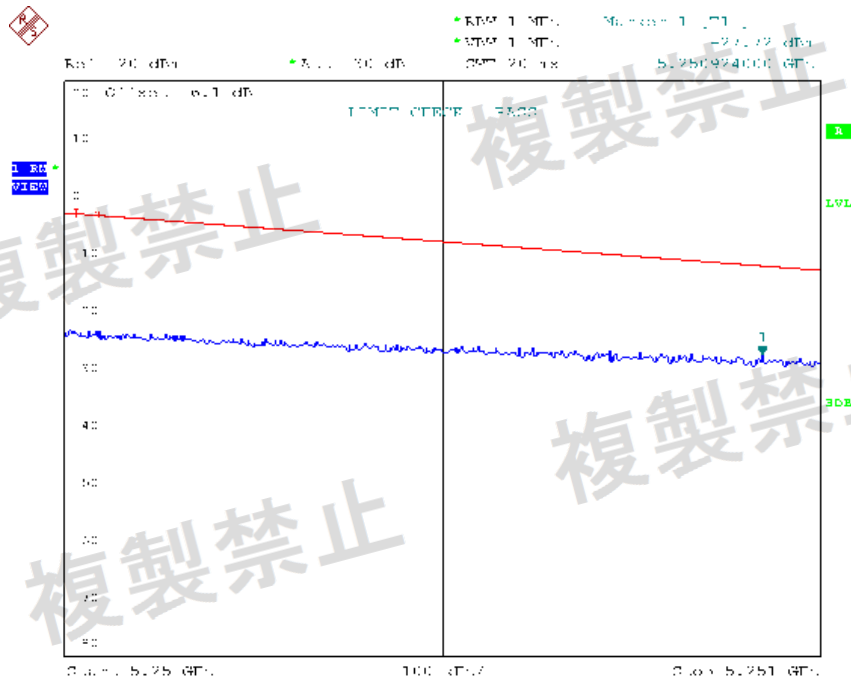
Date: 31.MAR.2016 15:09:50

Normal Voltage 5230MHz (5141.6 MHz < f ≤ 5150 MHz)



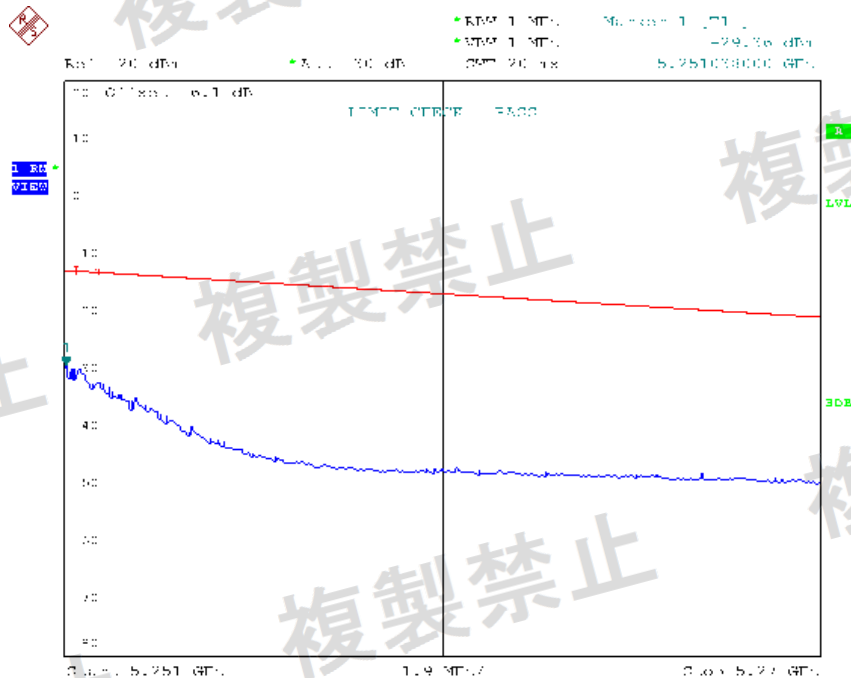
Date: 31.MAR.2016 15:09:50

Normal Voltage 5230MHz (5250 MHz $\leq$ f < 5251 MHz)

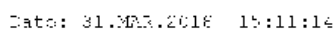
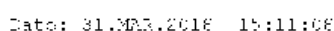


Date: 31.MAR.2016 15:10:19

Normal Voltage 5230MHz (5251 MHz $\leq$ f < 5270 MHz)



