

TEST REPORT

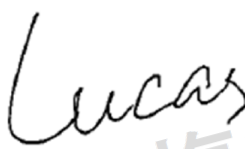
Applicant	Shenzhen Neutop Optoelectronics Co., Ltd.
Address	502, BLDG 4, Pingshan minQi Technology Park, No. 65 Lishan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China

Manufacturer or Supplier	Shenzhen Neutop Optoelectronics Co., Ltd.	
Address	502, BLDG 4, Pingshan minQi Technology Park, No. 65 Lishan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China	
Product	Projector	
Brand Name	Aurzen, AURZEN	
Model	A01M31	
Additional Model & Model Difference	N/A	
Date of tests	Apr. 23, 2025 ~ Apr. 30, 2025	

The tests have been carried out according to the requirements of the following standards:

☒ **ARIB STD-T71 (V7.0), Article 2 Paragraph 1 Item 19-3, MIC Notice No.88 Appendix No.45**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Lucas Chen Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	
	Date: May 16, 2025

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RJ2504WDG0269-4	Original release	May 16, 2025

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

Article 2 Paragraph 1 Item 19-3 Reference	ARIB STD-T71 Ref.	Report Reference	Parameter	Test Results (Note)
General Provisions				
C	3.1.2 (4)	3.1	Frequency tolerance	C
D	3.1.2 (11)	3.2	Occupied bandwidth	C
E	3.1.2 (8)	3.3	Spurious emissions	C
Transmitting Equipment				
F	3.1.2 (3)	3.5	Tolerance of antenna power	C
--	--	--	SAR	NA
Transmitting Antenna				
--	--	2.4	Type, configuration, etc. of transmitting antenna	C
--	--	2.4	Direction pattern of transmitting antenna	C
Receiving Equipment				
H	3.1.3 (1)	3.6	Spurious emissions of receiver	C
--	--	2.4	Refer to all articles for transmitting antenna	C
Operating Frequency				
--	3.1.8 (1)	2.4	High frequency	C
--	3.1.8 (1)	2.4	Modulation section can not be opened easily	C
--	3.1.1(1)	2.1	Communication method	C
--	3.1.2 (1)	2.1	Modulation method	C
--	3.1.2 (6)	2.1	Signal transmission rate	C
--	3.1.2 (7)	3.7	Burst length	C
--	3.1.2 (2)	3.5	Antenna power	C
--	3.1.2 (5)	3.5	Isotropically radiated power	C
--	3.1.2 (1)	-	Number of carriers within 1 MHz bandwidth in OFDM	C
--	3.1.2 (10)	3.3	Out-band leakage power	C
--	3.1.2 (9)	3.4	Adjacent channel leakage power	C
--	3.1.4.1	3.8	Interference Prevention Function	C
--	3.1.7(1)	3.9	Carrier sense capability	C
--	--	--	Dynamic frequency selection	NA
Note 1: C = Conform NC = Not Conform NT = Not Tested NA = Not Applicable				

1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in TR 100 028-1.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Parameter	Uncertainty
Occupied Bandwidth	206.50 Hz
Spurious emissions	$\pm 3.93\text{dB}$
Output power density	1.37dB
Adjacent Channel Leakage Power	0.5dB
Out of band radiated power	2.52dB
Frequency Tolerance	0.104Hz
Burst length	0.7%

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Projector
TEST MODEL	A01M31
POWER SUPPLY:	DC 35V from Adapter
MODULATION TYPE	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300.0Mbps 802.11ac: up to 866.7Mbps
OPERATING FREQUENCY RANGS	5180 ~ 5240MHz
NUMBER OF CHANNEL	For 5GHz(W52): 802.11a/n(HT20)/ac(VHT20): 8 802.11n(HT40)/ac(VHT40): 4 802.11ac(VHT80): 2
ANTENNA TYPE	5180 ~ 5240MHz: Chain 0: FPC Antenna, with 2.12dBi gain Chain 1: FPC Antenna, with 1.86dBi gain
RATED POWER DENSITY	Refer to NOTE 3
CONDUCTED POWER DENSITY	Refer to NOTE 3
EIRP POWER DENSITY	Refer to NOTE 3
CABLE SUPPLIED	Refer to the user's manual
TPC FUNCTION	No Support
HW-RELEASE NO.	V14.0.0.5
SW-RELEASE NO.	MT9660_MB_A

NOTES:

1. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.
2. Please refer to the EUT photo document (Reference No.: 2504WDG0269) for detailed product photo.
3. The EUT incorporates a SISO function without beam forming.

MODULATION MODE	TX/RX FUNCTION
802.11a	2 Chains (SISO)
802.11n(HT20)/ac(VHT20)	2 Chains (MIMO)
802.11n(HT40)/ac(VHT40)	2 Chains (MIMO)
802.11ac (VHT80)	2 Chains (MIMO)

* The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ac mode for VHT20 / VHT40, therefore investigated worst case for final test were chosen 802.11n (HT20/HT40) and record in the report

* 802.11a provided a SISO function, the antenna power test item is carried out on two antennas and shown in test report, other test items are carried out on the maximum power "chain 1" antenna and shown in test report.

4. The power table as below table:

Frequency Band	Mode	Rated power density(mW/MHz)	Conducted power density(mW/MHz)	EIRP power density (mW/MHz)
W52	802.11a (chain 0)	3	2.045	3.332
	802.11a (chain 1)	3	2.391	3.644
	802.11n(HT20)	5	4.736	7.716
	802.11n(HT40)	3	2.166	3.529
	802.11ac (VHT80)	2	0.970	1.580

5. The EUT was powered by the following adapter:

ADAPTER	
BRAND:	N/A
MODEL:	SOY-3500428-454
INPUT:	AC 100-240V, 50/60Hz 2.5A Max.
OUTPUT:	DC 35V, 4.28A, 149.8W
DC LINE:	Unshielded, Detachable, 1.5m
AC LINE:	Unshielded, Detachable, 1.2m, with one core



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2.2 DESCRIPTION OF TEST MODES

Operated in 5180 ~ 5320MHz band (W52):

Modes	Channel	Freq. (MHz)
802.11a/n(HT20)	36	5180
	40	5200
	48	5240
	52	5260
	60	5300
	64	5320
802.11n(HT40)	38	5190
	46	5230
	54	5270
	62	5310
802.11ac (VHT80)	42	5210
	58	5290

Note:

1. The channels which were indicated in bold type of the above channel list were selected as representative test channel. Therefore, only the data of the test channels were recorded in this report.

By means of test software provided by manufacture, the power levels during the tests were set according to the following codes:

Operated in 5180 ~ 5240MHz band (W52):

802.11a		802.11n(HT20)		802.11n(HT40)		802.11ac (VHT80)	
Channel	Power Setting	Channel	Power Setting	Channel	Power Setting	Channel	Power Setting
36	11	36	12	38	12	42	10.5
40	11	40	12	46	12	/	/
48	11	48	12	/	/	/	/

2.3 TEST CONDITIONS

Test Conditions	Voltage (Vac)
V _{normal}	100
V _{+10%}	110
V _{-10%}	90

2.4 ASSEMBLY

The RF circuits are located inside of the EUT. The RF circuit was covered by metal shielding case, Also it won't be easy to be opened. Frequency Band, channels and modulation parameters are fixed inside the module. They cannot be edited or modified by end-user.



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2.4.1 ANTENNA GAIN

Ant. Type	Band	Highest Peak Gain with Cable Loss (dBi)
FPC	W52	CHAIN 0: 2.12 CHAIN 1: 1.86

2.4.2 ANTENNA PATTERN

Please refer to the attached file (Antenna report).

3 TEST TYPES AND RESULTS

5.1 FREQUENCY TOLERANCE MEASUREMENT

5.1.2 LIMITS OF FREQUENCY TOLERANCE MEASUREMENT

Tolerance of frequency shall be +/- 20ppm

5.1.3 TEST SETUP



5.1.4 TEST RESULTS

802.11a / 802.11n (HT20)

Environmental Conditions		25 deg.C, 68% RH					
Channel	Frequency (MHz)	Voltage normal		Voltage +10%		Voltage -10%	
		Carrier frequency (MHz)	Frequency tolerance (ppm)	Carrier frequency (MHz)	Frequency tolerance (ppm)	Carrier frequency (MHz)	Frequency tolerance (ppm)
36	5180	5180.015621	3.015	5180.023829	4.600	5180.030863	5.958
40	5200	5200.053921	10.369	5200.056045	10.777	5200.057720	11.100
48	5240	5240.043994	8.395	5240.047595	9.083	5240.049824	9.508

802.11n (HT40)

Environmental Conditions		25 deg.C, 68% RH					
Channel	Frequency (MHz)	Voltage normal		Voltage +10%		Voltage -10%	
		Carrier frequency (MHz)	Frequency tolerance (ppm)	Carrier frequency (MHz)	Frequency tolerance (ppm)	Carrier frequency (MHz)	Frequency tolerance (ppm)
38	5190	5190.098798	19.036	5190.103272	19.898	5190.101092	19.478
46	5230	5230.098798	18.890	5230.097204	18.585	5230.094949	18.154



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802.11ac (VHT80)

Environmental Conditions		25 deg.C, 68% RH					
Channel	Frequency (MHz)	Voltage normal		Voltage +10%		Voltage -10%	
		Carrier frequency (MHz)	Frequency tolerance (ppm)	Carrier frequency (MHz)	Frequency tolerance (ppm)	Carrier frequency (MHz)	Frequency tolerance (ppm)
42	5210	5210.061970	11.894	5210.083893	16.102	5210.094522	18.142

5.2 OCCUPIED BANDWIDTH MEASUREMENT (99% POWER BANDWIDTH)

3.2.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

Item	Operating Band	Limit	Remark
Occupied bandwidth	W52	<20MHz	802.11a/n(HT20)/ac(VHT20)
Occupied bandwidth		<40MHz	802.11n(HT40)/ac(VHT40)
Occupied bandwidth		<80MHz	802.11ac(VHT80)

3.2.2 TEST SETUP

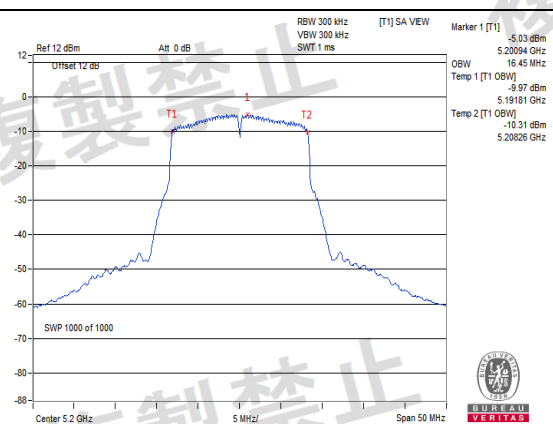
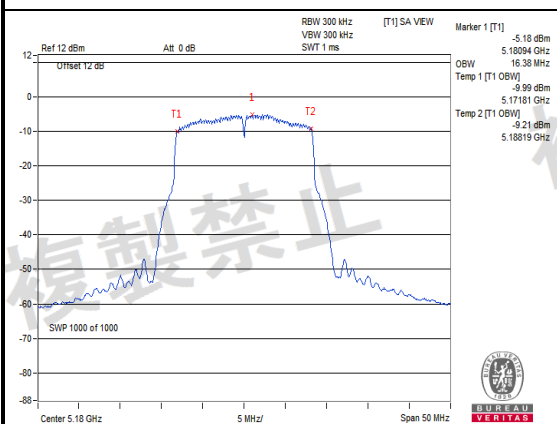


3.2.3 TEST RESULTS

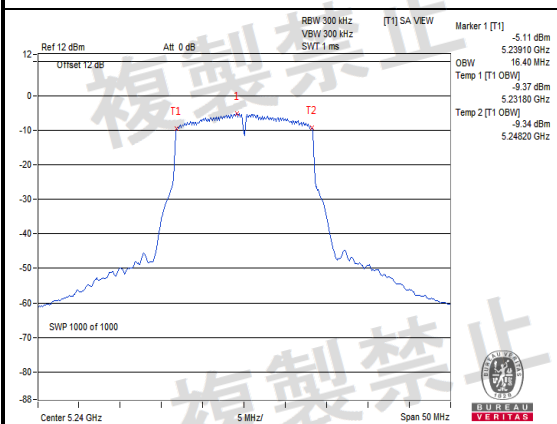
802.11a

Environmental Conditions		25 deg.C, 60% RH		
Channel	Frequency (MHz)	V _{normal}	V _{+10%}	V _{-10%}
		Occupied Bandwidth (MHz)	Occupied Bandwidth (MHz)	Occupied Bandwidth (MHz)
36	5180	16.38	16.40	16.40
40	5200	16.45	16.40	16.40
48	5240	16.40	16.40	16.40

NOTE: The spectrum plots are attached on the following pages.



Channel 40



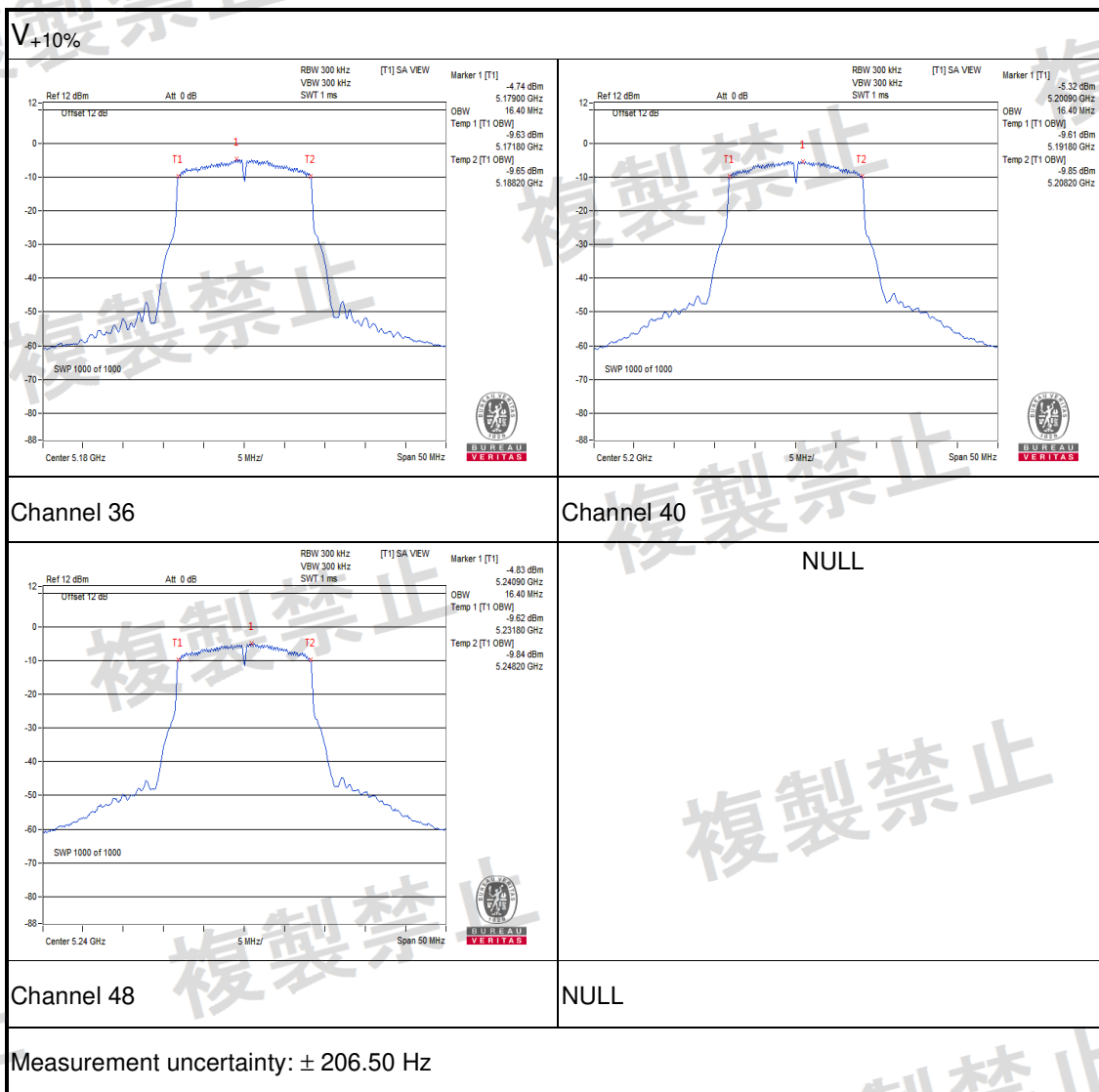
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Measurement uncertainty: ± 206.50 Hz