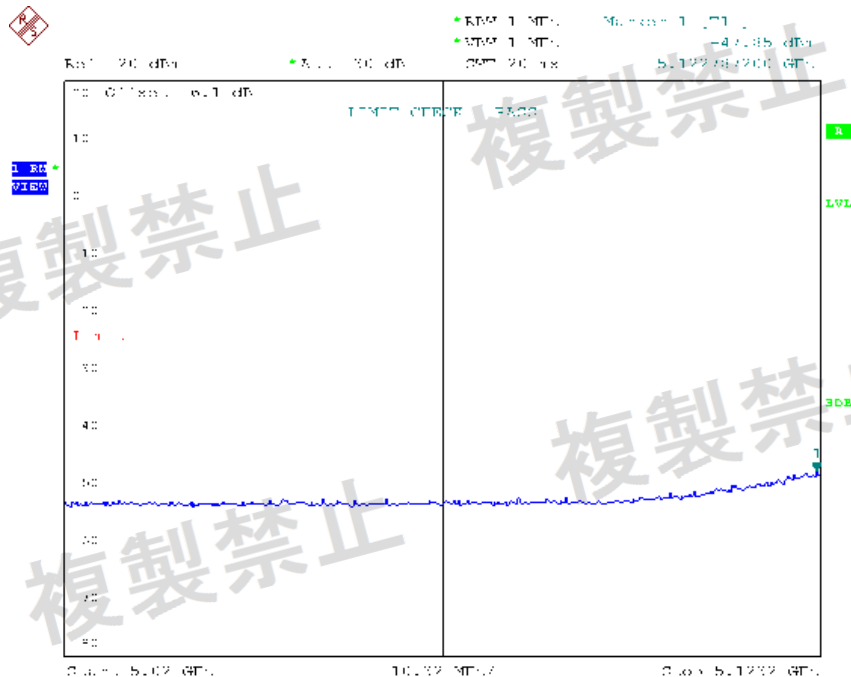
Date: 31.MAR.2016 15:10:43



Test Mode:	802.11ac(VHT80)
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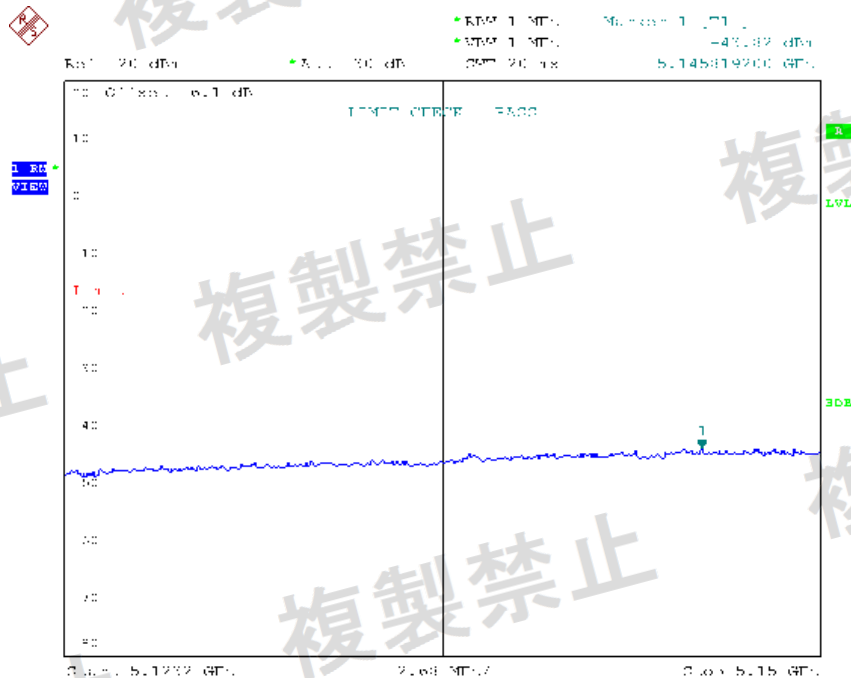
Test Voltage	V	Normal Voltage	Remarks
Test Frequency	MHz	5210	Low/Mid/High of test frequency range
Out-Band Leakage Power (EIRP) (Max value in the band)	MHz	5122.79	5020MHz~5123.2MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26 dBm/MHz)
	dBm/MHz	-47.85	
	$\mu\text{W/MHz}$	0.01641	
	MHz	5145.82	5123.2MHz~5150MHz Limit $\leq 15 \mu\text{W/MHz}$ (-18.24 dBm/MHz)
	dBm/MHz	-43.82	
	$\mu\text{W/MHz}$	0.04150	
	MHz	5250.98	5250MHz~5251MHz Limit $\leq (-6 \sim -16.02 \text{ dBm/MHz})$
	dBm/MHz	-34.78	
	$\mu\text{W/MHz}$	0.33266	
	MHz	5251.86	5251MHz~5290MHz Limit $\leq (-16.02 \sim 24.02 \text{ dBm/MHz})$
	dBm/MHz	-33.43	
	$\mu\text{W/MHz}$	0.45394	
	MHz	5296.14	5290MHz~5296.7MHz Limit $\leq (-24.02 \sim 26.03 \text{ dBm/MHz})$
	dBm/MHz	-48.49	
	$\mu\text{W/MHz}$	0.01416	
	MHz	5298.90	5296.7MHz~5480MHz Limit $\leq 2.5 \mu\text{W/MHz}$ (-26 dBm/MHz)
	dBm/MHz	-49.61	
	$\mu\text{W/MHz}$	0.01094	

Normal Voltage 5210MHz (5020 MHz $\leq$ f $\leq$ 5123.2 MHz)



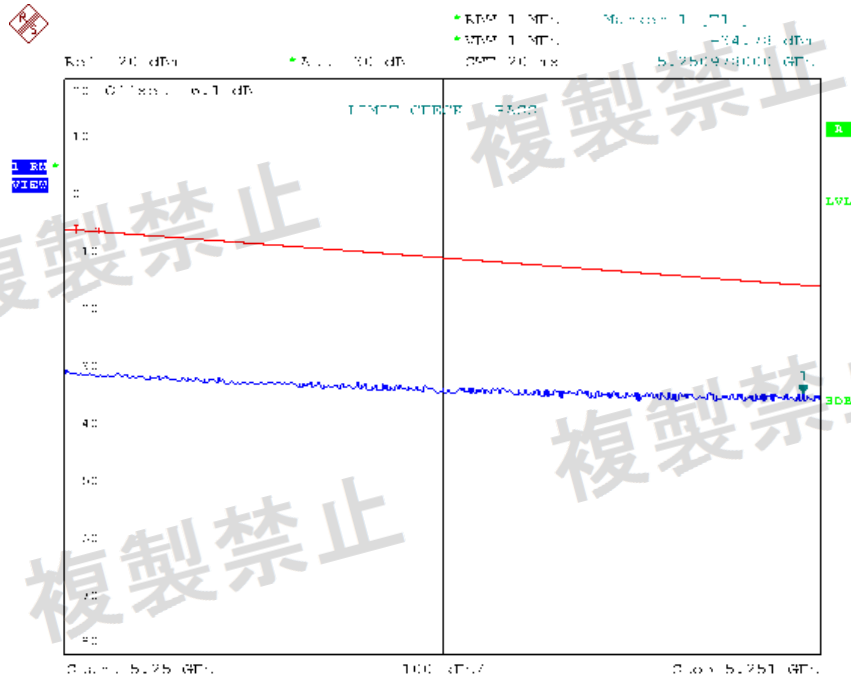
Date: 31.MAR.2016 15:13:00

Normal Voltage 5210MHz (5123.2 MHz < f $\leq$ 5150 MHz)



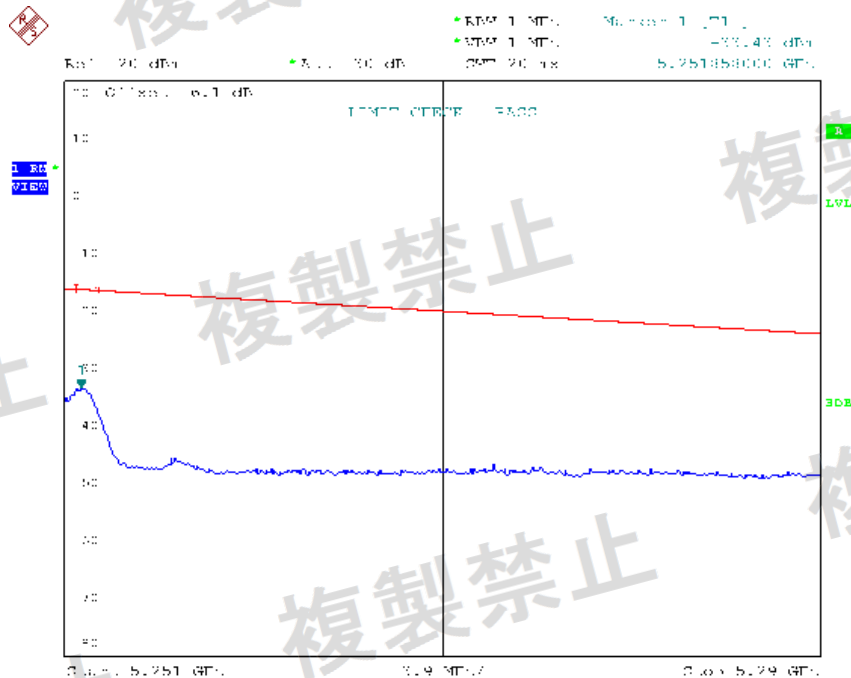
Date: 31.MAR.2016 15:13:00

Normal Voltage 5210MHz (5250 MHz $\leq$ f < 5251 MHz)



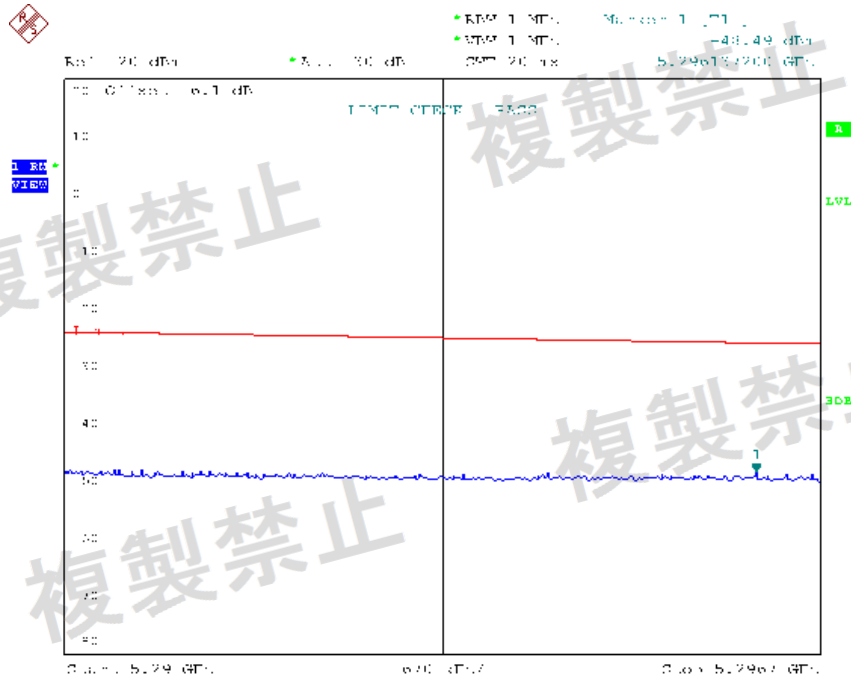
Date: 31.MAR.2016 15:13:30

Normal Voltage 5210MHz (5251 MHz $\leq$ f < 5290 MHz)



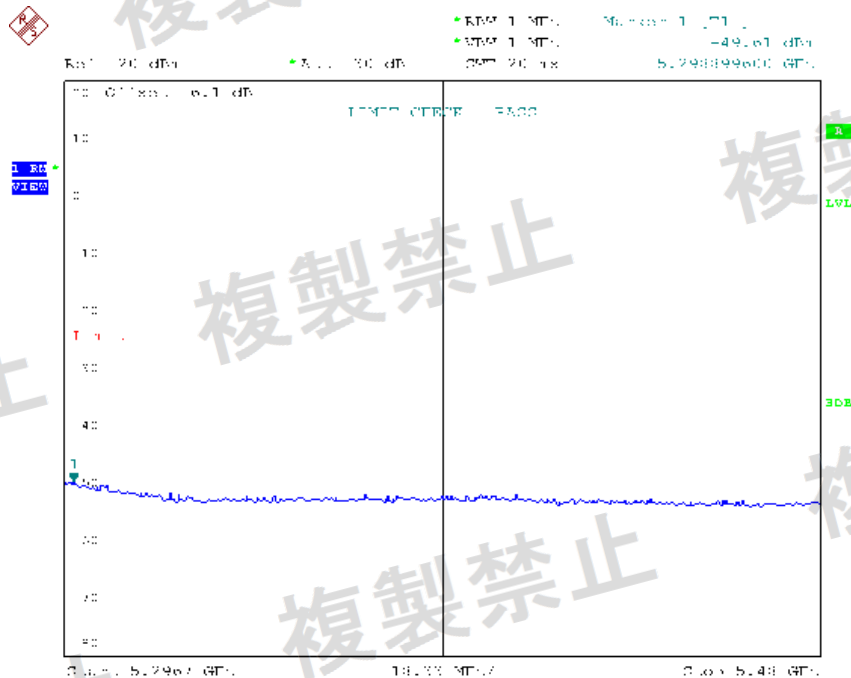
Date: 31.MAR.2016 15:13:53

Normal Voltage 5210MHz (5290 MHz $\leq$ f < 5296.7 MHz)



Date: 31.MAR.2016 15:14:17

Normal Voltage 5210MHz (5296.7 MHz $\leq$ f $\leq$ 5480 MHz)

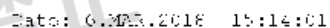
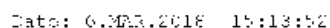


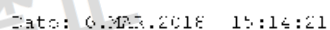
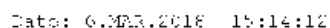
Date: 31.MAR.2016 15:14:23

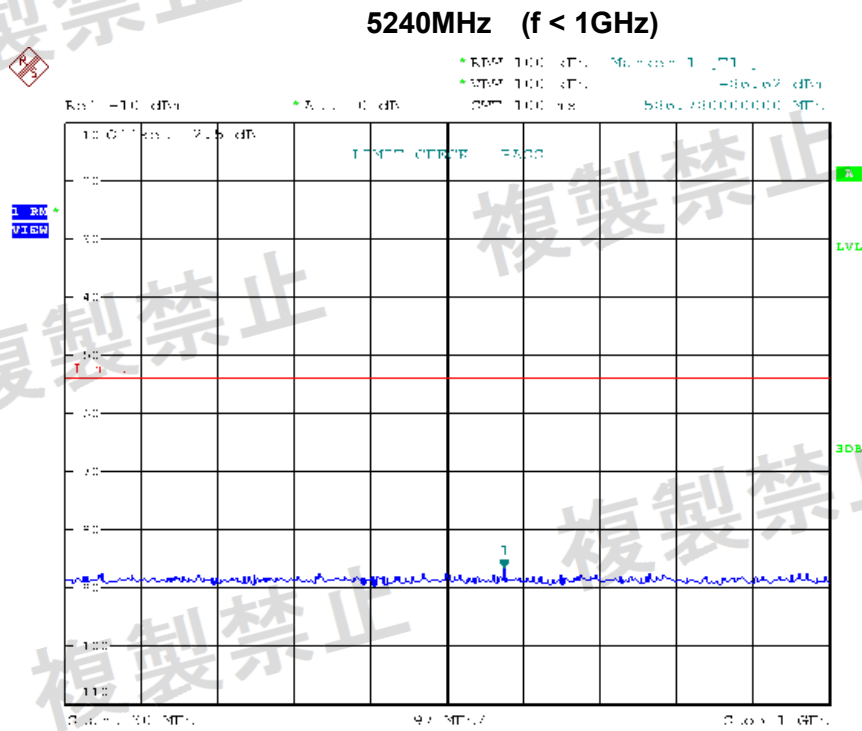
APPENDIX F - LIMITATION OF COLLATERAL EMISSION OF RECEIVER

Test Mode:	802.11a
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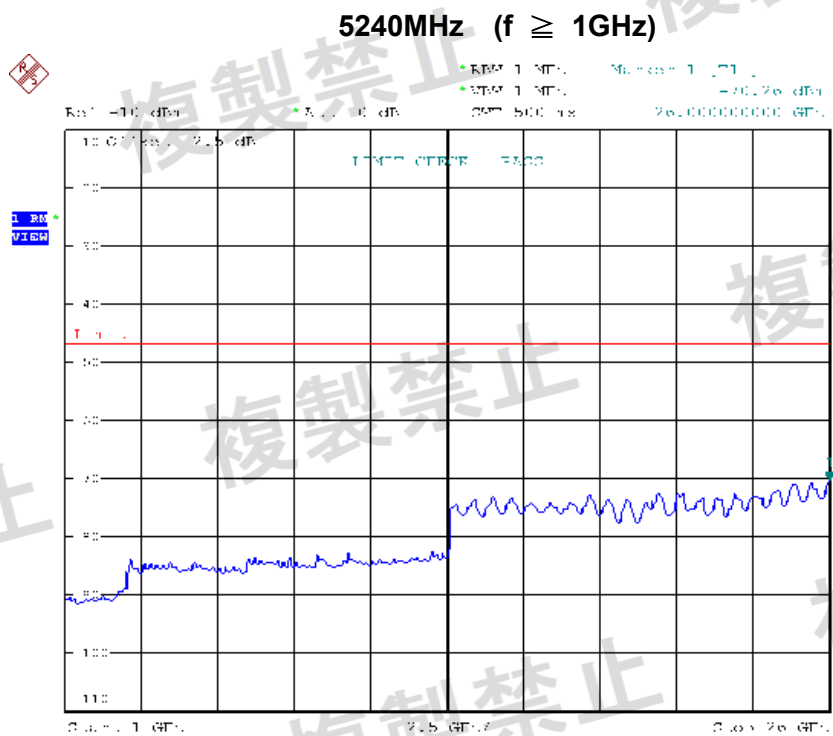
Test Voltage	V	Normal Voltage				Remarks
Test Frequency	MHz	5180	5200	5240	-	Low/Mid/High of test frequency range
Limitation of Collateral Emission of Receiver	< 1GHz	0.0019	0.0019	0.0022	nW	Limit $\leq$ 4 nW (-54 dBm)
	$\geq$ 1GHz	0.0948	0.0946	0.0942	nW	Limit $\leq$ 20 nW (-47 dBm)