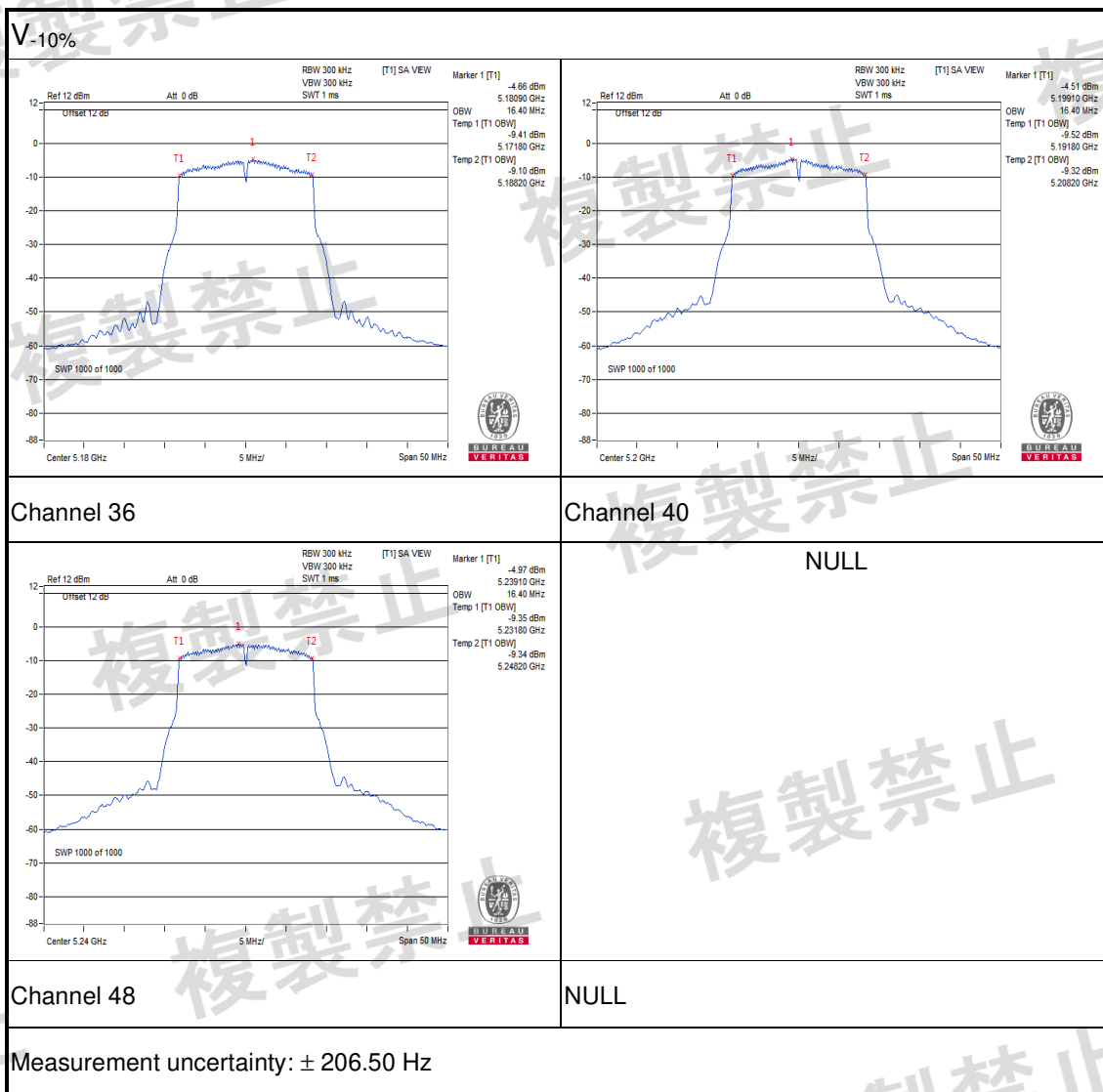


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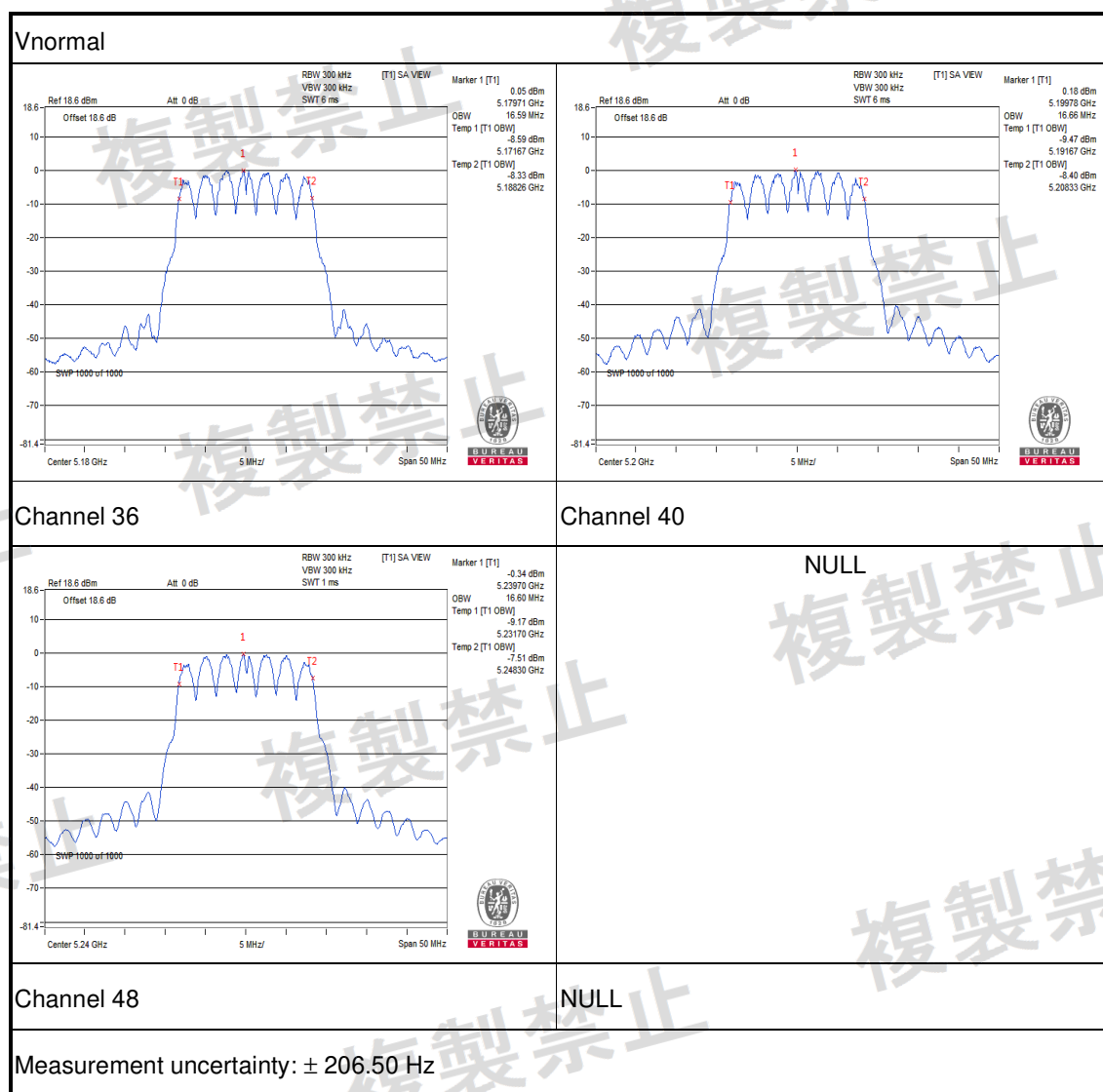
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802.11n (HT20)

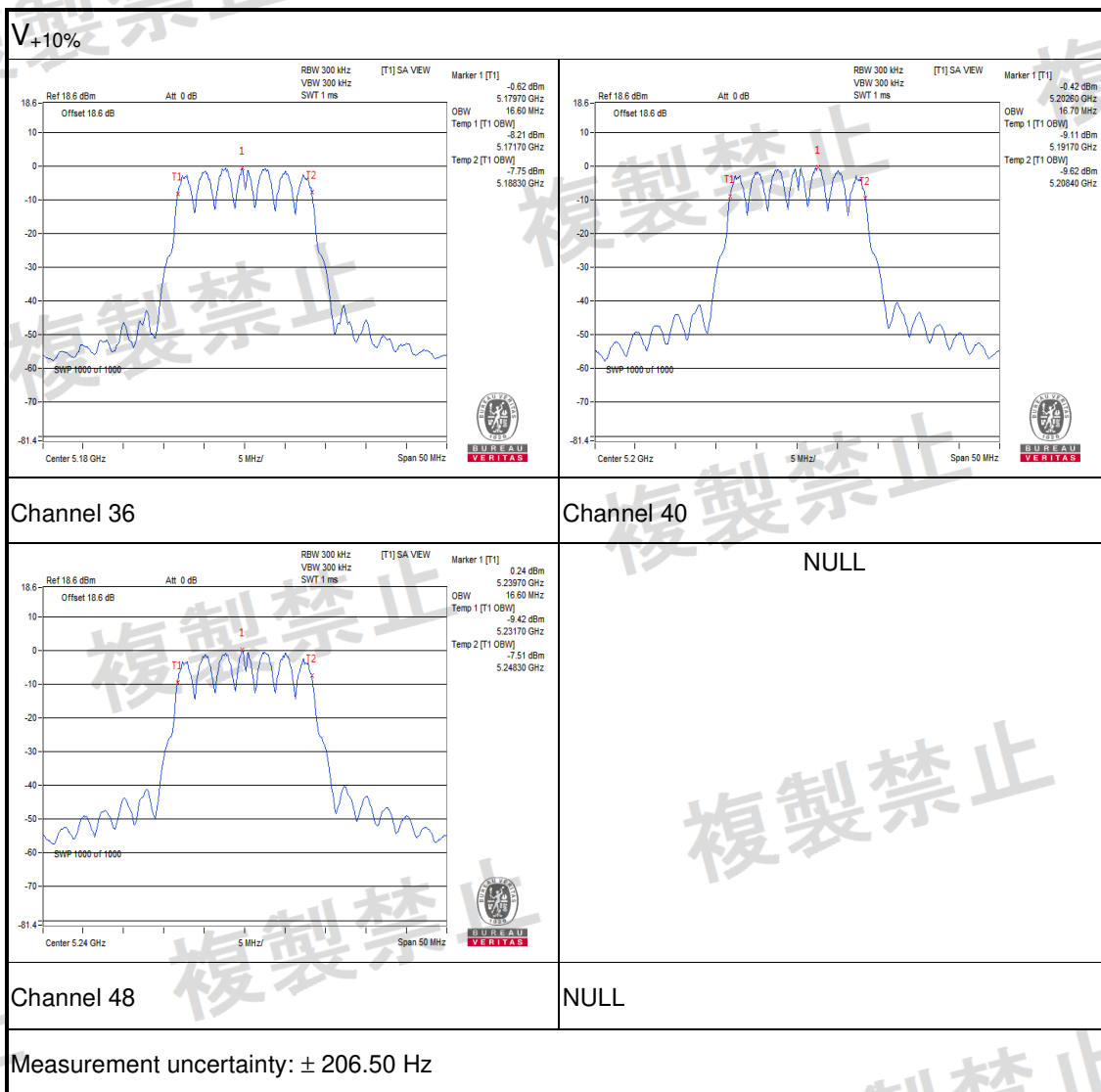
Environmental Conditions		25 deg.C, 60% RH		
Channel	Frequency (MHz)	V _{normal}	V _{+10%}	V _{-10%}
		Occupied Bandwidth (MHz)	Occupied Bandwidth (MHz)	Occupied Bandwidth (MHz)
36	5180	16.59	16.60	16.70
40	5200	16.66	16.70	16.70
48	5240	16.60	16.60	16.70

NOTE: The spectrum plots are attached on the following pages.



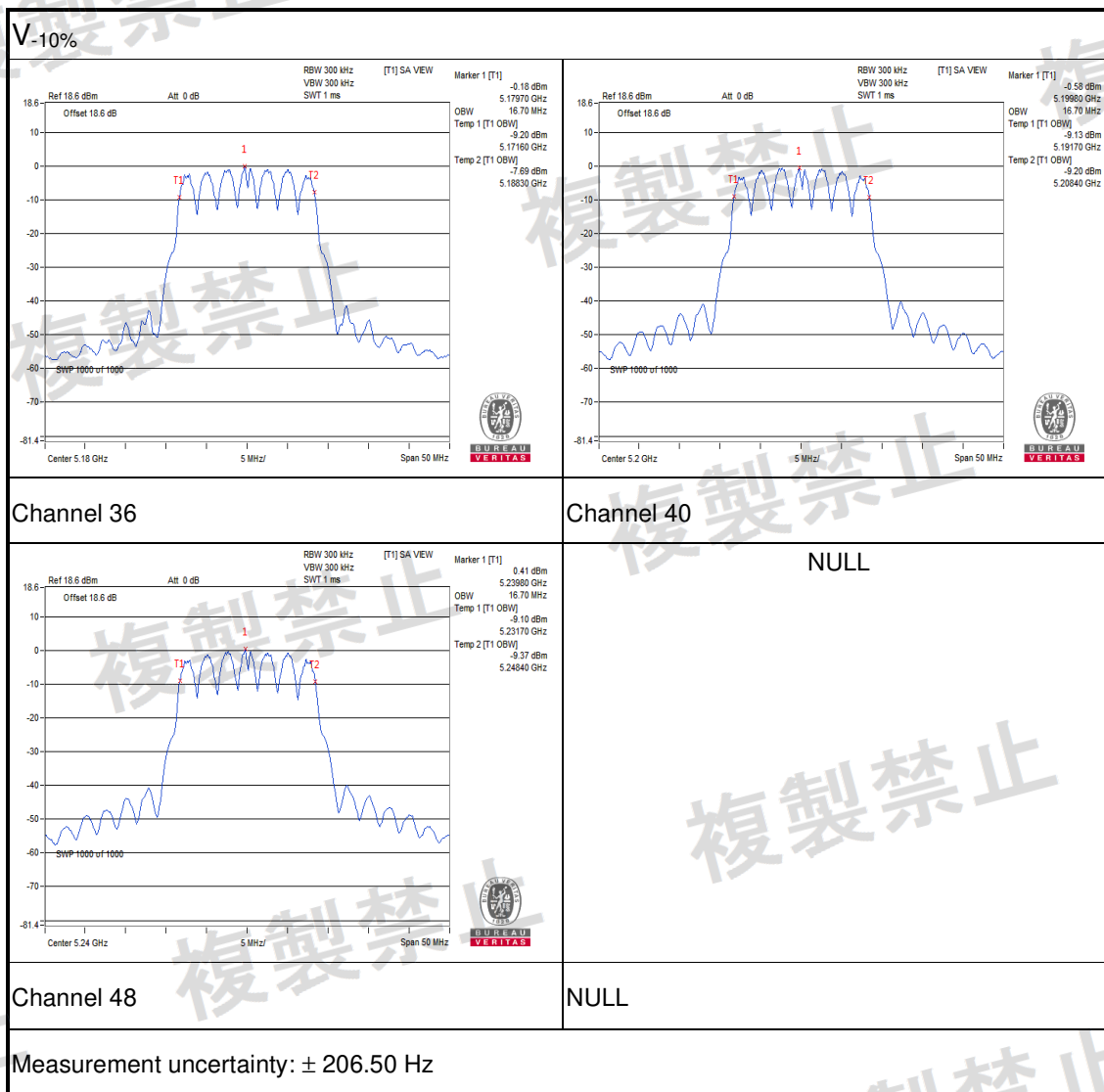


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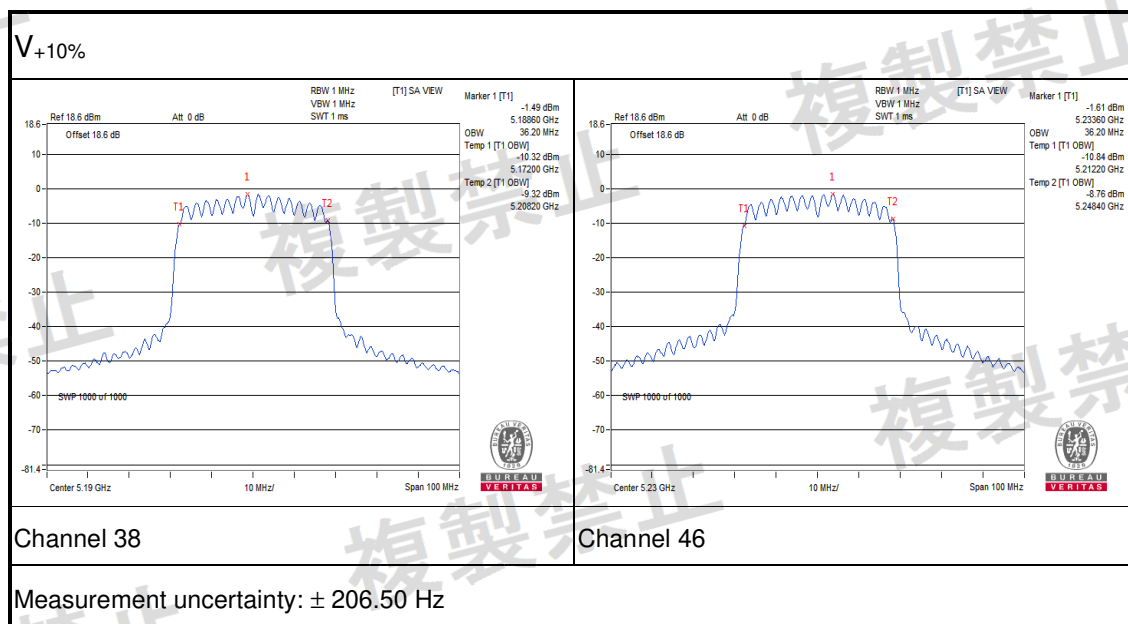
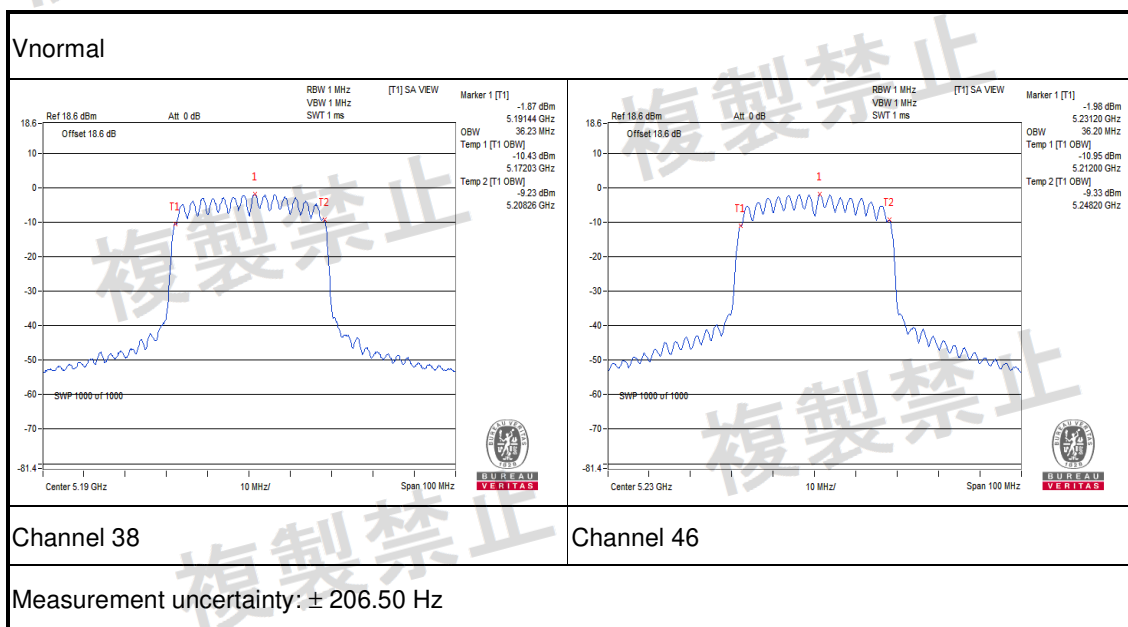


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Environmental Conditions		25 deg.C, 60% RH		
Channel	Frequency (MHz)	V _{normal}	V _{+10%}	V _{-10%}
		Occupied Bandwidth (MHz)	Occupied Bandwidth (MHz)	Occupied Bandwidth (MHz)
38	5190	36.23	36.20	36.20
46	5230	36.20	36.20	36.20

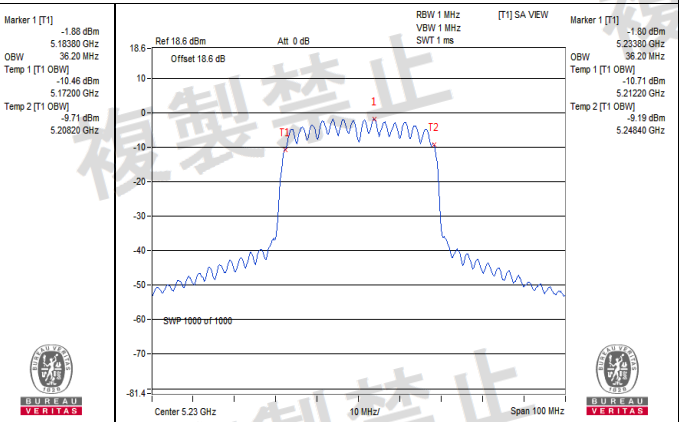
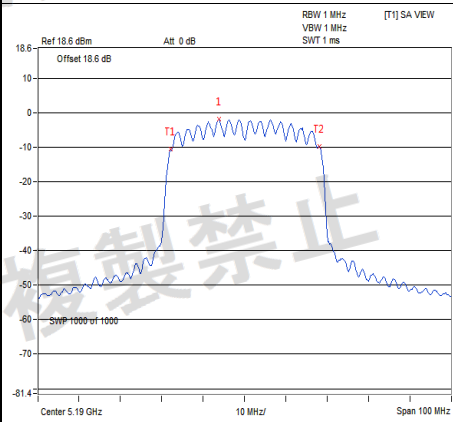
NOTE: The spectrum plots are attached on the following pages.