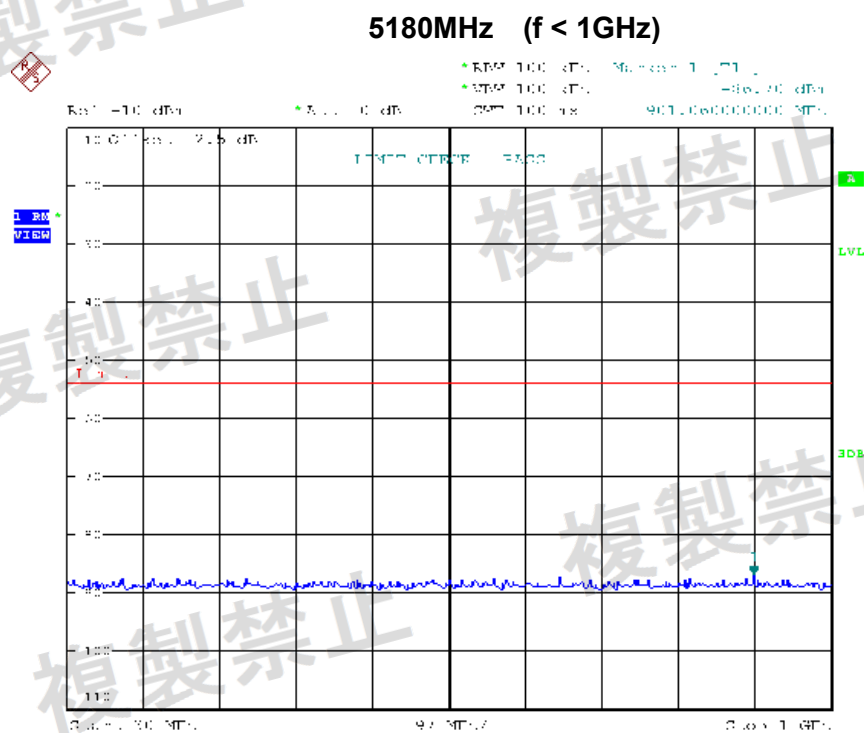
Date: 6.MAR.2018 15:14:54



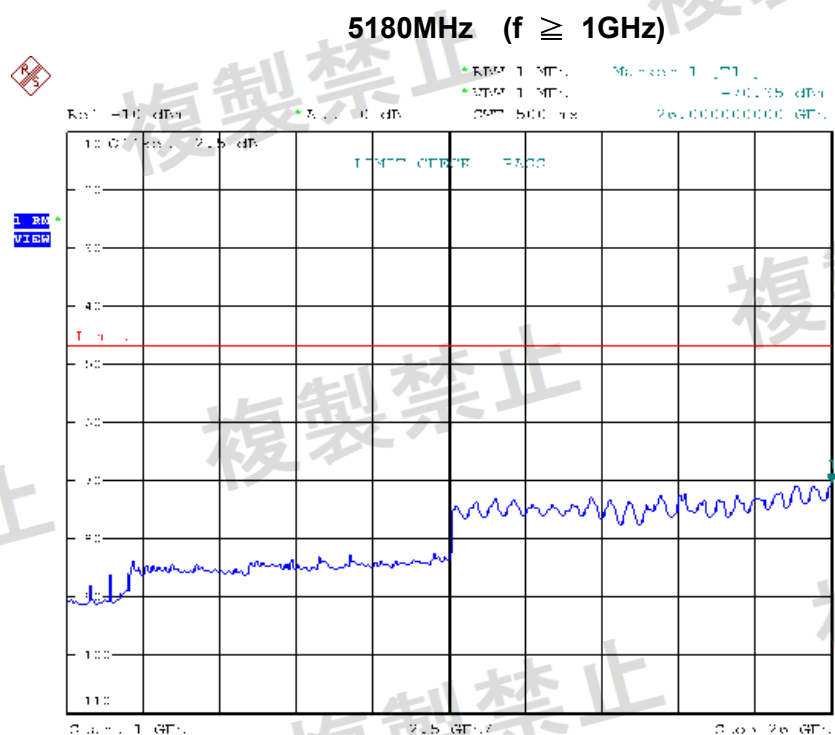
Date: 6.MAR.2018 15:15:03

Test Mode:	802.11n(HT20)
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Test Voltage	V	Normal Voltage				Remarks
Test Frequency	MHz	5180	5200	5240	-	Low/Mid/High of test frequency range
Limitation of Collateral Emission of Receiver	< 1GHz	0.0021	0.0019	0.0019	nW	Limit ≦ 4 nW (-54 dBm)
	≧ 1GHz	0.0923	0.0955	0.0940	nW	Limit ≦ 20 nW (-47 dBm)