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V-10%



Channel 38

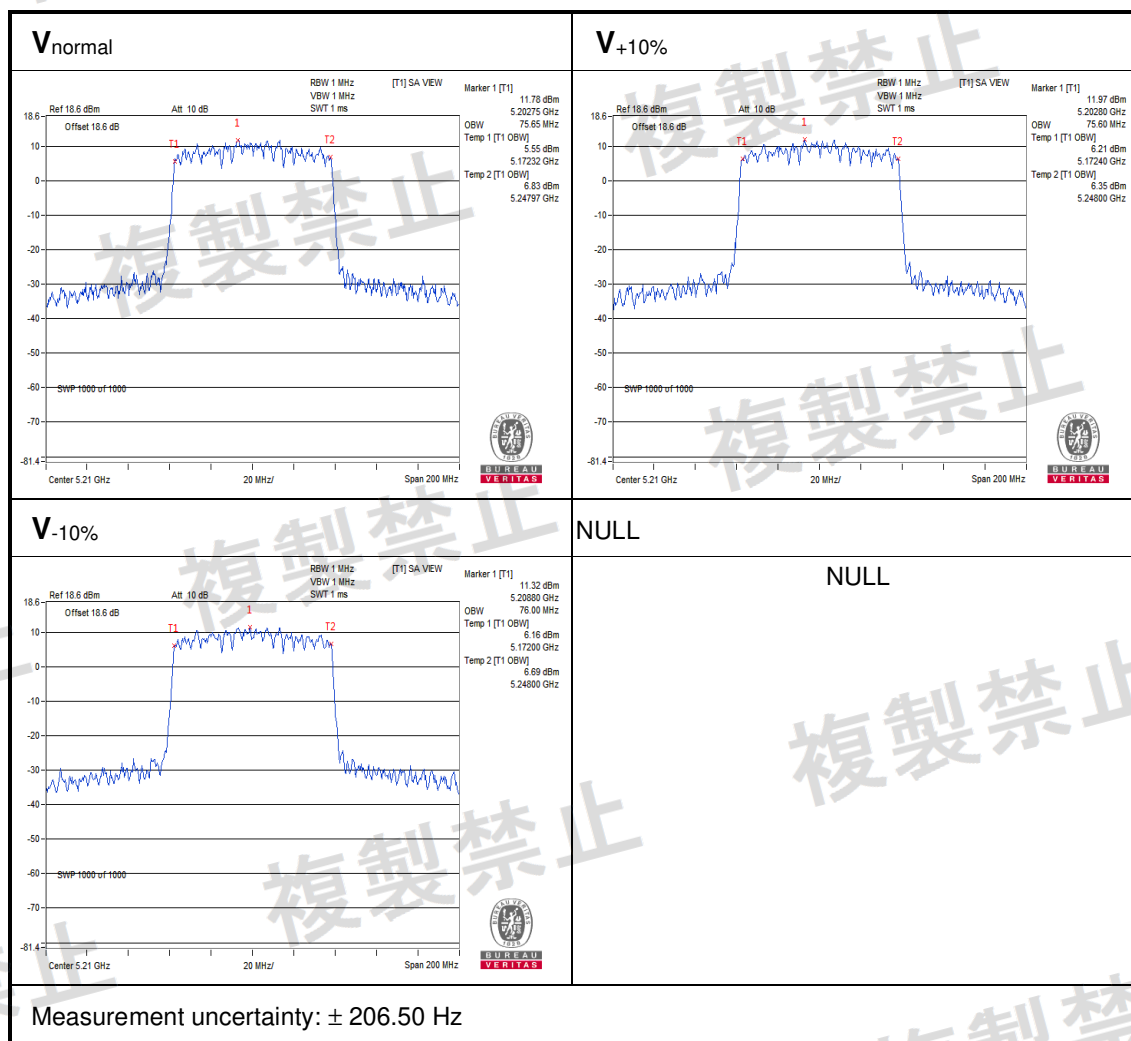
Channel 46

Measurement uncertainty: ± 206.50 Hz

802.11ac (VHT80)

Environmental Conditions		25 deg.C, 60% RH		
Channel	Frequency (MHz)	V _{normal}	V _{+10%}	V _{-10%}
		Occupied Bandwidth (MHz)	Occupied Bandwidth (MHz)	Occupied Bandwidth (MHz)
42	5210	75.65	75.60	76.00

NOTE: The spectrum plots are attached on the following pages.



3.3 SPURIOUS EMISSIONS FOR TRANSMITTER & OUT-BAND LEAKAGE POWER

3.3.1 LIMITS OF SPURIOUS EMISSIONS & OUT-BAND LEAKAGE POWER (EIRP)

W52 bands: 802.11a / 802.11n (HT20)

Frequencies (MHz)	Limit
OBW $\leq$ 18MHz	
30.0MHz to 1000.0MHz	$\leq$ 2.5 μ W/MHz
1000.0MHz to 5135.0MHz	$\leq$ 2.5 μ W/MHz
$5135.0 \leq f_o \leq 5142.0$ MHz	$\leq$ 2.5 μ W/MHz
$5142.0 < f_o \leq 5150.0$ MHz	$\leq$ 15.0 μ W/MHz
$5250.0 \leq f_o < 5251.0$ MHz	$\leq 10.0^{1-(f-9)}$ mW/MHz
$5251.0 \leq f_o < 5260.0$ MHz	$\leq 10.0^{-1-(8/90)(f-11)}$ mW/MHz
$5260.0 \leq f_o < 5266.7$ MHz	$\leq 10.0^{-1.8-(6/50)(f-20)}$ mW/MHz
$5266.7 \leq f_o \leq 5365.0$ MHz	$\leq$ 2.5 μ W/MHz
5365.0MHz to 26000.0MHz	$\leq$ 2.5 μ W/MHz
18MHz < OBW < 20MHz	
30.0MHz to 1000.0MHz	$\leq$ 2.5 μ W/MHz
1000.0MHz to 5135.0MHz	$\leq$ 2.5 μ W/MHz
$5135.0 \leq f_o \leq 5142.0$ MHz	$\leq$ 2.5 μ W/MHz
$5142.0 < f_o \leq 5150.0$ MHz	$\leq$ 15.0 μ W/MHz
$5250.0 \leq f_o < 5251.0$ MHz	$\leq 10.0^{1-(f-9)}$ mW/MHz
$5251.0 \leq f_o < 5260.0$ MHz	$\leq 10.0^{-1-(8/90)(f-11)}$ mW/MHz
$5260.0 \leq f_o < 5266.7$ MHz	$\leq 10.0^{-1.8-(6/50)(f-20)}$ mW/MHz
$5266.7 \leq f_o \leq 5365.0$ MHz	$\leq$ 2.5 μ W/MHz
5365.0MHz to 26000.0MHz	$\leq$ 2.5 μ W/MHz

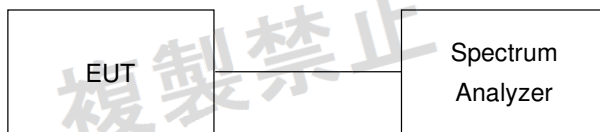
W52 bands: 802.11n (HT40)

Frequencies (MHz)	Limit
30.0MHz ~ 1000.0MHz	$\leq$ 2.5 μ W/MHz
1000.0MHz ~ 5100.0MHz	$\leq$ 2.5 μ W/MHz
$5100.0 \leq f_o \leq 5141.6$ MHz	$\leq$ 2.5 μ W/MHz
$5141.6 < f_o \leq 5150.0$ MHz	$\leq$ 15.0 μ W/MHz
$5250.0 \leq f_o < 5251$ MHz	$\leq 10.0^{-(f-20)+\log(1/2)}$ mW/MHz
$5251 \leq f_o < 5270.0$ MHz	$\leq 10.0^{-(8/190)(f-21)-1+\log(1/2)}$ mW/MHz
$5270.0 \leq f_o < 5278.4$ MHz	$\leq 10.0^{-(3/50)(f-40)-1.8+\log(1/2)}$ mW/MHz
$5278.4 \leq f_o \leq 5400.0$ MHz	$\leq$ 2.5 μ W/MHz
5400.0MHz ~ 26000.0MHz	$\leq$ 2.5 μ W/MHz

W52 bands: 802.11ac (VHT80)

Frequencies (MHz)	Limit
30.0MHz ~ 1000.0MHz	$\leq 2.5 \text{ uW/MHz}$
1000.0MHz ~ 5020.0MHz	$\leq 2.5 \text{ uW/MHz}$
$5020.0 \leq f_o \leq 5123.2\text{MHz}$	$\leq 2.5 \text{ uW/MHz}$
$5123.2 < f_o \leq 5150.0\text{MHz}$	$\leq 15.0 \text{ uW/MHz}$
$5250.0 \leq f_o < 5251.0\text{MHz}$	$\leq 10.0^{-(f-40)+\log(1/4)} \text{ mW/MHz}$
$5251.0 \leq f_o < 5290.0\text{MHz}$	$\leq 10.0^{-(8/390)(f-41)-1+\log(1/4)} \text{ mW/MHz}$
$5290.0 \leq f_o < 5296.7\text{MHz}$	$\leq 10.0^{-(3/100)(f-80)-1.8+\log(1/4)} \text{ mW/MHz}$
$5296.7 \leq f_o \leq 5480.0\text{MHz}$	$\leq 2.5 \text{ uW/MHz}$
5480.0MHz ~ 26000.0MHz	$\leq 2.5 \text{ uW/MHz}$

3.3.2 TEST SETUP





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3.3.3 TEST RESULTS

W52 Bands: 802.11a:

Environmental Conditions		25 deg.C, 60 % RH			
Test Channel		CH 36 (5180MHz)			
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (uW/MHz)	Limit (uW/MHz)	Result
V _{normal}	30.0 to 1000.0	974.416	1.667247	2.5	PASS
	1000.0 to 5135.0	5041.445	0.066834	2.5	PASS
	5135.0 to 5142.0	5139.83	0.104472	2.5	PASS
	5142.0 to 5150.0	5142.848	0.091411	15	PASS
	5250.0 to 5250.2	5250.086	0.076033	1270.574106	PASS
	5250.2 to 5251.0	5250.891	0.115878	128.528666	PASS
	5251.0 to 5260.0	5256.095	0.093111	35.246103	PASS
	5260.0 to 5266.7	5264.231	0.094842	4.937477	PASS
	5266.7 to 5365.0	5274.15	0.105196	2.5	PASS
	5365.0 to 26000.0	10361.25	0.159588	2.5	PASS
V _{max.}	30.0 to 1000.0	975.143	1.545254	2.5	PASS
	1000.0 to 5135.0	5017.152	0.074645	2.5	PASS
	5135.0 to 5142.0	5141.727	0.087096	2.5	PASS
	5142.0 to 5150.0	5145.551	0.102802	15	PASS
	5250.0 to 5250.2	5250.086	0.072778	1270.574106	PASS
	5250.2 to 5251.0	5250.603	0.083176	249.459473	PASS
	5251.0 to 5260.0	5254.513	0.108393	48.722923	PASS
	5260.0 to 5266.7	5262.937	0.09977	7.053593	PASS
	5266.7 to 5365.0	5283.378	0.107152	2.5	PASS
	5365.0 to 26000.0	10358.67	0.151705	2.5	PASS
V _{min.}	30.0 to 1000.0	975.507	1.21899	2.5	PASS
	1000.0 to 5135.0	5105.538	0.07925	2.5	PASS
	5135.0 to 5142.0	5136.983	0.090365	2.5	PASS
	5142.0 to 5150.0	5146.155	0.080538	15	PASS
	5250.0 to 5250.2	5250.2	0.069984	630.957346	PASS
	5250.2 to 5251.0	5250.977	0.090573	105.43869	PASS
	5251.0 to 5260.0	5255.146	0.091622	42.802257	PASS
	5260.0 to 5266.7	5262.103	0.101859	8.876647	PASS
	5266.7 to 5365.0	5315.406	0.110408	2.5	PASS
	5365.0 to 26000.0	10358.67	0.15417	2.5	PASS

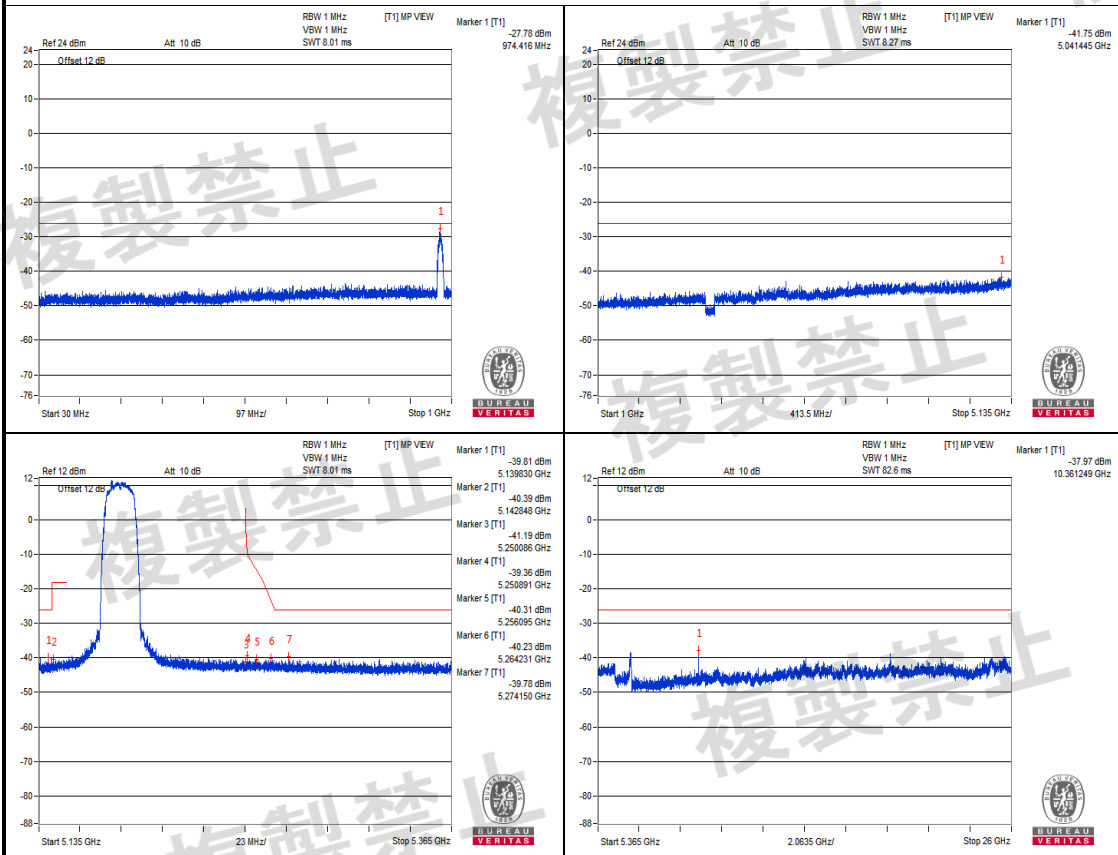
Environmental Conditions		25 deg.C, 60 % RH			
Test Channel		CH 40 (5200MHz)			
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (uW/MHz)	Limit (uW/MHz)	Result
V_{normal}	30.0 to 1000.0	995.877	1.377209	2.5	PASS
	1000.0 to 5135.0	1000	0.295121	2.5	PASS
	5135.0 to 5142.0	5140.635	0.074645	2.5	PASS
	5142.0 to 5150.0	5144.947	0.08531	15	PASS
	5250.0 to 5250.2	5250	0.086696	2154.434688	PASS
	5250.2 to 5251.0	5250.632	0.081846	233.345806	PASS
	5251.0 to 5260.0	5251.84	0.085704	84.204118	PASS
	5260.0 to 5266.7	5260.378	0.097499	14.280699	PASS
	5266.7 to 5365.0	5281.423	0.107647	2.5	PASS
	5365.0 to 26000.0	10399.94	0.178649	2.5	PASS
V_{max.}	30.0 to 1000.0	994.058	1.21899	2.5	PASS
	1000.0 to 5135.0	1001.033	0.390841	2.5	PASS
	5135.0 to 5142.0	5141.555	0.086696	2.5	PASS
	5142.0 to 5150.0	5144.976	0.079433	15	PASS
	5250.0 to 5250.2	5250	0.066988	2154.434688	PASS
	5250.2 to 5251.0	5250.46	0.071945	346.736851	PASS
	5251.0 to 5260.0	5252.616	0.086298	71.838219	PASS
	5260.0 to 5266.7	5264.317	0.107647	4.821809	PASS
	5266.7 to 5365.0	5296.172	0.104713	2.5	PASS
	5365.0 to 26000.0	6995.165	0.133352	2.5	PASS
V_{min.}	30.0 to 1000.0	995.998	1.566751	2.5	PASS
	1000.0 to 5135.0	1000.516	0.468813	2.5	PASS
	5135.0 to 5142.0	5139.14	0.082414	2.5	PASS
	5142.0 to 5150.0	5142.963	0.07925	15	PASS
	5250.0 to 5250.2	5250.2	0.076384	630.957346	PASS
	5250.2 to 5251.0	5250.287	0.09594	516.41637	PASS
	5251.0 to 5260.0	5253.91	0.090782	55.123062	PASS
	5260.0 to 5266.7	5260.695	0.099083	13.085829	PASS
	5266.7 to 5365.0	5282.228	0.099541	2.5	PASS
	5365.0 to 26000.0	10394.78	0.186209	2.5	PASS

NOTE: 1. The worst value in each frequency range v.s. each channel has been marked by boldface.
2. The spectrum plots are attached on the following pages.