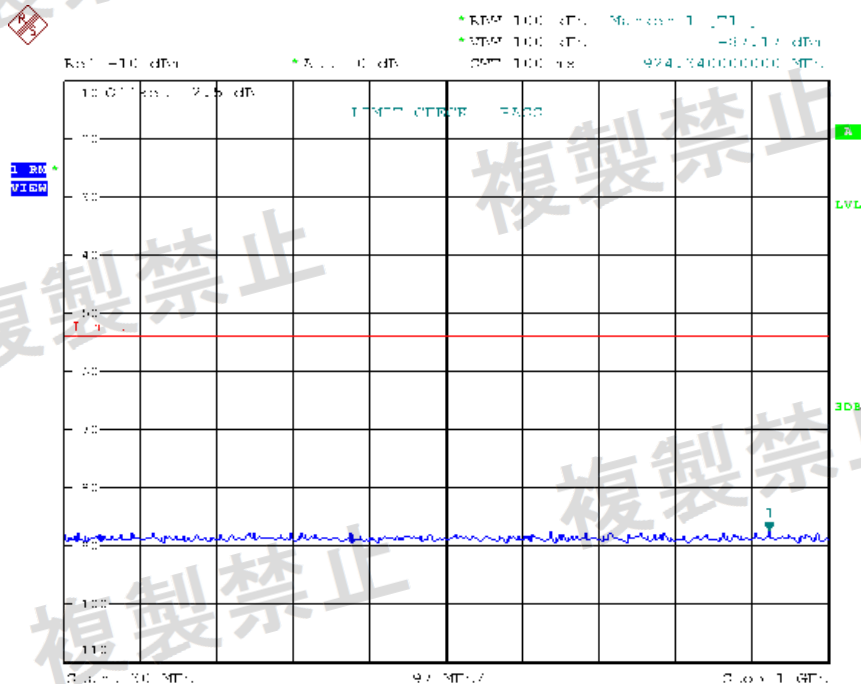


Date: 6.MAR.2018 15:17:56

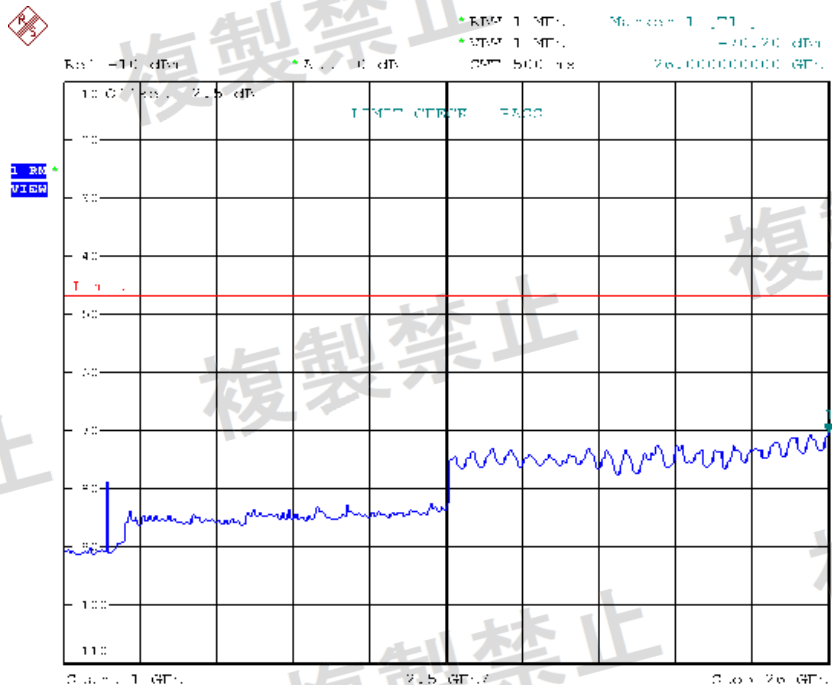


Date: 6.MAR.2018 15:18:05

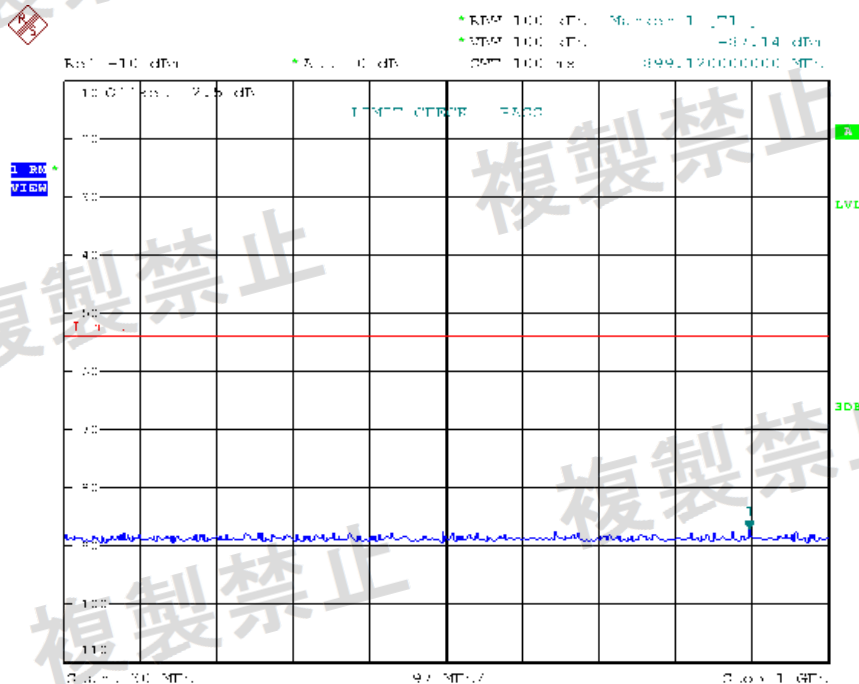
5200MHz ($f < 1\text{GHz}$)



5200MHz ($f \geq 1\text{GHz}$)

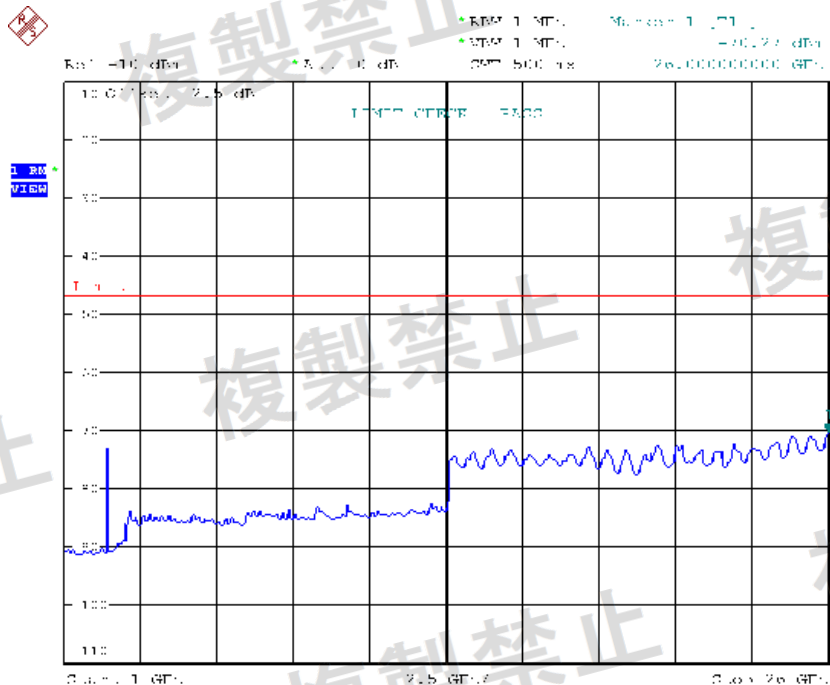


5240MHz (f < 1GHz)



Date: 6.MAR.2018 15:21:19

5240MHz (f ≥ 1GHz)