Environmental Conditions		25 deg.C, 60 % RH			
Test Channel		CH 48 (5240MHz)			
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (uW/MHz)	Limit (uW/MHz)	Result
V_{normal}	30.0 to 1000.0	896.573	0.047098	2.5	PASS
	1000.0 to 5135.0	1034.113	1.355189	2.5	PASS
	5135.0 to 5142.0	5136.351	0.066988	2.5	PASS
	5142.0 to 5150.0	5148.57	0.069823	15	PASS
	5250.0 to 5250.2	5250	116.680962	2154.434688	PASS
	5250.2 to 5251.0	5250.201	74.301914	629.506184	PASS
	5251.0 to 5260.0	5251.006	5.714786	99.877271	PASS
	5260.0 to 5266.7	5260.465	0.206538	13.942307	PASS
	5266.7 to 5365.0	5267.192	0.136458	2.5	PASS
	5365.0 to 26000.0	10479.9	0.155239	2.5	PASS
V_{max.}	30.0 to 1000.0	840.92	0.045082	2.5	PASS
	1000.0 to 5135.0	1036.181	1.1324	2.5	PASS
	5135.0 to 5142.0	5141.468	0.076384	2.5	PASS
	5142.0 to 5150.0	5143.222	0.073961	15	PASS
	5250.0 to 5250.2	5250	123.310483	2154.434688	PASS
	5250.2 to 5251.0	5250.258	69.342581	552.07744	PASS
	5251.0 to 5260.0	5251	7.979947	100	PASS
	5260.0 to 5266.7	5260.982	0.22182	12.090502	PASS
	5266.7 to 5365.0	5276.105	0.111686	2.5	PASS
	5365.0 to 26000.0	10477.32	0.12942	2.5	PASS
V_{min.}	30.0 to 1000.0	520.82	0.046989	2.5	PASS
	1000.0 to 5135.0	1034.113	1.111732	2.5	PASS
	5135.0 to 5142.0	5141.928	0.081658	2.5	PASS
	5142.0 to 5150.0	5147.995	0.072111	15	PASS
	5250.0 to 5250.2	5250	105.196187	2154.434688	PASS
	5250.2 to 5251.0	5250.23	79.250133	588.843657	PASS
	5251.0 to 5260.0	5251	7.655966	100	PASS
	5260.0 to 5266.7	5260.206	0.216272	14.974063	PASS
	5266.7 to 5365.0	5268.371	0.11722	2.5	PASS
	5365.0 to 26000.0	6974.53	0.18239	2.5	PASS

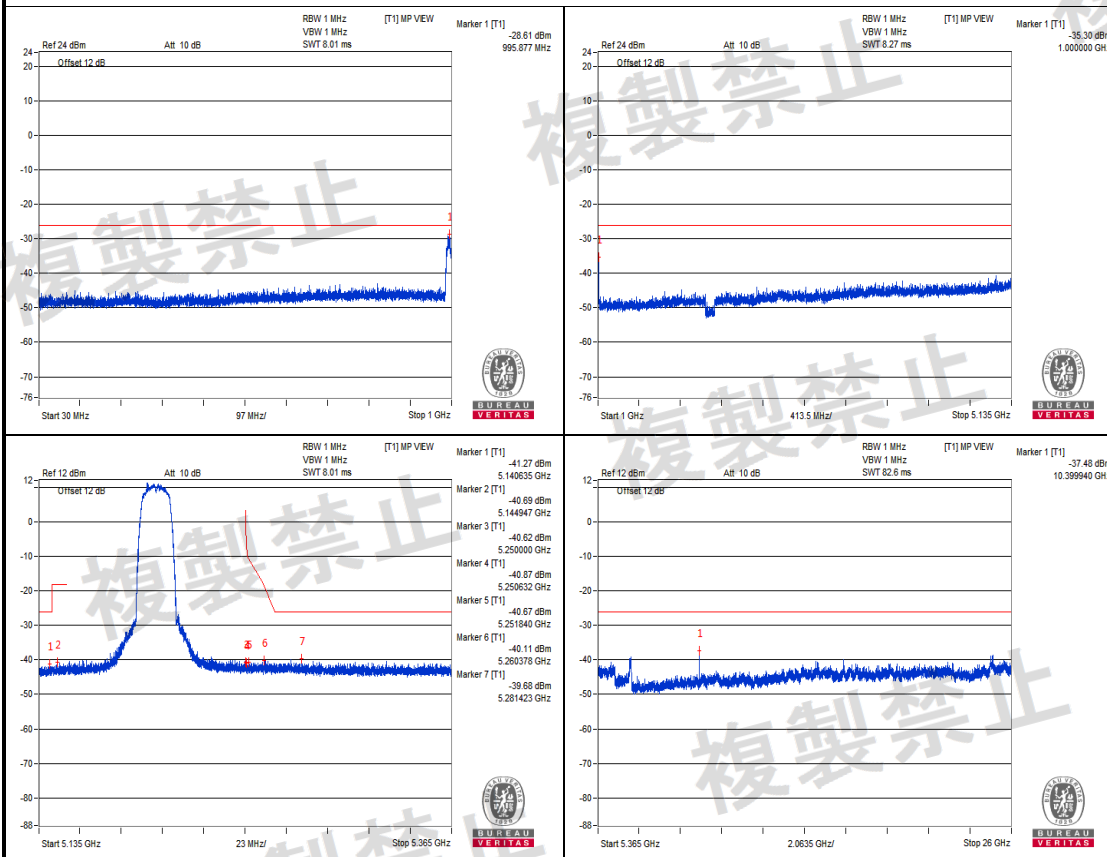
NOTE: 1. The worst value in each frequency range v.s. each channel has been marked by boldface.
2. The spectrum plots are attached on the following pages.

Vnormal
CH 36



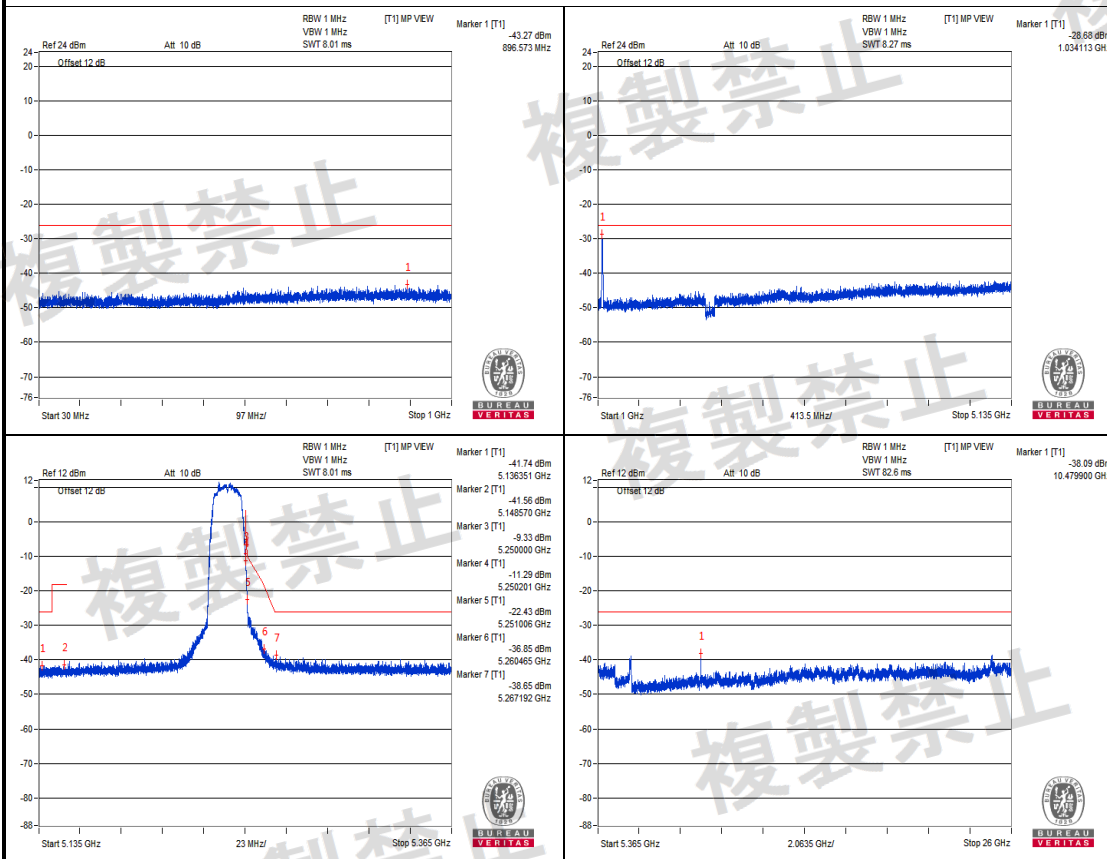
Measurement uncertainty: $\pm 3.93\text{dB}$

Vnormal
CH 40



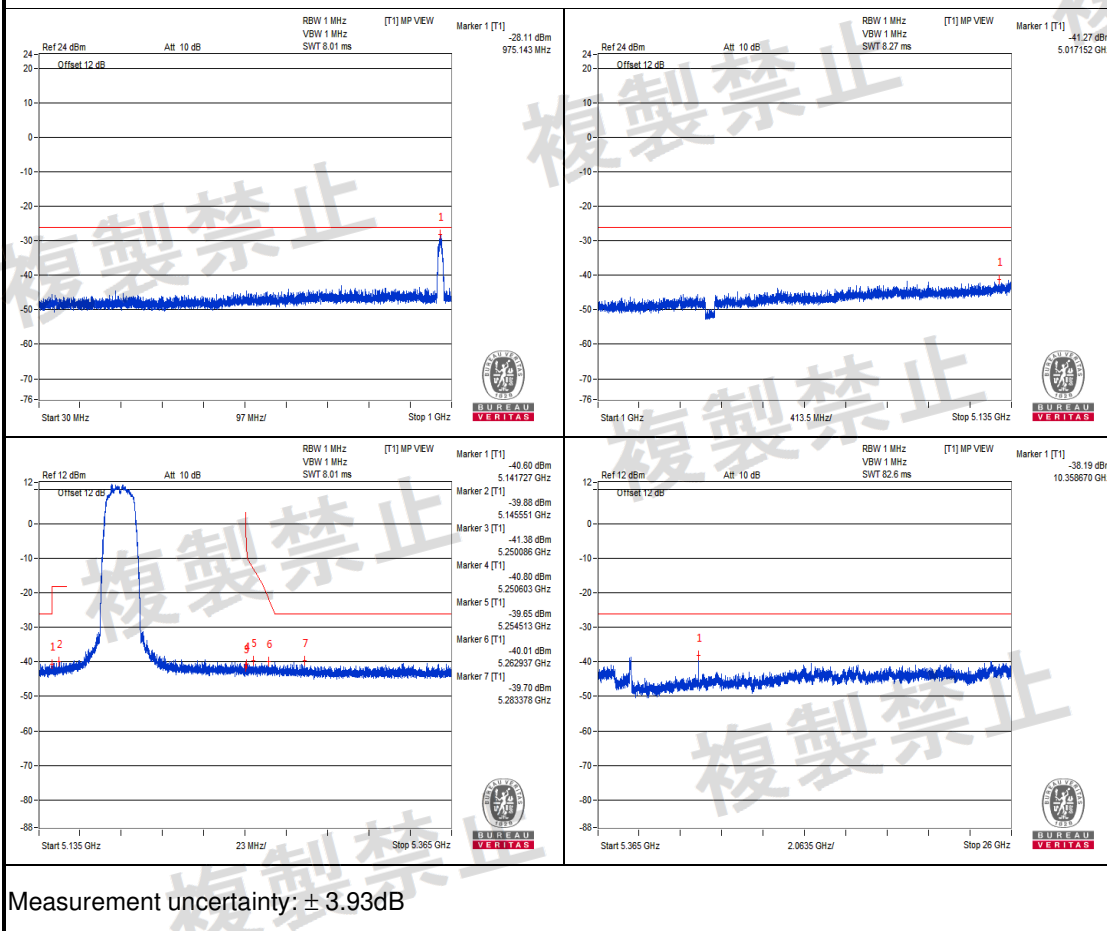
Measurement uncertainty: $\pm 3.93\text{dB}$