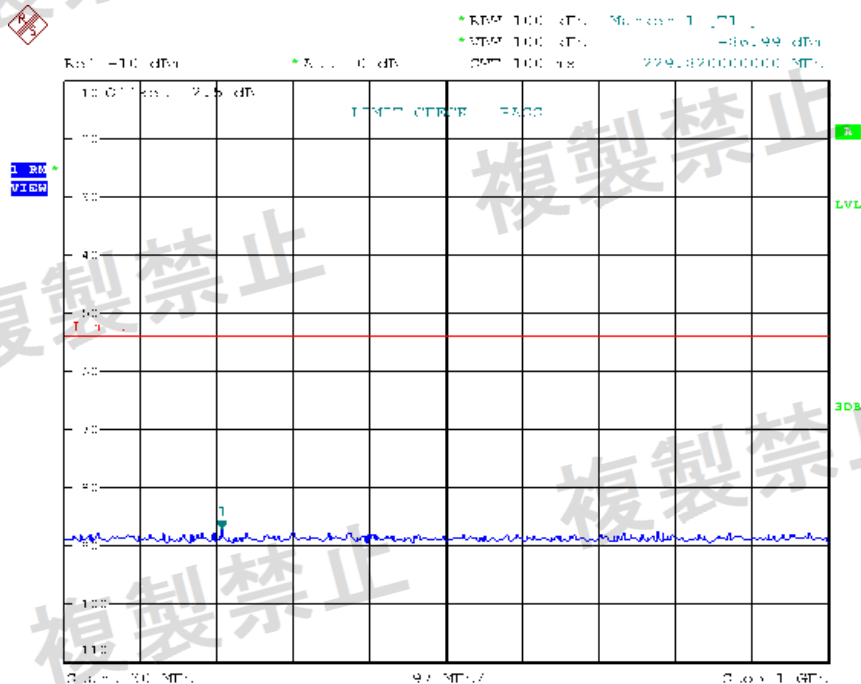


Date: 6.MAR.2018 15:21:28

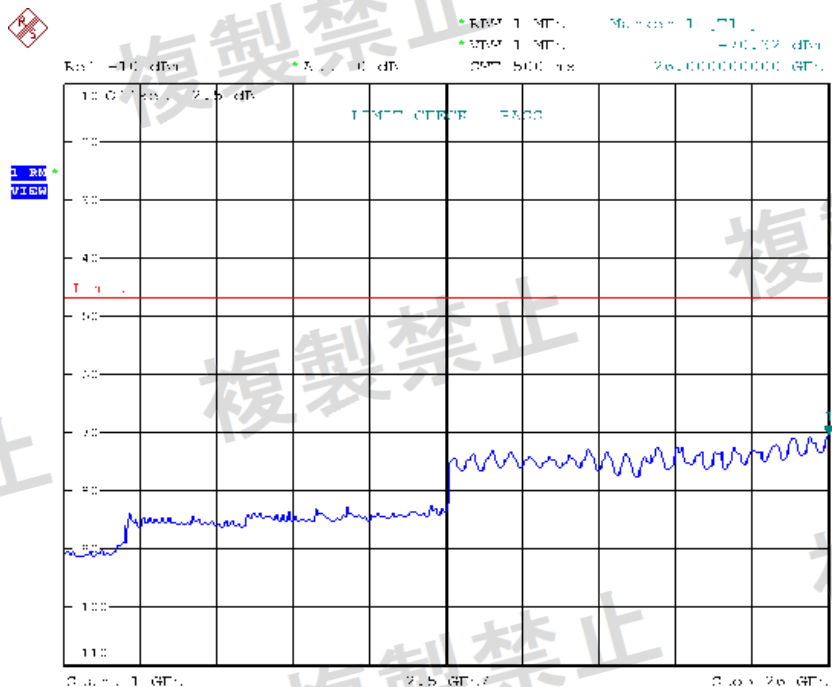
Test Mode:	802.11n(HT40)
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Test Voltage	V	Normal Voltage				Remarks
Test Frequency	MHz	5190	5230	-	-	Low/Mid/High of test frequency range
Limitation of Collateral Emission of Receiver	< 1GHz	0.0021	0.0020	-	nW	Limit $\leq$ 4 nW (-54 dBm)
	$\geq$ 1GHz	0.0920	0.0929	-	nW	Limit $\leq$ 20 nW (-47 dBm)

5230MHz (f < 1GHz)



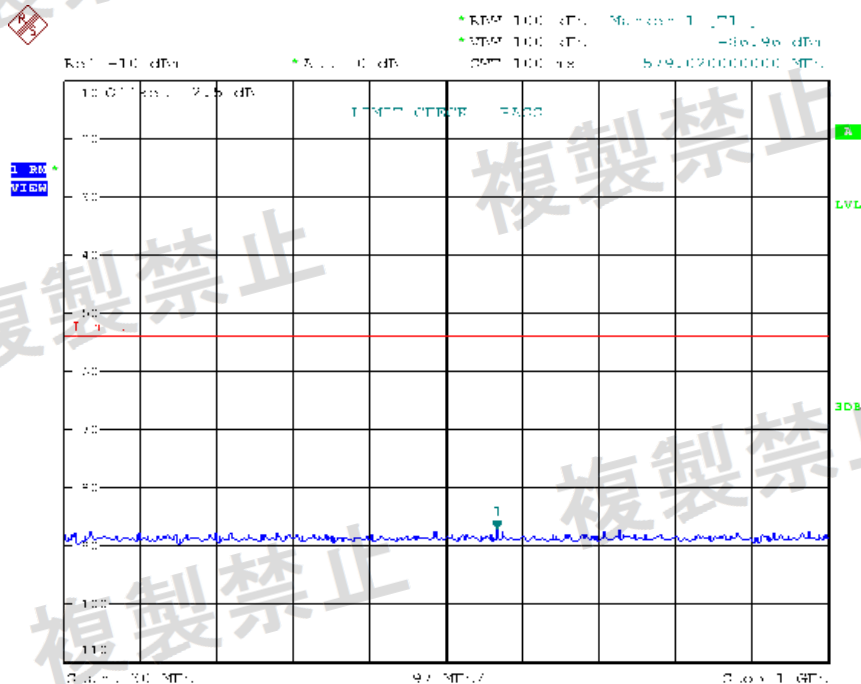
5230MHz (f ≥ 1GHz)



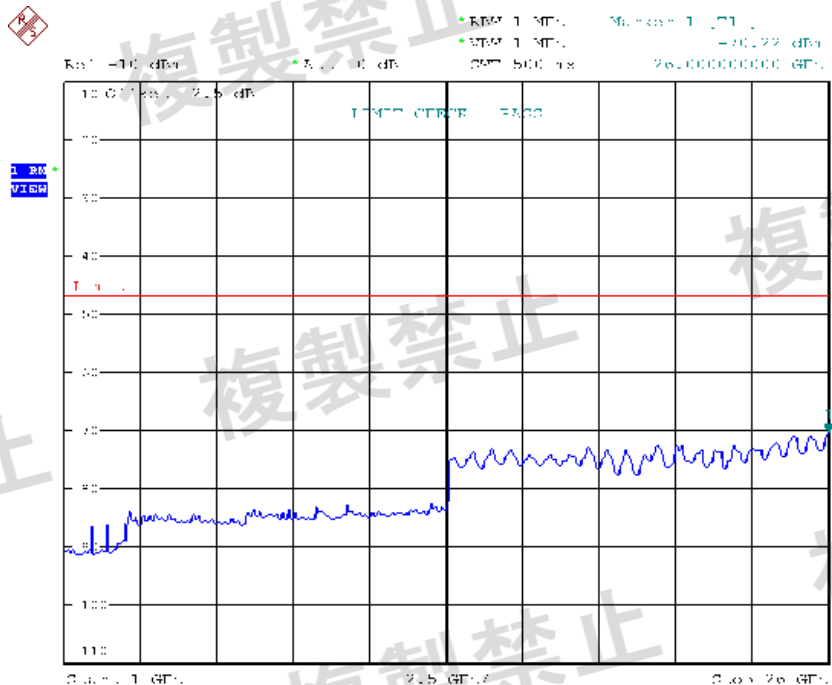
Test Mode:	802.11ac(VHT20)
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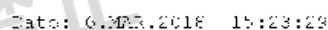
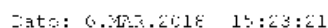
Test Voltage	V	Normal Voltage				Remarks
Test Frequency	MHz	5180	5200	5240	-	Low/Mid/Low of test frequency range
Limitation of Collateral Emission of Receiver	< 1GHz	0.0020	0.0020	0.0020	nW	Limit $\leq$ 4 nW (-54 dBm)
	$\geq$ 1GHz	0.0954	0.0964	0.0953	nW	Limit $\leq$ 20 nW (-47 dBm)