Vnormal
CH 48

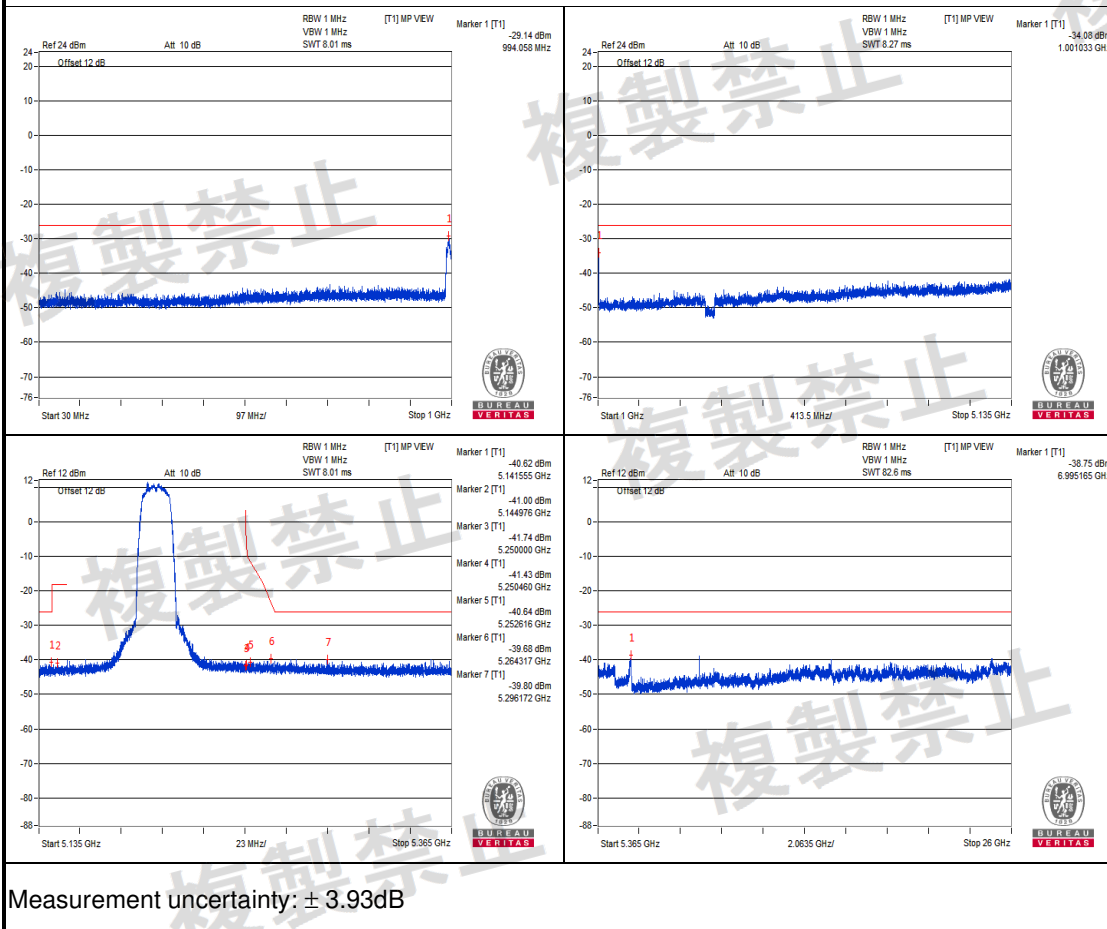


Measurement uncertainty: $\pm 3.93\text{dB}$

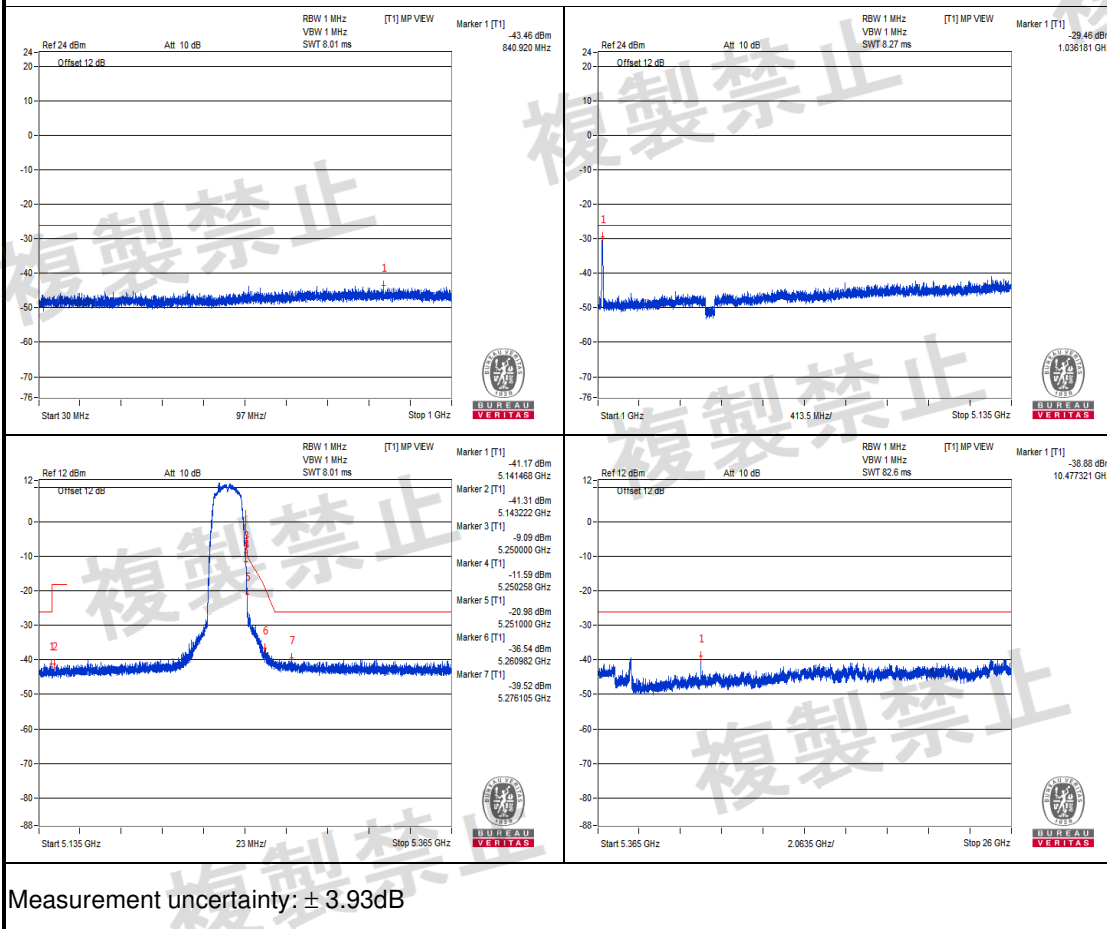
V+10%
CH 36



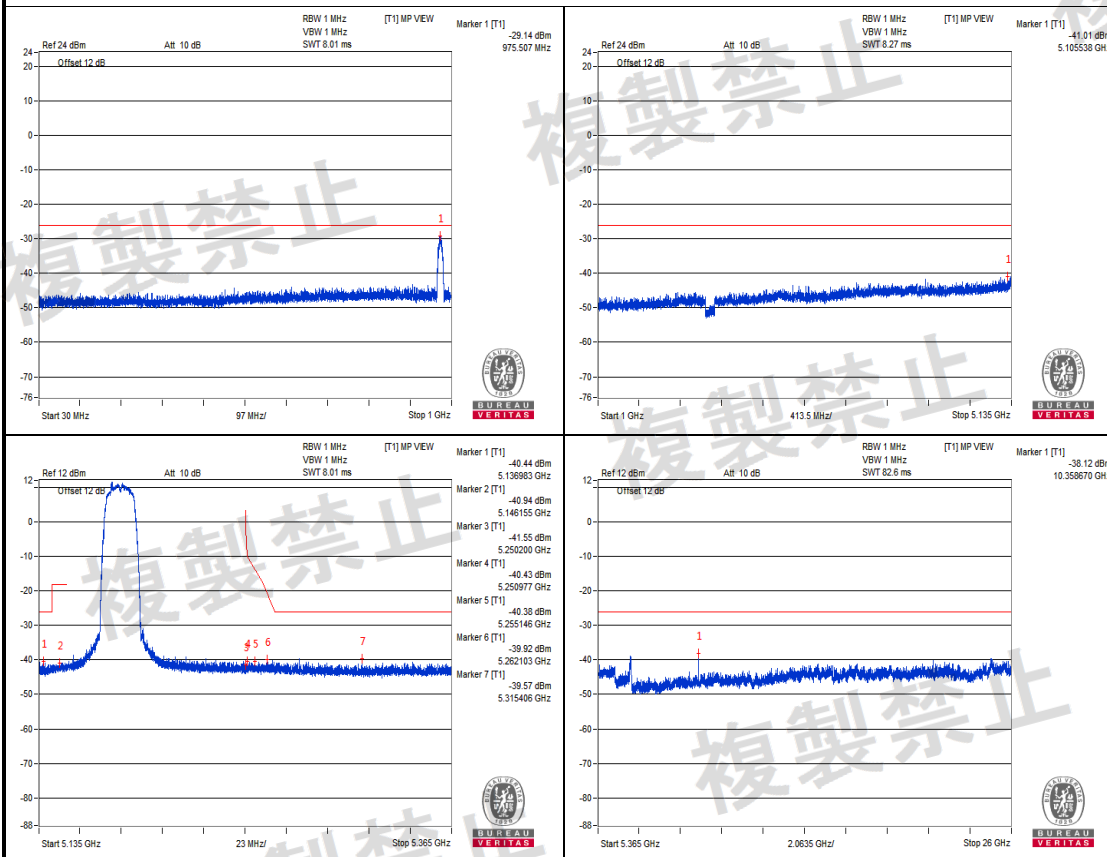
V+10%
CH 40



V+10%
CH 48



V-10%
CH 36

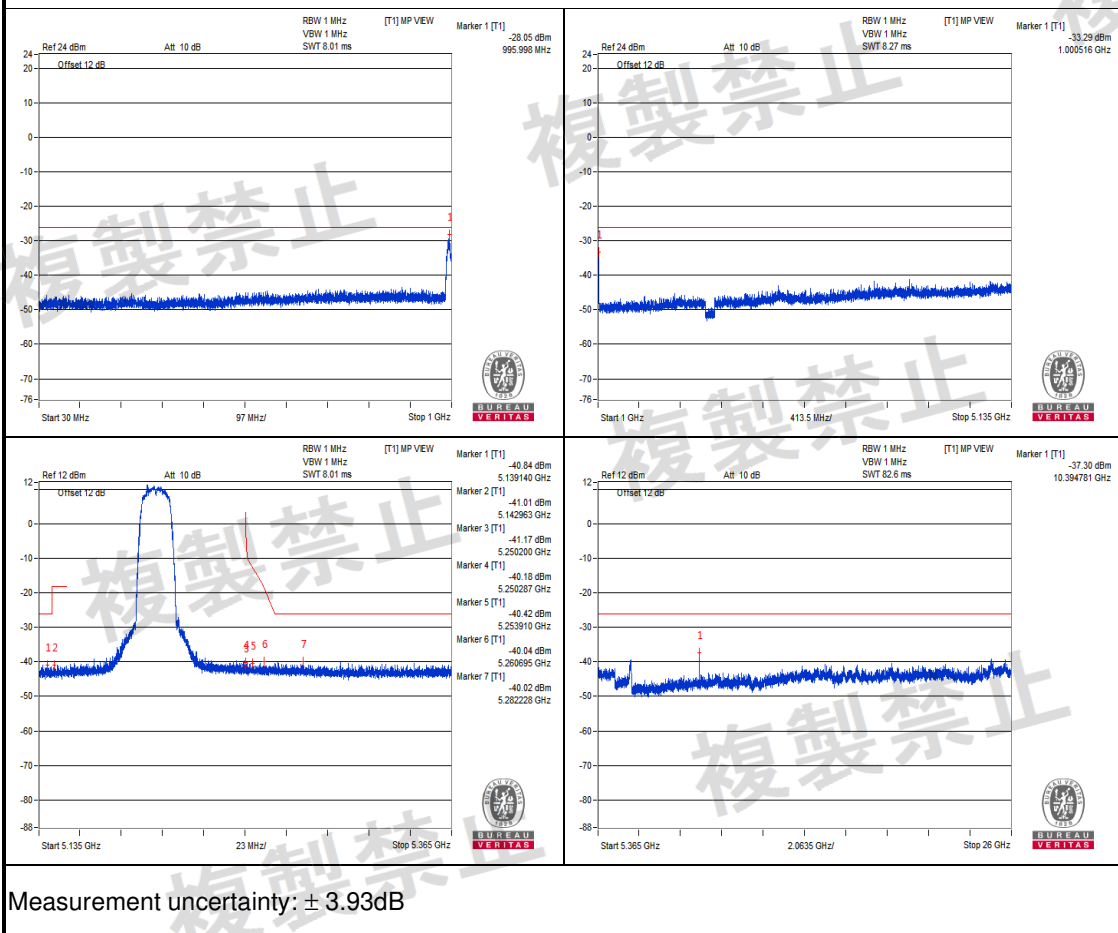


Measurement uncertainty: $\pm 3.93\text{dB}$

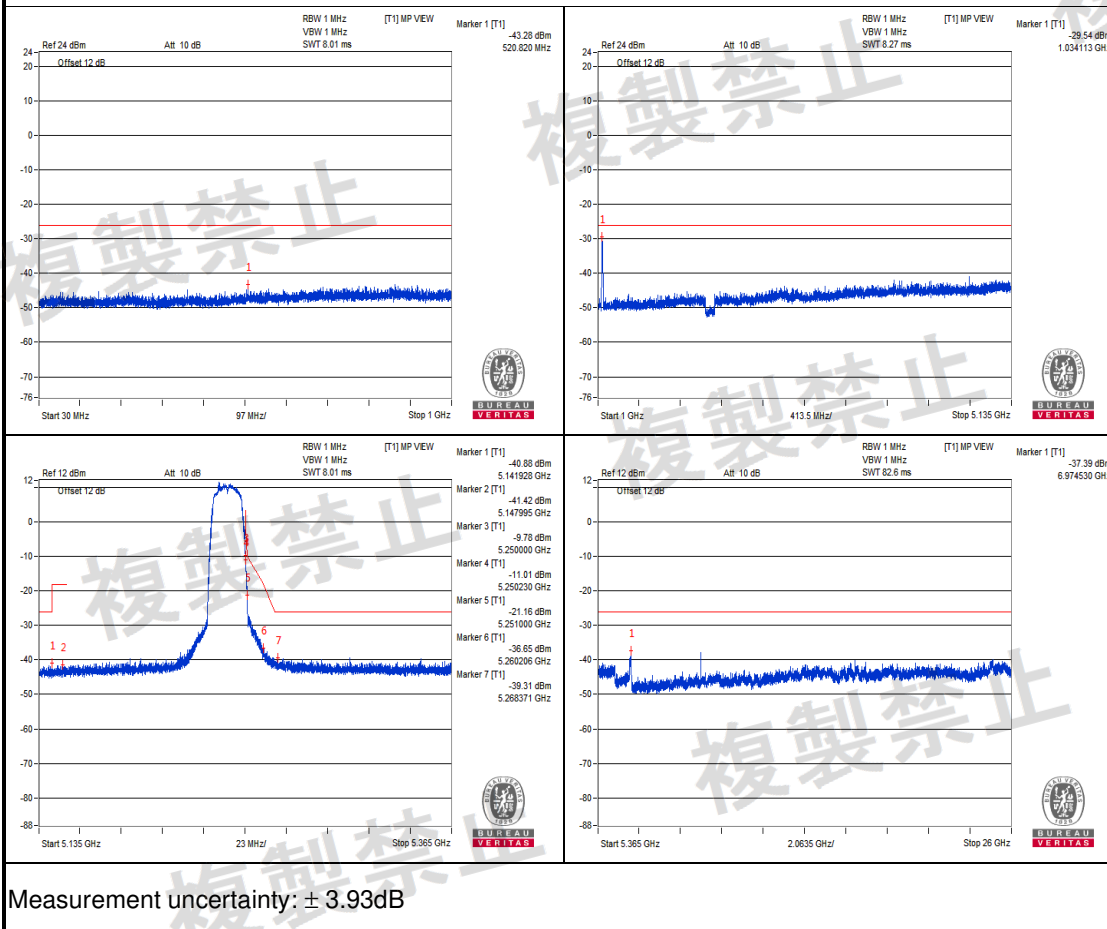


Test Report No.: RJ2504WDG0269-4

V-10%
CH 40



V-10%
CH 48



W52 Bands: 802.11n (HT20):

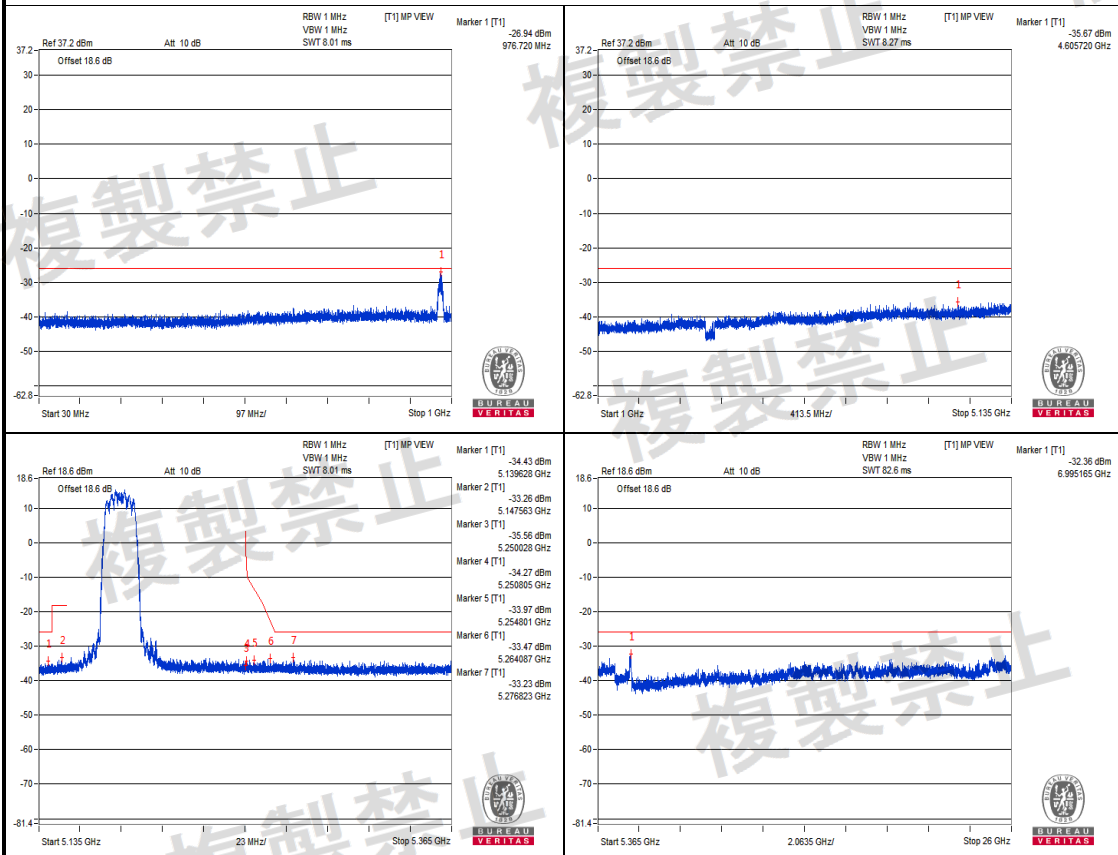
Environmental Conditions		25 deg.C, 60 % RH			
Test Channel		CH 36 (5180MHz)			
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (uW/MHz)	Limit (uW/MHz)	Result
V _{normal}	30.0 to 1000.0	976.72	2.023019	2.5	PASS
	1000.0 to 5135.0	4605.72	0.271019	2.5	PASS
	5135.0 to 5142.0	5139.628	0.360579	2.5	PASS
	5142.0 to 5150.0	5147.563	0.472063	15	PASS
	5250.0 to 5250.2	5250.028	0.277971	1814.122737	PASS
	5250.2 to 5251.0	5250.805	0.374111	156.675107	PASS
	5251.0 to 5260.0	5254.801	0.400867	45.933901	PASS
	5260.0 to 5266.7	5264.087	0.44978	5.1374	PASS
	5266.7 to 5365.0	5276.823	0.475335	2.5	PASS
	5365.0 to 26000.0	6995.165	0.580764	2.5	PASS
V _{max.}	30.0 to 1000.0	973.931	1.786488	2.5	PASS
	1000.0 to 5135.0	5049.198	0.370681	2.5	PASS
	5135.0 to 5142.0	5136.035	0.346737	2.5	PASS
	5142.0 to 5150.0	5149.202	0.352371	15	PASS
	5250.0 to 5250.2	5250.2	0.261216	630.957346	PASS
	5250.2 to 5251.0	5250.575	0.306196	266.072506	PASS
	5251.0 to 5260.0	5251.638	0.385478	87.758439	PASS
	5260.0 to 5266.7	5261.126	0.368129	11.619998	PASS
	5266.7 to 5365.0	5362.728	0.431519	2.5	PASS
	5365.0 to 26000.0	25112.7	0.592925	2.5	PASS
V _{min.}	30.0 to 1000.0	976.598	2.055891	2.5	PASS
	1000.0 to 5135.0	5130.865	0.310456	2.5	PASS
	5135.0 to 5142.0	5137.961	0.313329	2.5	PASS
	5142.0 to 5150.0	5145.177	0.326588	15	PASS
	5250.0 to 5250.2	5250.028	0.331894	1814.122737	PASS
	5250.2 to 5251.0	5250.891	0.389045	128.528666	PASS
	5251.0 to 5260.0	5251.811	0.376704	84.705403	PASS
	5260.0 to 5266.7	5266.387	0.399945	2.725269	PASS
	5266.7 to 5365.0	5280.475	0.443609	2.5	PASS
	5365.0 to 26000.0	25009.52	0.726106	2.5	PASS

Environmental Conditions		25 deg.C, 60 % RH			
Test Channel		CH 40 (5200MHz)			
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (uW/MHz)	Limit (uW/MHz)	Result
V _{normal}	30.0 to 1000.0	996.605	1.2218	2.5	PASS
	1000.0 to 5135.0	1000	0.399945	2.5	PASS
	5135.0 to 5142.0	5138.593	0.297167	2.5	PASS
	5142.0 to 5150.0	5146.442	0.31989	15	PASS
	5250.0 to 5250.2	5250.172	0.277332	749.318866	PASS
	5250.2 to 5251.0	5250.891	0.317687	128.528666	PASS
	5251.0 to 5260.0	5255.807	0.425598	37.386182	PASS
	5260.0 to 5266.7	5262.046	0.377572	9.017215	PASS
	5266.7 to 5365.0	5271.476	0.414954	2.5	PASS
	5365.0 to 26000.0	6990.006	0.615177	2.5	PASS
V _{max.}	30.0 to 1000.0	996.483	1.682674	2.5	PASS
	1000.0 to 5135.0	1000	0.404576	2.5	PASS
	5135.0 to 5142.0	5136.61	0.323594	2.5	PASS
	5142.0 to 5150.0	5147.908	0.304089	15	PASS
	5250.0 to 5250.2	5250.115	0.341979	1063.326573	PASS
	5250.2 to 5251.0	5250.805	0.444631	156.675107	PASS
	5251.0 to 5260.0	5257.417	0.408319	26.89057	PASS
	5260.0 to 5266.7	5261.385	0.451856	10.819347	PASS
	5266.7 to 5365.0	5340.045	0.387258	2.5	PASS
	5365.0 to 26000.0	25001.78	0.528445	2.5	PASS
V _{min.}	30.0 to 1000.0	996.605	2.094112	2.5	PASS
	1000.0 to 5135.0	1000	0.345939	2.5	PASS
	5135.0 to 5142.0	5140.002	0.32961	2.5	PASS
	5142.0 to 5150.0	5149.892	0.30761	15	PASS
	5250.0 to 5250.2	5250.2	0.262422	630.957346	PASS
	5250.2 to 5251.0	5250.258	0.380189	552.07744	PASS
	5251.0 to 5260.0	5254.398	0.423643	49.883344	PASS
	5260.0 to 5266.7	5261.557	0.41783	10.318364	PASS
	5266.7 to 5365.0	5342.575	0.385478	2.5	PASS
	5365.0 to 26000.0	6971.95	0.751623	2.5	PASS

Environmental Conditions		25 deg.C, 60 % RH			
Test Channel		CH 48 (5240MHz)			
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (uW/MHz)	Limit (uW/MHz)	Result
V_{normal}	30.0 to 1000.0	922.036	0.203236	2.5	PASS
	1000.0 to 5135.0	1036.698	1.506607	2.5	PASS
	5135.0 to 5142.0	5139.916	0.366438	2.5	PASS
	5142.0 to 5150.0	5143.51	0.340408	15	PASS
	5250.0 to 5250.2	5250.028	816.582371	1814.122737	PASS
	5250.2 to 5251.0	5250.258	470.977326	552.07744	PASS
	5251.0 to 5260.0	5251.006	38.725764	99.877271	PASS
	5260.0 to 5266.7	5260.033	4.581419	15.70542	PASS
	5266.7 to 5365.0	5267.566	0.486407	2.5	PASS
	5365.0 to 26000.0	6995.165	0.57544	2.5	PASS
V_{max.}	30.0 to 1000.0	884.812	0.191867	2.5	PASS
	1000.0 to 5135.0	1035.147	0.984011	2.5	PASS
	5135.0 to 5142.0	5141.698	0.291743	2.5	PASS
	5142.0 to 5150.0	5149.748	0.295121	15	PASS
	5250.0 to 5250.2	5250.028	357.272838	1814.122737	PASS
	5250.2 to 5251.0	5250.258	497.737085	552.07744	PASS
	5251.0 to 5260.0	5251.092	24.547089	98.134615	PASS
	5260.0 to 5266.7	5260.206	3.837072	14.974063	PASS
	5266.7 to 5365.0	5267.307	0.574116	2.5	PASS
	5365.0 to 26000.0	6995.165	0.751623	2.5	PASS
V_{min.}	30.0 to 1000.0	859.592	0.22856	2.5	PASS
	1000.0 to 5135.0	1036.181	1.03992	2.5	PASS
	5135.0 to 5142.0	5138.91	0.294442	2.5	PASS
	5142.0 to 5150.0	5142.733	0.295801	15	PASS
	5250.0 to 5250.2	5250	901.571138	2154.434688	PASS
	5250.2 to 5251.0	5250.373	384.591782	423.642967	PASS
	5251.0 to 5260.0	5251.121	25.941794	97.553857	PASS
	5260.0 to 5266.7	5260.407	4.008667	14.166999	PASS
	5266.7 to 5365.0	5267.537	0.414954	2.5	PASS
	5365.0 to 26000.0	6982.268	0.601174	2.5	PASS

NOTES: 1. The worst value in each frequency range v.s. each channel has been marked by boldface.
2. The spectrum plots are attached on the following pages.