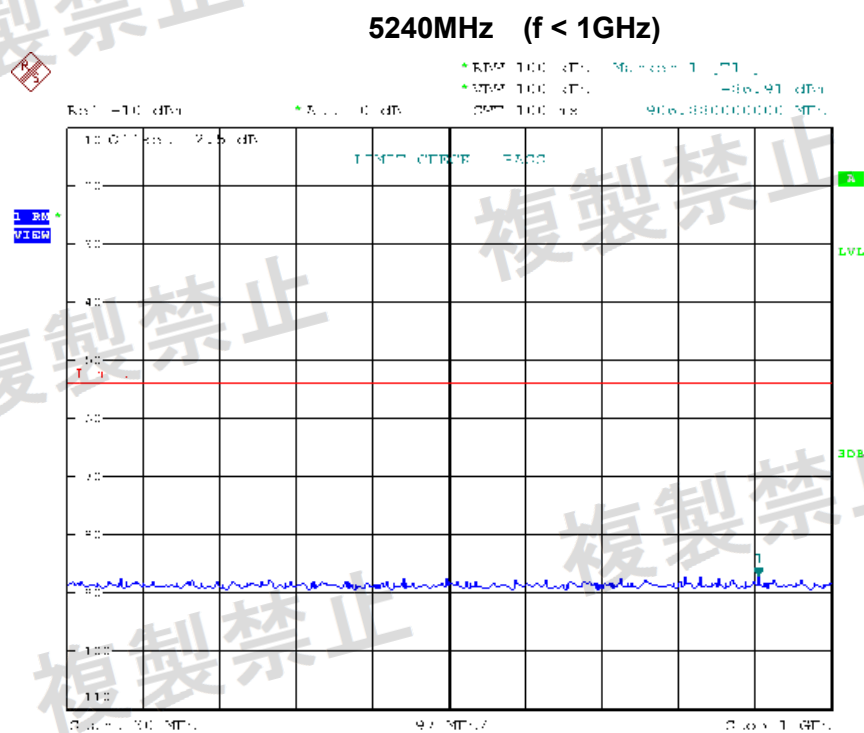
5180MHz (f < 1GHz)



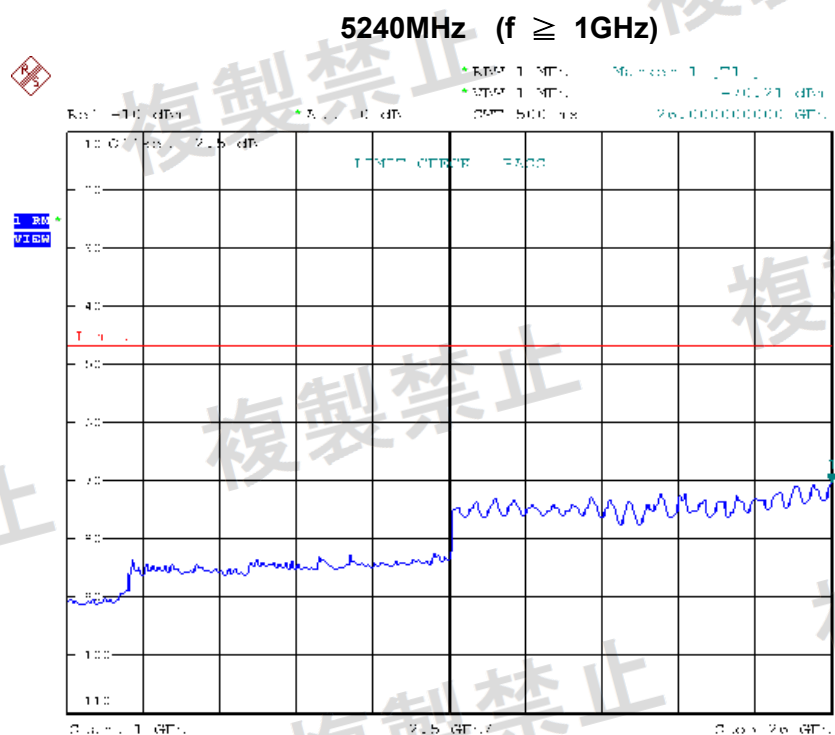
5180MHz (f ≥ 1GHz)







Date: 6.MAR.2018 15:23:39

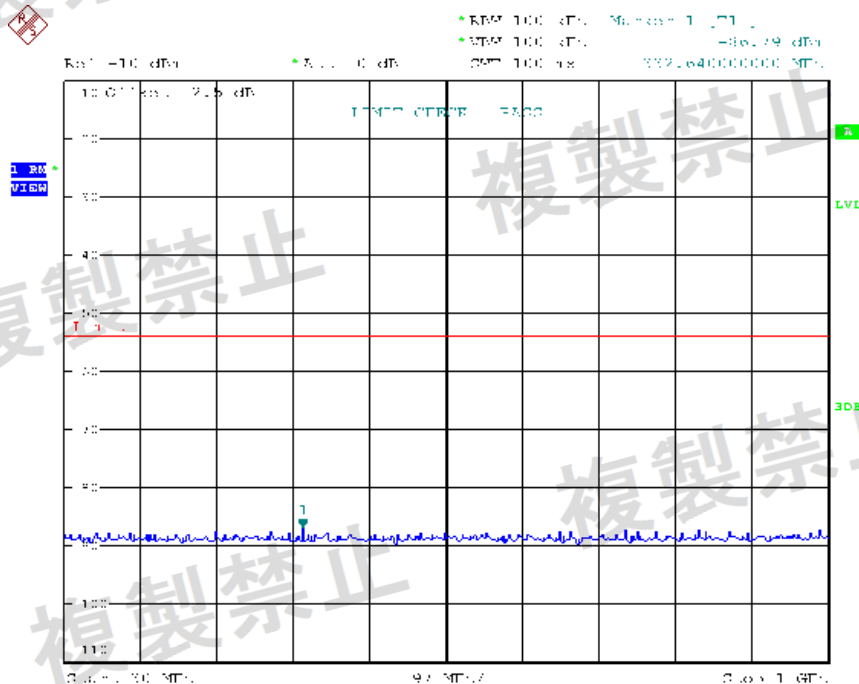


Date: 6.MAR.2018 15:23:48

Test Mode:	802.11ac(VHT40)
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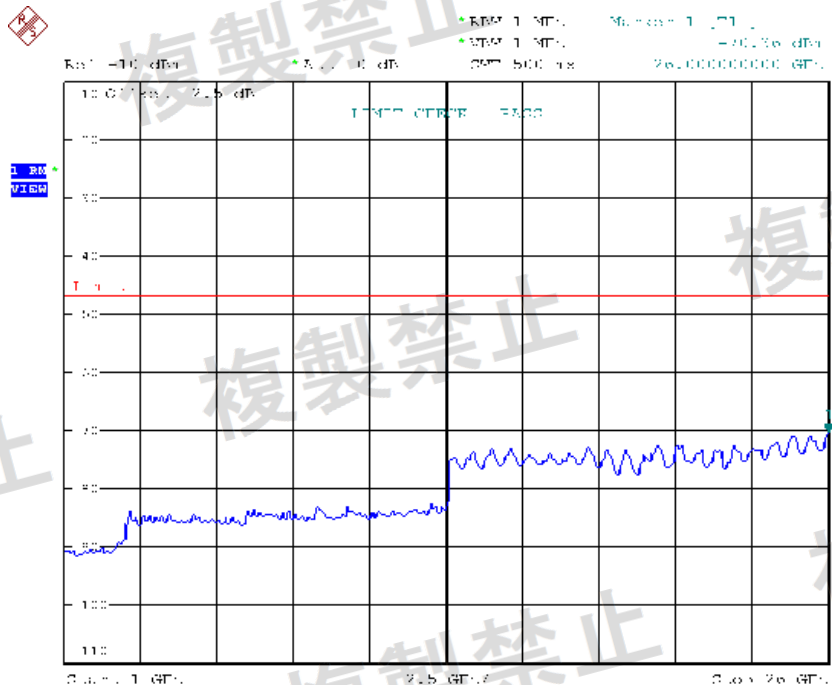
Test Voltage	V	Normal Voltage				Remarks
Test Frequency	MHz	5190	5230	-	-	Low/Mid/High of test frequency range
Limitation of Collateral Emission of Receiver	< 1GHz	0.0021	0.0019	-	nW	Limit $\leq$ 4 nW (-54 dBm)
	$\geq$ 1GHz	0.0920	0.0942	-	nW	Limit $\leq$ 20 nW (-47 dBm)

5190MHz (f < 1GHz)



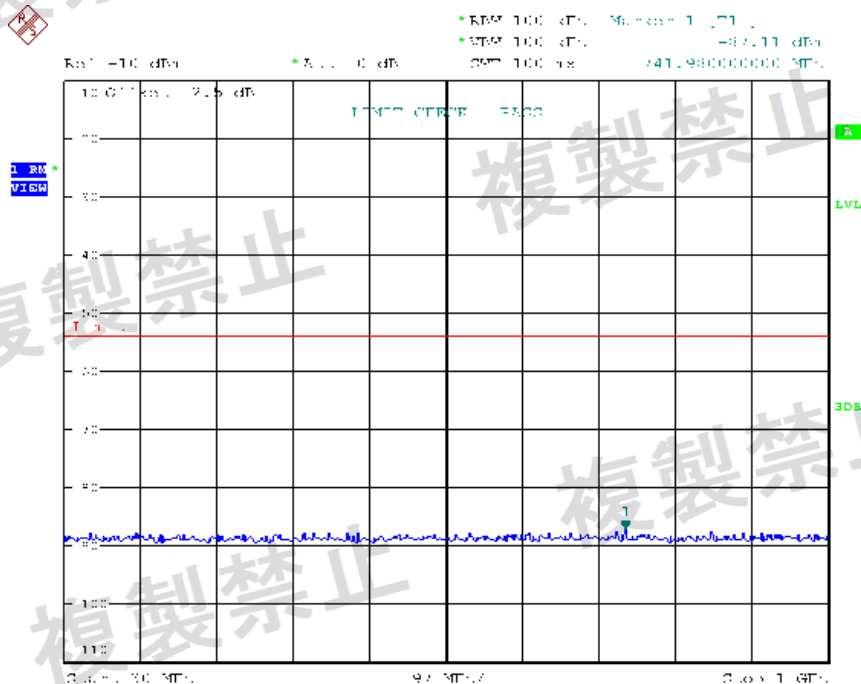
Date: 6.MAR.2018 15:25:11

5190MHz (f ≥ 1GHz)



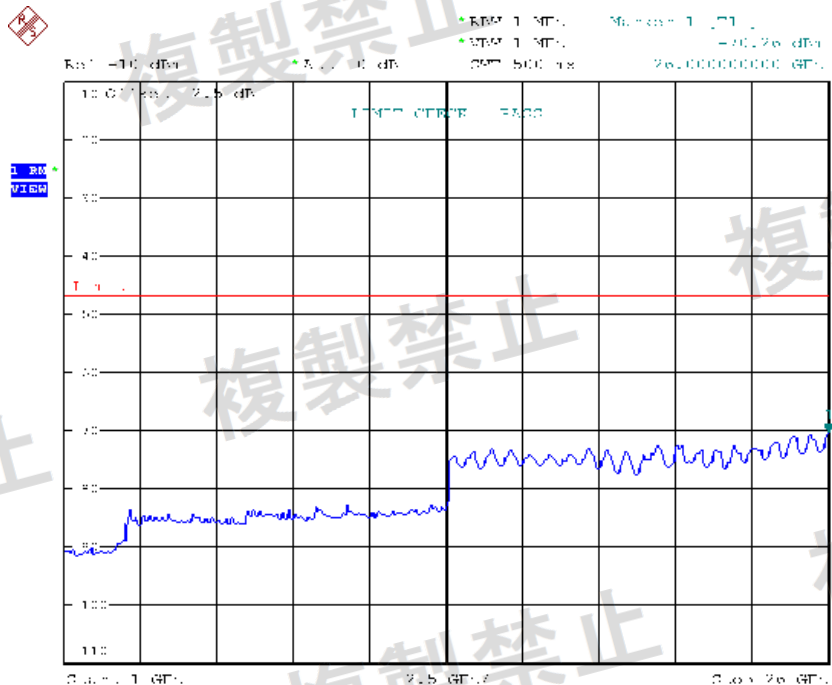
Date: 6.MAR.2018 15:25:20

5230MHz (f < 1GHz)



Date: 6.MAR.2018 15:26:36

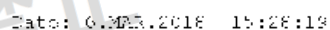
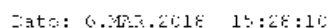
5230MHz (f ≥ 1GHz)



Date: 6.MAR.2018 15:26:45

Test Mode:	802.11ac(VHT80)
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5210	-	-	Low/Mid/High of test frequency range
Limitation of Collateral Emission of Receiver	< 1GHz	0.0019	-	-	Limit $\leq$ 4 nW (-54 dBm)
	$\geq$ 1GHz	0.0957	-	-	Limit $\leq$ 20 nW (-47 dBm)



APPENDIX G - TRANSMISSION BURST LENGTH

Test Mode:	802.11a
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5180	5200	5240	Low/Mid/Low of test frequency range
Transmission Burst Length	ms	2.3000	2.3000	2.3000	Limit $\leq$ 4ms

Test Mode:	802.11n(HT20)
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5180	5200	5240	Low/Mid/Low of test frequency range
Transmission Burst Length	ms	2.3000	2.3000	2.3000	Limit $\leq$ 4ms

Test Mode:	802.11n(HT40)
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5190	5230	-	Low/Mid/Low of test frequency range
Transmission Burst Length	ms	2.3000	2.3000	-	Limit $\leq$ 4ms

Test Mode:	802.11ac(VHT20)
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5180	5200	5240	Low/Mid/Low of test frequency range
Transmission Burst Length	ms	2.3000	2.3000	2.3000	Limit $\leq$ 4ms

Test Mode:	802.11ac(VHT40)
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5190	5230	-	Low/Mid/Low of test frequency range
Transmission Burst Length	ms	2.3000	2.3000	-	Limit $\leq$ 4ms

Test Mode:	802.11ac(VHT80)
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5210	-	-	Low/Mid/Low of test frequency range
Transmission Burst Length	ms	2.3000	-	-	Limit $\leq$ 4ms

APPENDIX H - CARRIER SENSE CAPABILITY

Test Mode:	802.11a
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5180	5200	5240	Low/Mid/High of test level
Carrier Sense (100mV/m)	OK / NG	OK	OK	OK	Pin = 22.79+Gr-20*log(freq_MHz) [dBm]

Test Mode:	802.11n(HT20)
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5180	5200	5240	Low/Mid/High of test level
Carrier Sense (100mV/m)	OK / NG	OK	OK	OK	Pin = 22.79+Gr-20*log(freq_MHz) [dBm]

Test Mode:	802.11n(HT40)
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5190	5230	-	Low/Mid/High of test level
Carrier Sense (100mV/m)	OK / NG	OK	OK	-	Pin = 22.79+Gr-20*log(freq_MHz) [dBm]

Test Mode:	802.11ac(VHT20)
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5180	5200	5240	Low/Mid/High of test level
Carrier Sense (100mV/m)	OK / NG	OK	OK	OK	Pin = 22.79+Gr-20*log(freq_MHz) [dBm]

Test Mode:	802.11ac(VHT40)
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5190	5230	-	Low/Mid/High of test level
Carrier Sense (100mV/m)	OK / NG	OK	OK	-	Pin = 22.79+Gr-20*log(freq_MHz) [dBm]

Test Mode:	802.11ac(VHT80)
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Test Voltage	V	Normal Voltage			Remarks
Test Frequency	MHz	5210	-	-	Low/Mid/High of test level
Carrier Sense (100mV/m)	OK / NG	OK	-	-	Pin = 22.79+Gr-20*log(freq_MHz) [dBm]

End of Test Report