Vnormal
CH 36

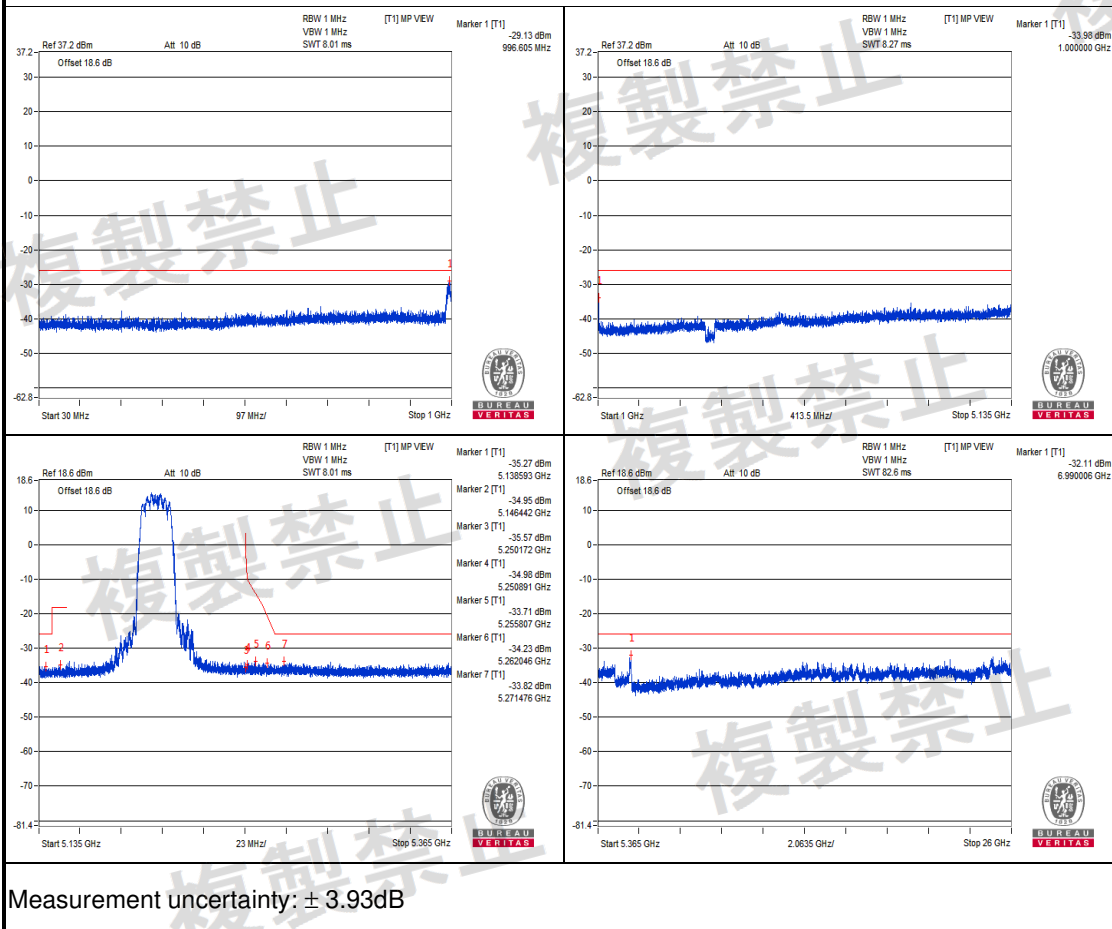


Measurement uncertainty: $\pm 3.93\text{dB}$

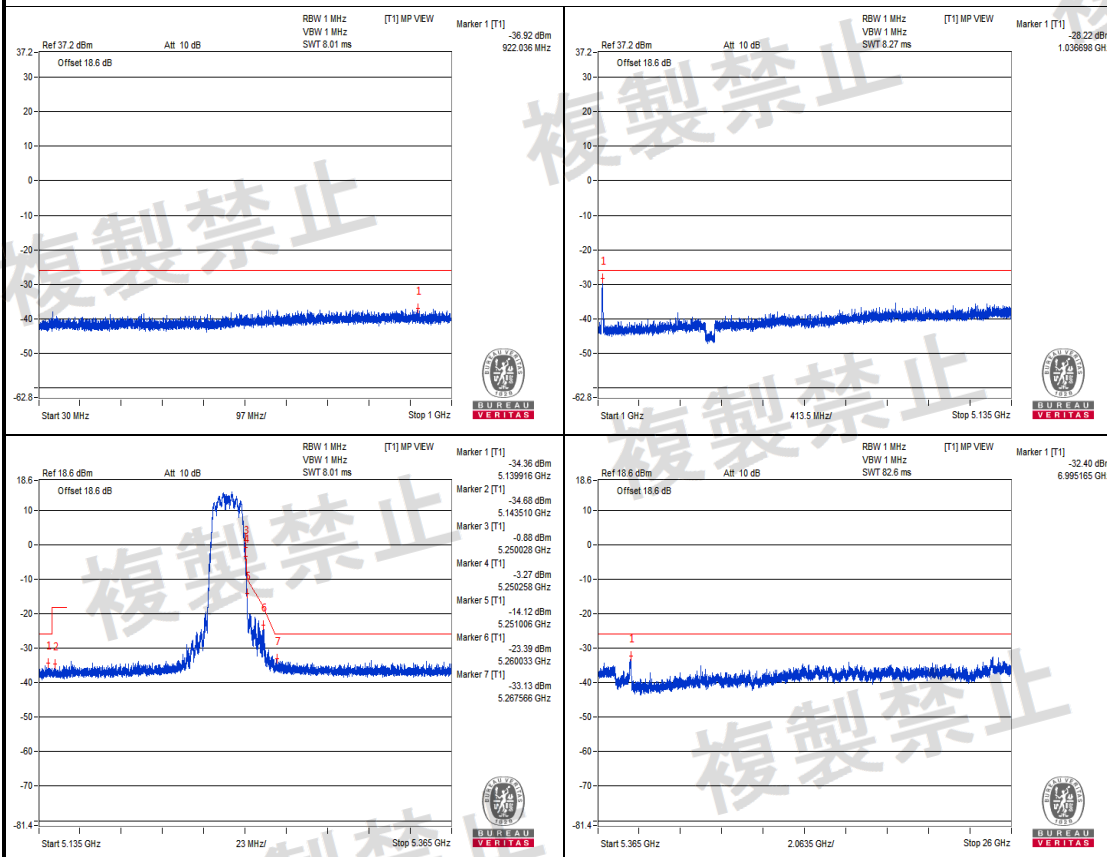


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Vnormal
CH 40

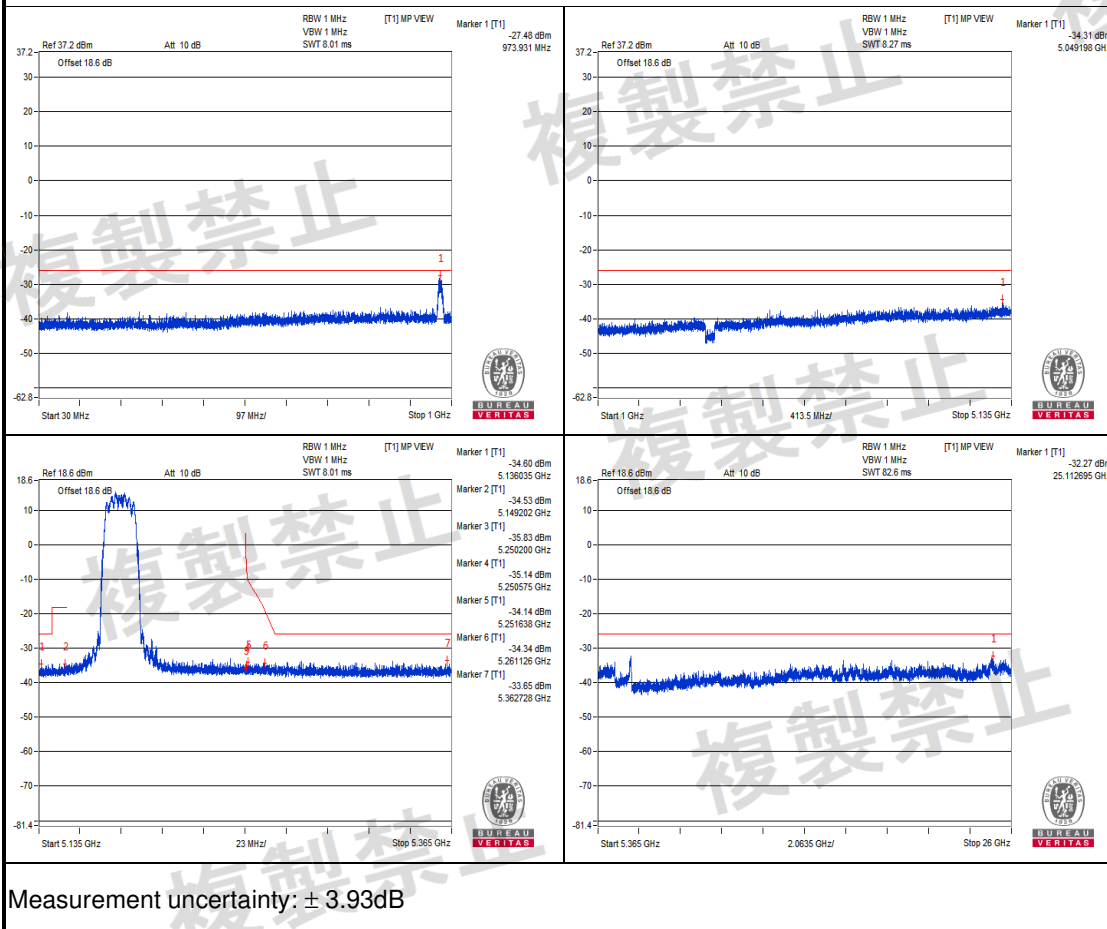


Vnormal
CH 48

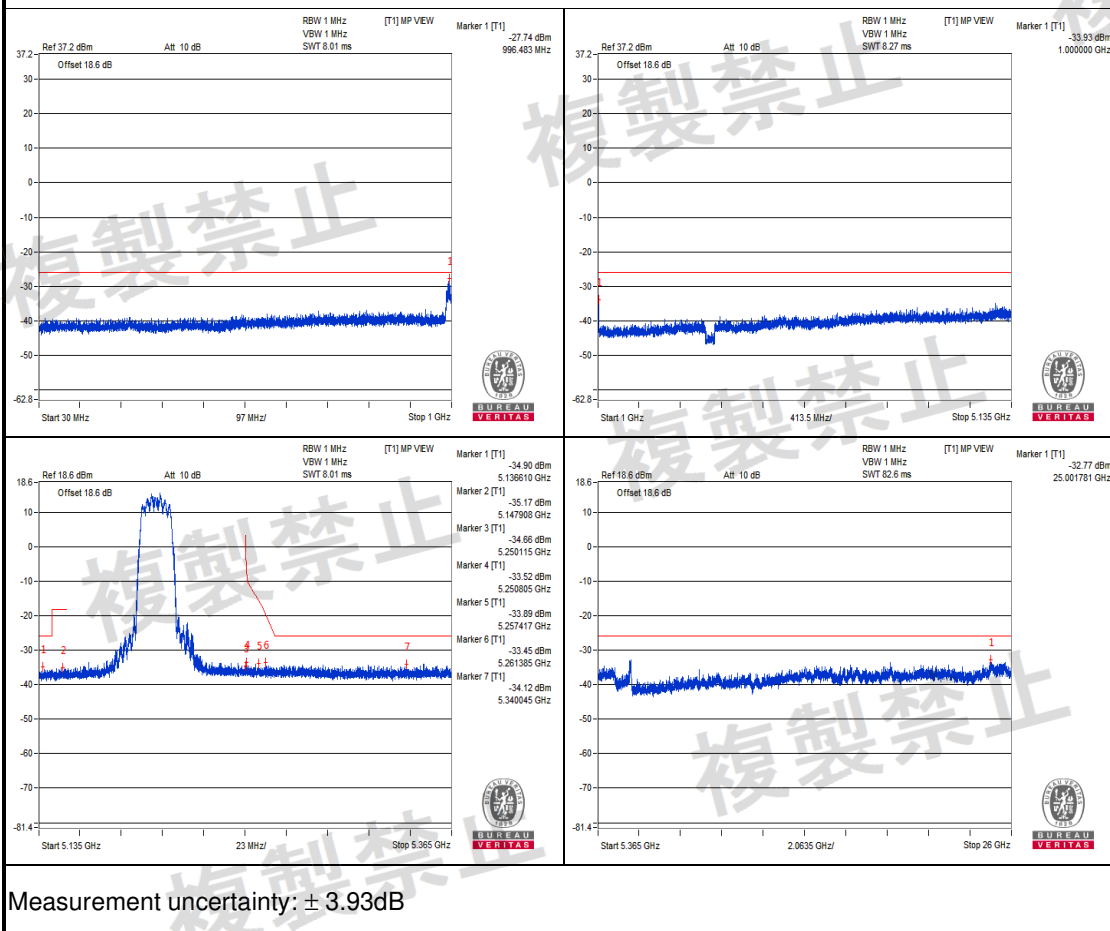


Measurement uncertainty: $\pm 3.93\text{dB}$

V+10%
CH 36

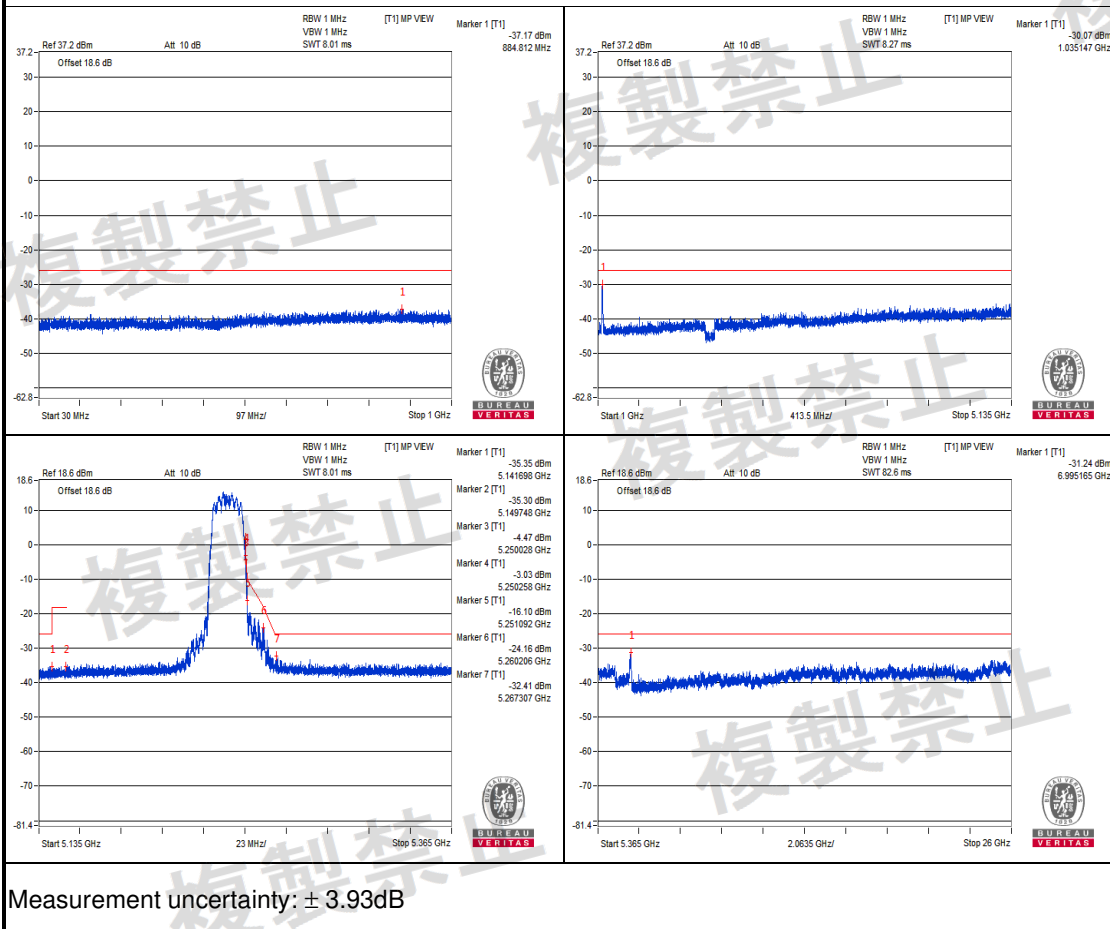


V+10%
CH 40



Measurement uncertainty: $\pm 3.93\text{dB}$

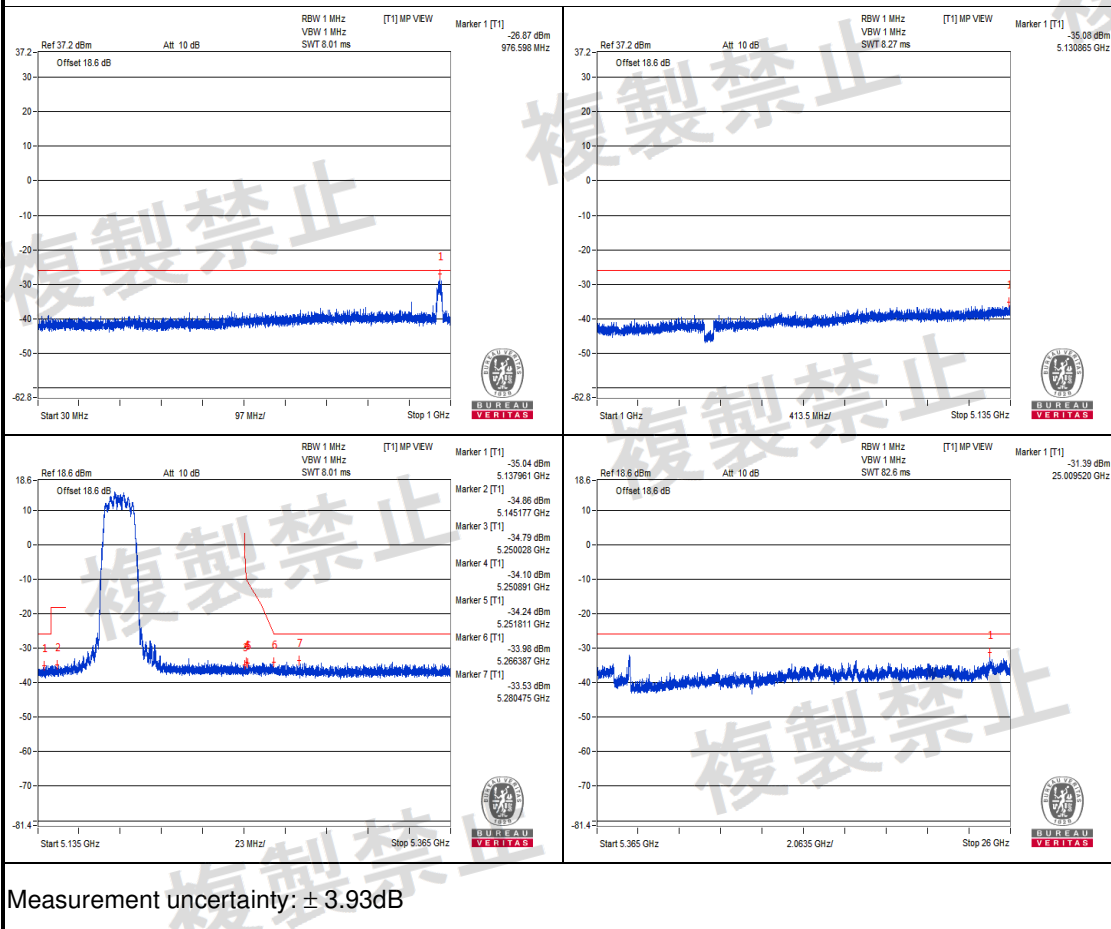
V+10%
CH 48



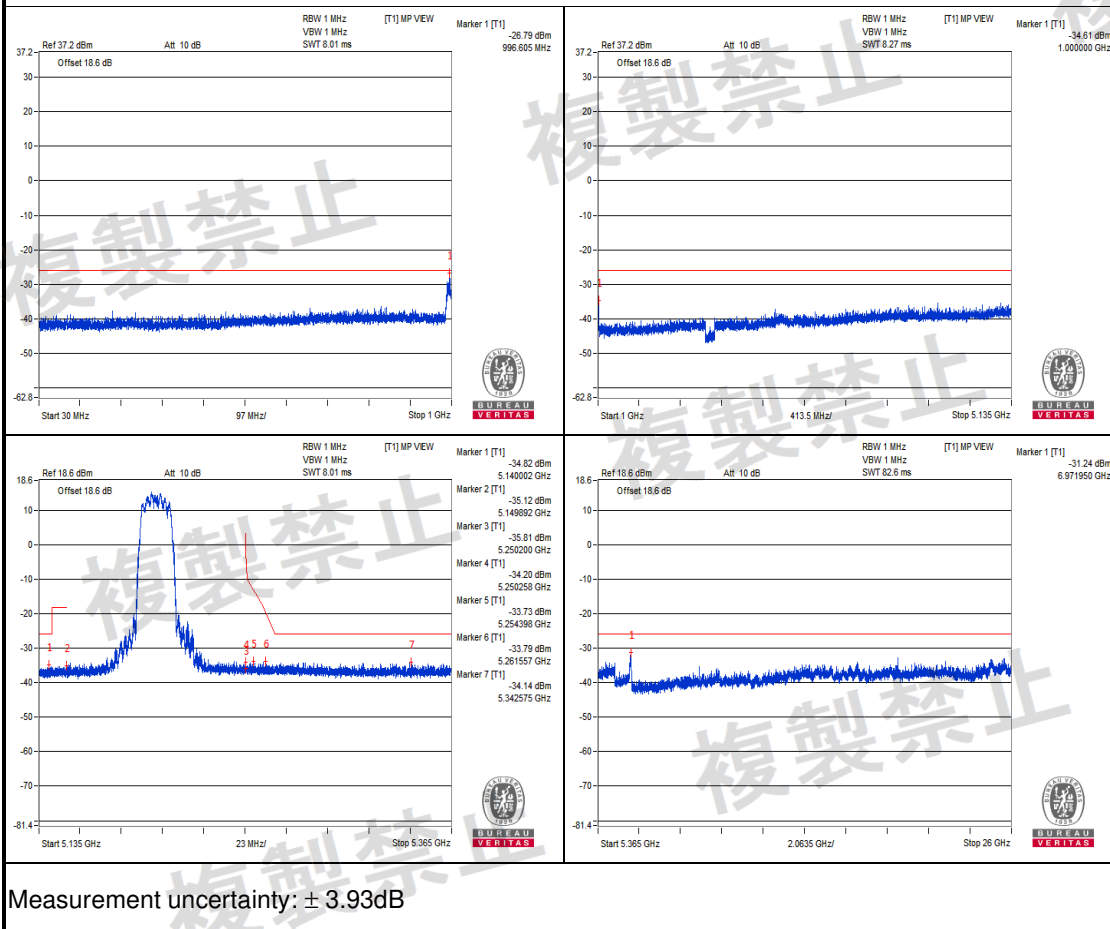


Test Report No.: RJ2504WDG0269-4

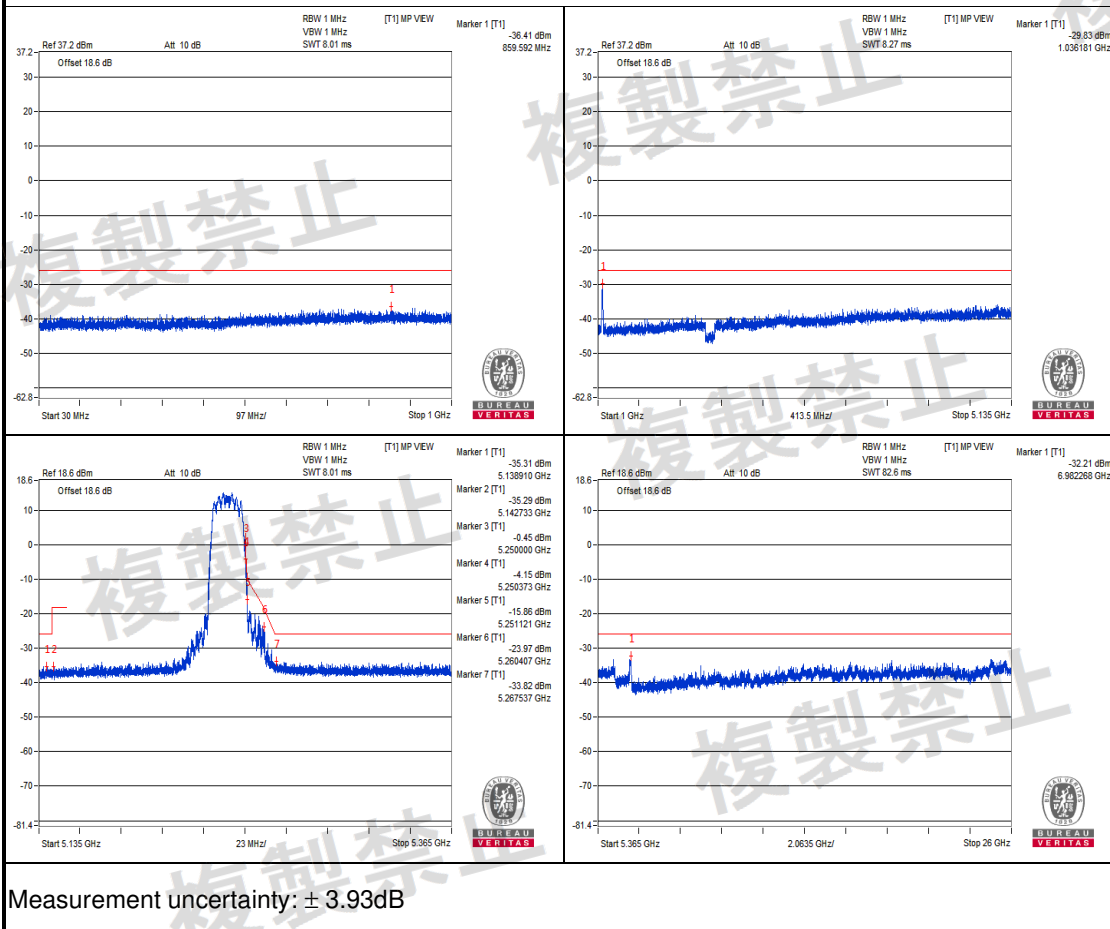
V-10%
CH 36



V-10%
CH 40



V-10%
CH 48



W52 Bands: 802.11n (HT40):

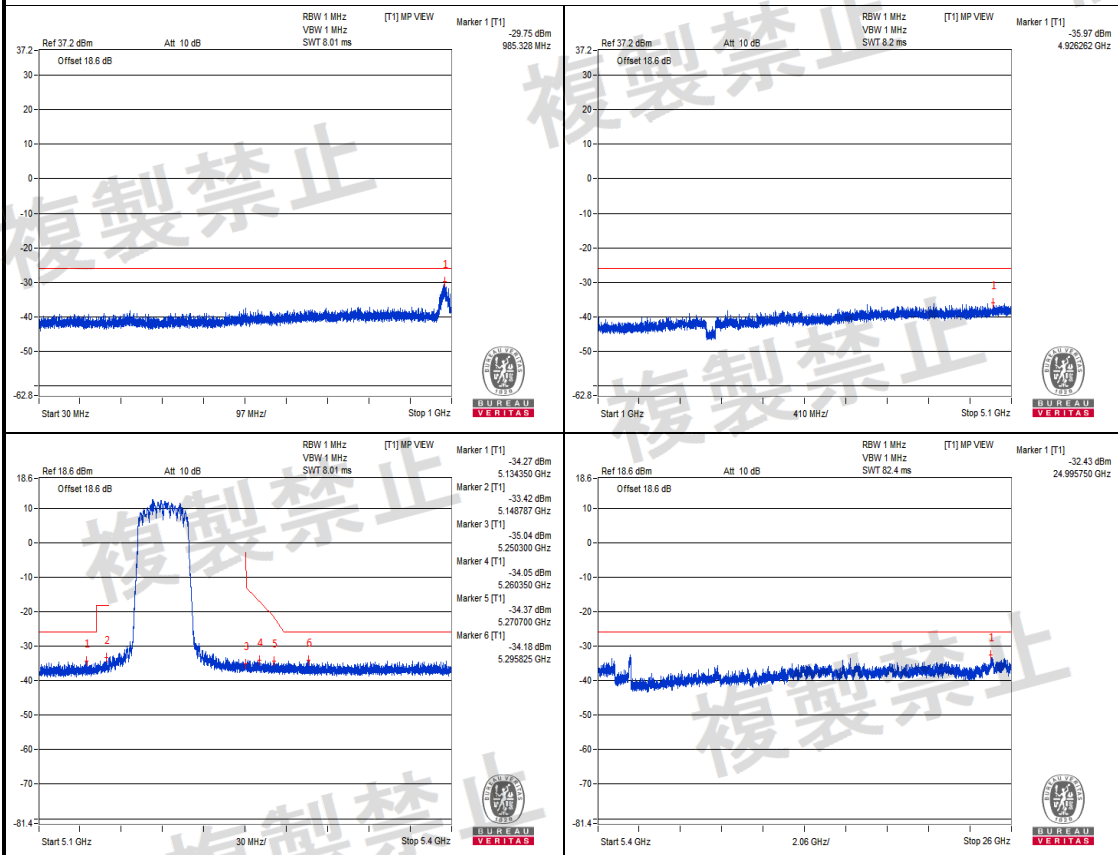
Environmental Conditions		25 deg.C, 60 % RH			
Test Channel		CH 38 (5190MHz)			
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (uW/MHz)	Limit (uW/MHz)	Result
V _{normal}	30.0 to 1000.0	985.328	1.059254	2.5	PASS
	1000.0 to 5100.0	4926.262	0.25293	2.5	PASS
	5100.0 to 5141.6	5134.35	0.374111	2.5	PASS
	5141.6 to 5150.0	5148.787	0.454988	15	PASS
	5250.0 to 5251.0	5250.3	0.313329	250.593617	PASS
	5251.0 to 5270.0	5260.35	0.39355	20.19695	PASS
	5270.0 to 5278.4	5270.7	0.365595	7.198094	PASS
	5278.4 to 5400.0	5295.825	0.381944	2.5	PASS
	5400.0 to 26000.0	24995.75	0.571479	2.5	PASS
V _{max.}	30.0 to 1000.0	983.995	1.419058	2.5	PASS
	1000.0 to 5100.0	4985.2	0.303389	2.5	PASS
	5100.0 to 5141.6	5139.45	0.367282	2.5	PASS
	5141.6 to 5150.0	5144.287	0.419759	15	PASS
	5250.0 to 5251.0	5250.375	0.372392	210.848252	PASS
	5251.0 to 5270.0	5261.55	0.378443	17.978749	PASS
	5270.0 to 5278.4	5271.675	0.36141	6.295964	PASS
	5278.4 to 5400.0	5279.775	0.435512	2.5	PASS
	5400.0 to 26000.0	6970.75	0.636796	2.5	PASS
V _{min.}	30.0 to 1000.0	982.176	1.122018	2.5	PASS
	1000.0 to 5100.0	5056.95	0.271644	2.5	PASS
	5100.0 to 5141.6	5134.5	0.379315	2.5	PASS
	5141.6 to 5150.0	5146.275	0.394457	15	PASS
	5250.0 to 5251.0	5250.562	0.363078	137.078709	PASS
	5251.0 to 5270.0	5261.775	0.372392	17.590808	PASS
	5270.0 to 5278.4	5274.487	0.408319	4.278943	PASS
	5278.4 to 5400.0	5308.2	0.413048	2.5	PASS
	5400.0 to 26000.0	6996.5	0.571479	2.5	PASS

Environmental Conditions		25 deg.C, 60 % RH			
Test Channel		CH 46 (5230MHz)			
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (uW/MHz)	Limit (uW/MHz)	Result
V _{normal}	30.0 to 1000.0	960.472	0.195884	2.5	PASS
	1000.0 to 5100.0	1022.037	0.729458	2.5	PASS
	5100.0 to 5141.6	5125.2	0.304089	2.5	PASS
	5141.6 to 5150.0	5148.037	0.339625	15	PASS
	5250.0 to 5251.0	5250	140.28137	500.000001	PASS
	5251.0 to 5270.0	5251	18.030177	50	PASS
	5270.0 to 5278.4	5273.512	0.721107	4.89206	PASS
	5278.4 to 5400.0	5296.65	0.508159	2.5	PASS
	5400.0 to 26000.0	6906.375	0.566239	2.5	PASS
V _{max.}	30.0 to 1000.0	828.431	0.235505	2.5	PASS
	1000.0 to 5100.0	1025.112	0.778037	2.5	PASS
	5100.0 to 5141.6	5111.025	0.320627	2.5	PASS
	5141.6 to 5150.0	5147.212	0.335738	15	PASS
	5250.0 to 5251.0	5250	153.815464	500.000001	PASS
	5251.0 to 5270.0	5251	20.606299	50	PASS
	5270.0 to 5278.4	5271.187	0.662217	6.732397	PASS
	5278.4 to 5400.0	5296.125	0.435512	2.5	PASS
	5400.0 to 26000.0	25018.93	0.716143	2.5	PASS
V _{min.}	30.0 to 1000.0	781.022	0.218776	2.5	PASS
	1000.0 to 5100.0	1029.725	0.680769	2.5	PASS
	5100.0 to 5141.6	5130.825	0.346737	2.5	PASS
	5141.6 to 5150.0	5146.35	0.34435	15	PASS
	5250.0 to 5251.0	5250.037	147.23125	459.166299	PASS
	5251.0 to 5270.0	5251.012	22.335722	49.941863	PASS
	5270.0 to 5278.4	5272.162	0.739605	5.888632	PASS
	5278.4 to 5400.0	5281.462	0.586138	2.5	PASS
	5400.0 to 26000.0	6908.95	0.597035	2.5	PASS



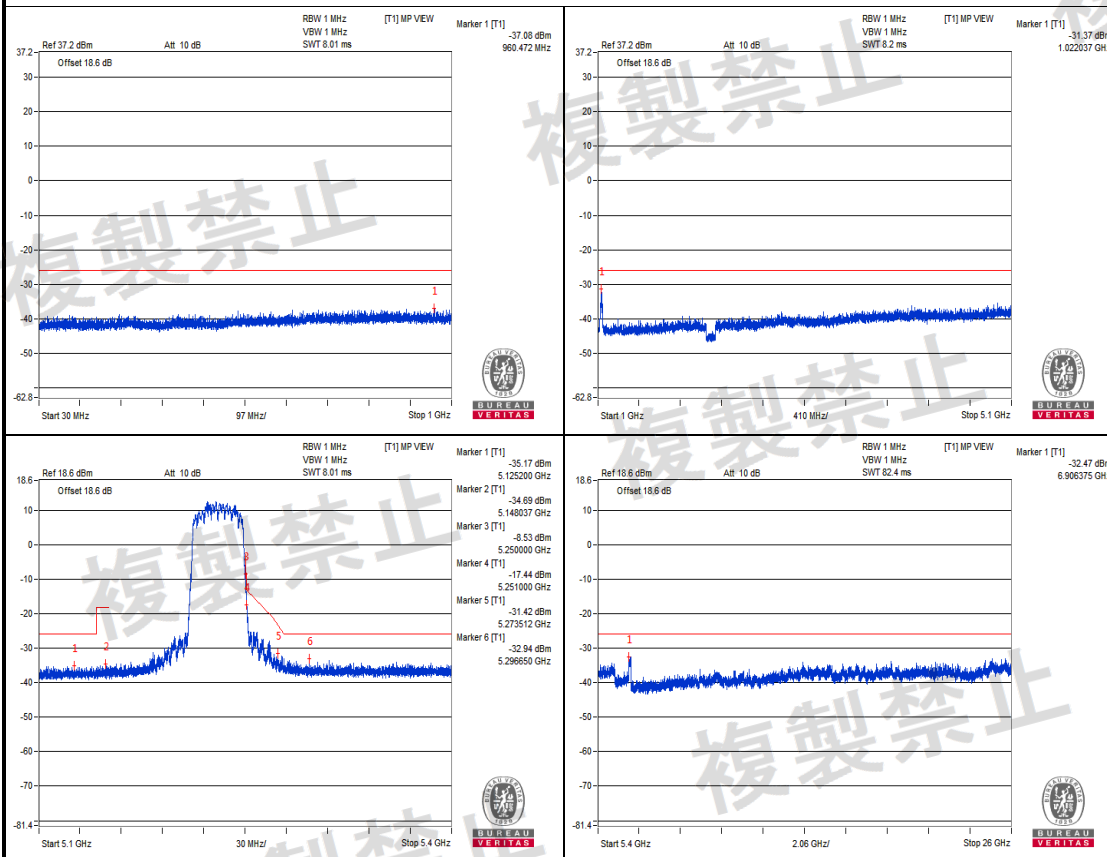
Test Report No.: RJ2504WDG0269-4

Vnormal
CH 38



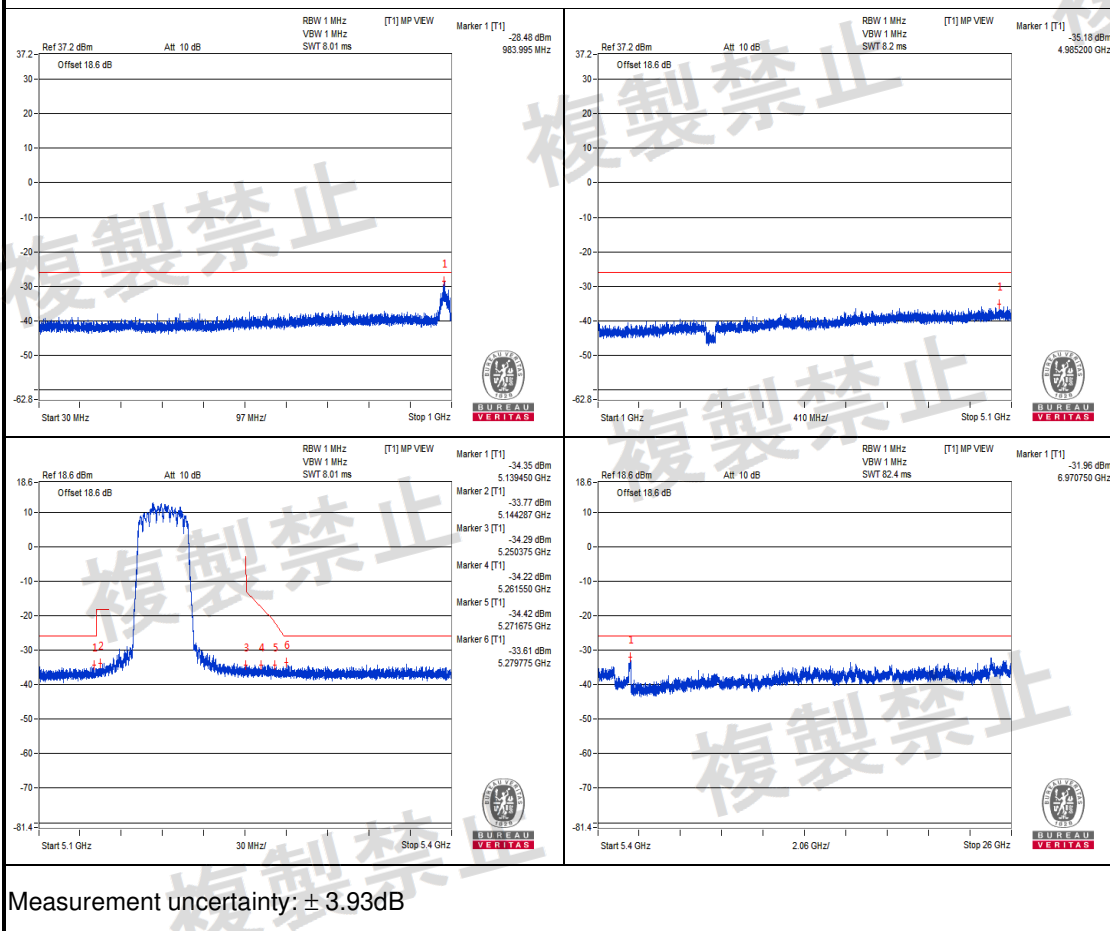
Measurement uncertainty: $\pm 3.93\text{dB}$

Vnormal
CH 46

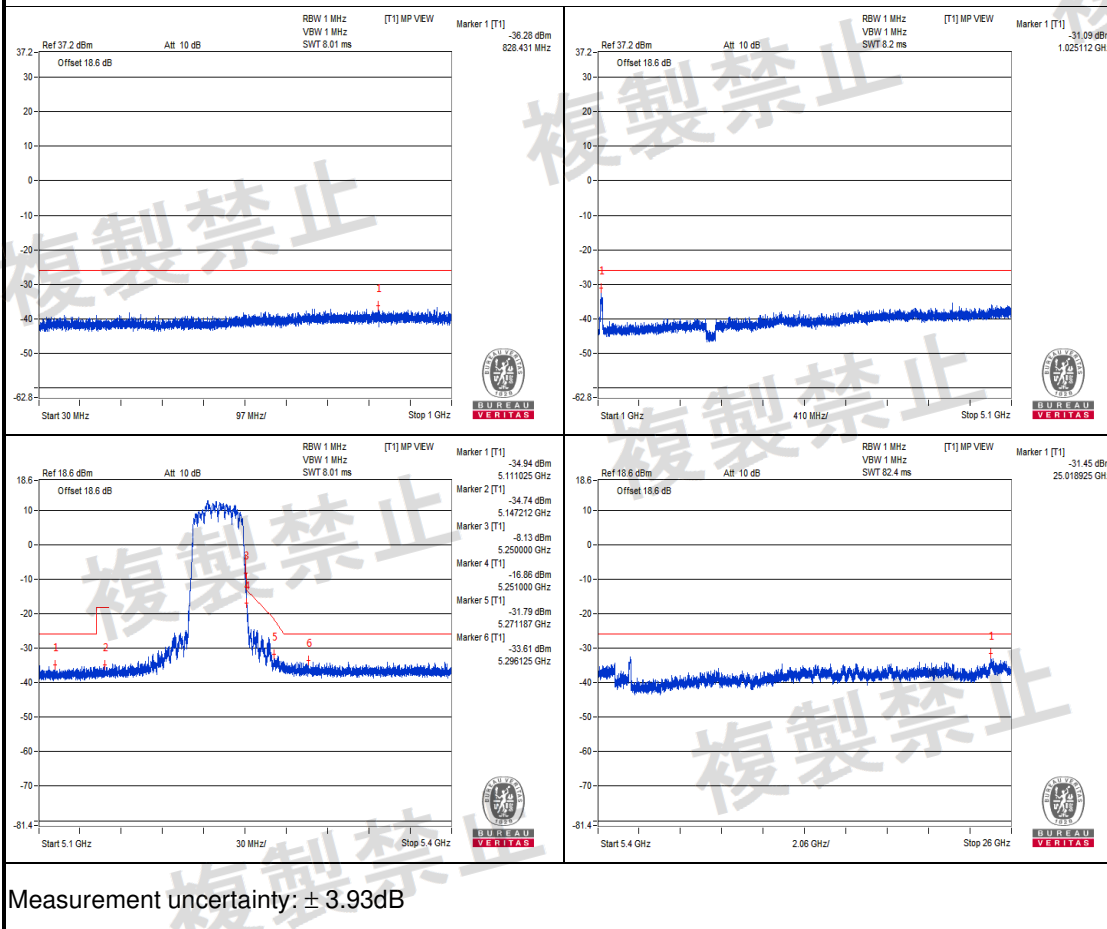


Measurement uncertainty: $\pm 3.93\text{dB}$

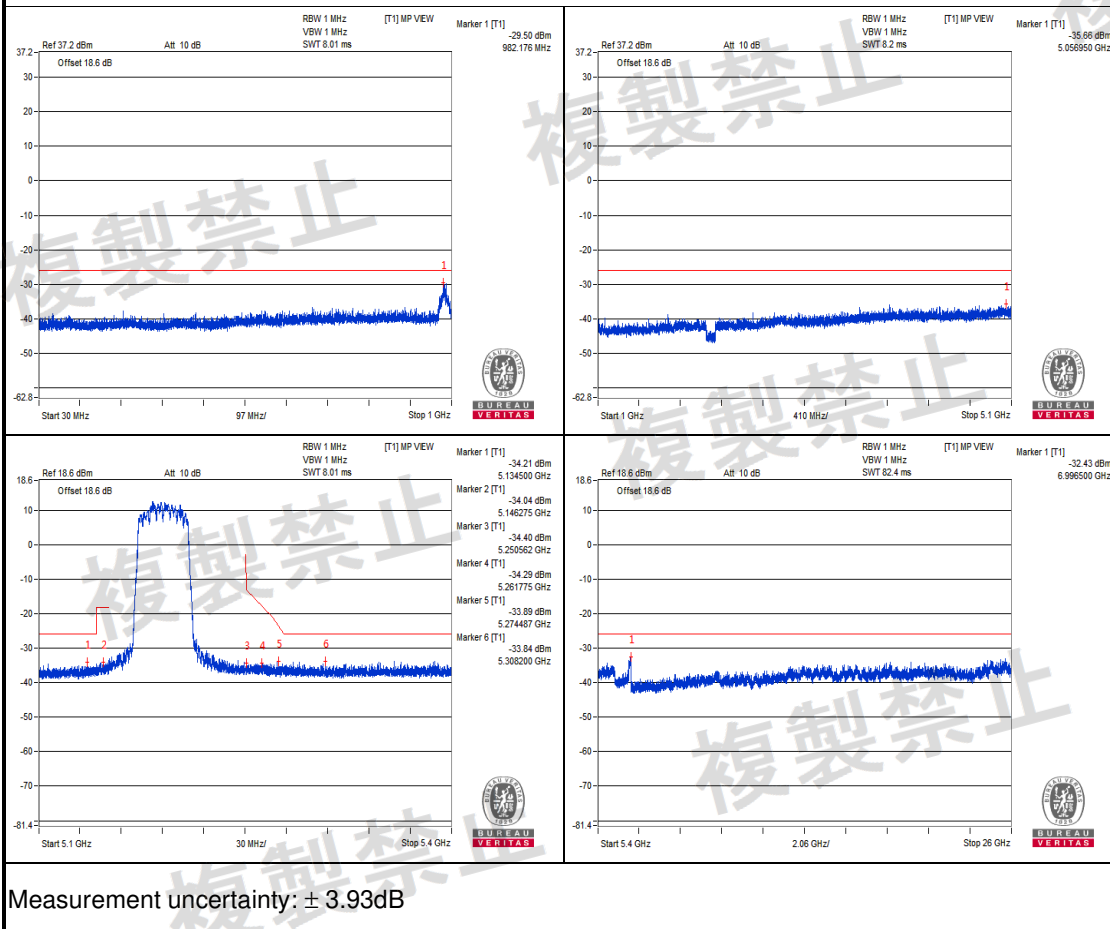
V+10%
CH 38



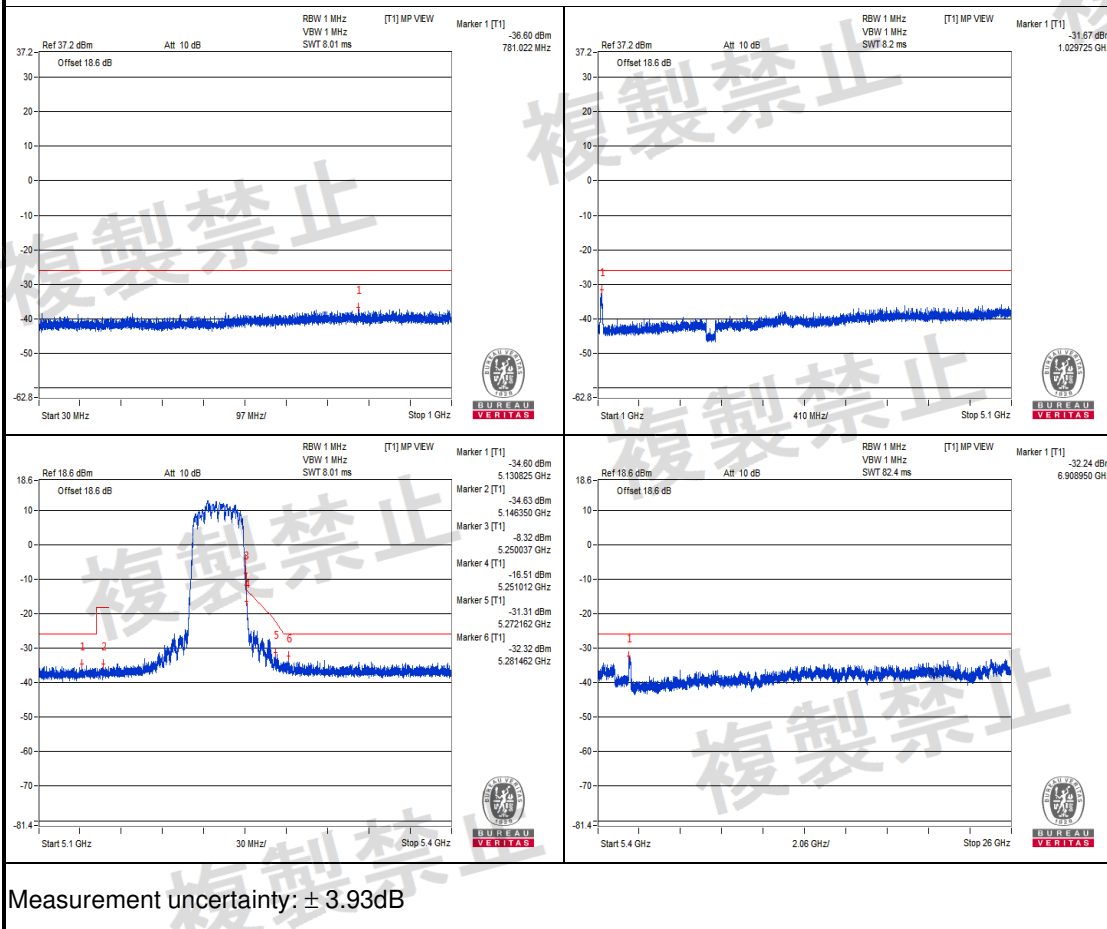
V+10%
CH 46



V-10%
CH 38



V-10%
CH 46

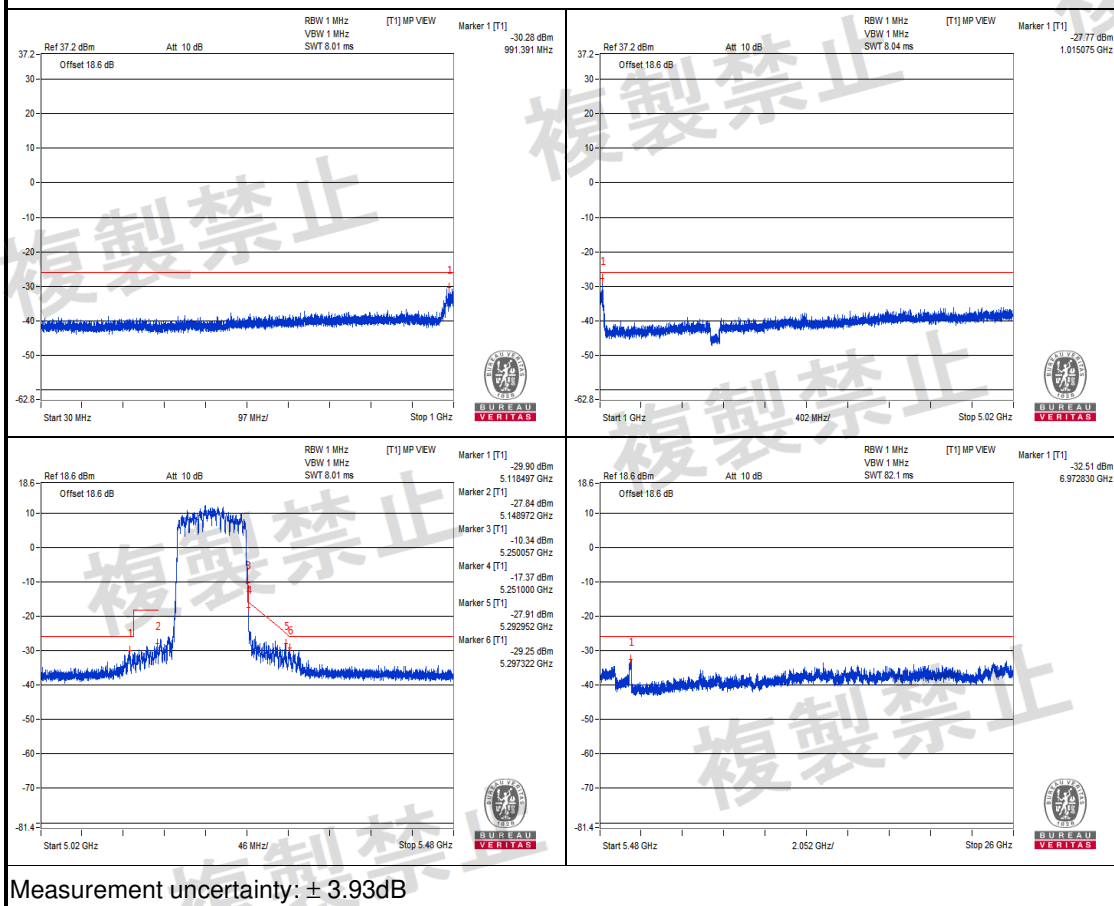


W52 Bands: 802.11ac 80:

Environmental Conditions		25 deg.C, 60 % RH			
Test Channel		CH 42 (5210MHz)			
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (uW/MHz)	Limit (uW/mhZ)	Result
V_{normal}	30.0 to 1000.0	991.391	0.937562	2.5	PASS
	1000.0 to 5020.0	1015.075	1.671091	2.5	PASS
	5020.0 to 5123.2	5118.497	1.023293	2.5	PASS
	5123.2 to 5150.0	5148.972	1.644372	15	PASS
	5250.0 to 5251.0	5250.057	92.469817	219.250205	PASS
	5251.0 to 5290.0	5251	18.323144	25	PASS
	5290.0 to 5296.7	5292.952	1.61808	3.2346	PASS
	5296.7 to 5480.0	5297.322	1.188502	2.5	PASS
	5480.0 to 26000.0	6972.83	0.561048	2.5	PASS
V_{max.}	30.0 to 1000.0	997.696	0.864968	2.5	PASS
	1000.0 to 5020.0	1015.075	1.803018	2.5	PASS
	5020.0 to 5123.2	5117.002	0.984011	2.5	PASS
	5123.2 to 5150.0	5146.385	1.44544	15	PASS
	5250.0 to 5251.0	5250.057	93.540567	219.250205	PASS
	5251.0 to 5290.0	5251	17.139573	25	PASS
	5290.0 to 5296.7	5292.492	1.455459	3.338504	PASS
	5296.7 to 5480.0	5296.92	0.928966	2.5	PASS
	5480.0 to 26000.0	25027.87	0.693426	2.5	PASS
V_{min.}	30.0 to 1000.0	985.45	0.903649	2.5	PASS
	1000.0 to 5020.0	1015.075	1.145513	2.5	PASS
	5020.0 to 5123.2	5117.175	0.97949	2.5	PASS
	5123.2 to 5150.0	5149.202	1.51705	15	PASS
	5250.0 to 5251.0	5250	89.536477	250	PASS
	5251.0 to 5290.0	5251.035	17.418069	24.958706	PASS
	5290.0 to 5296.7	5292.32	1.364583	3.378207	PASS
	5296.7 to 5480.0	5296.92	1.1324	2.5	PASS
	5480.0 to 26000.0	25022.74	0.588844	2.5	PASS

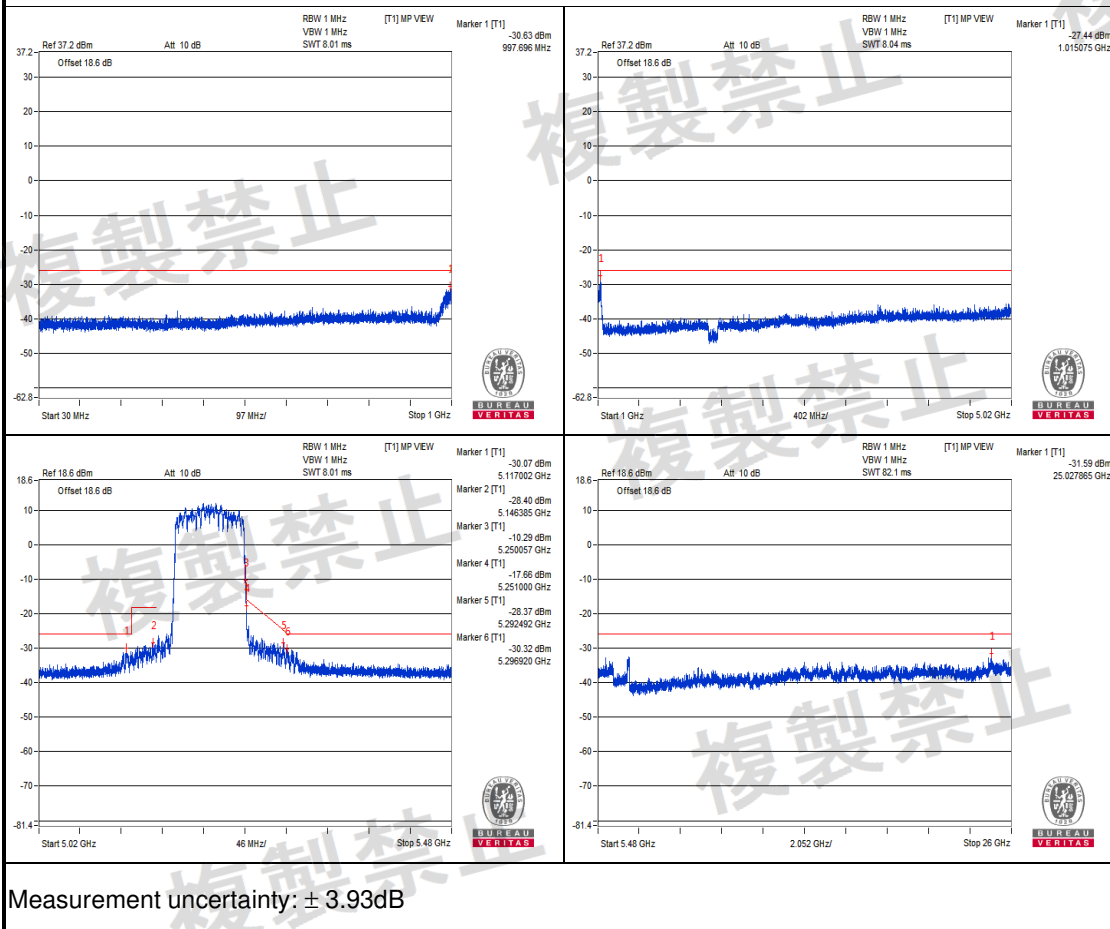
NOTES: 1. The worst value in each frequency range v.s. each channel has been marked by boldface.
2. The spectrum plots are attached on the following pages.

Vnormal
CH 42

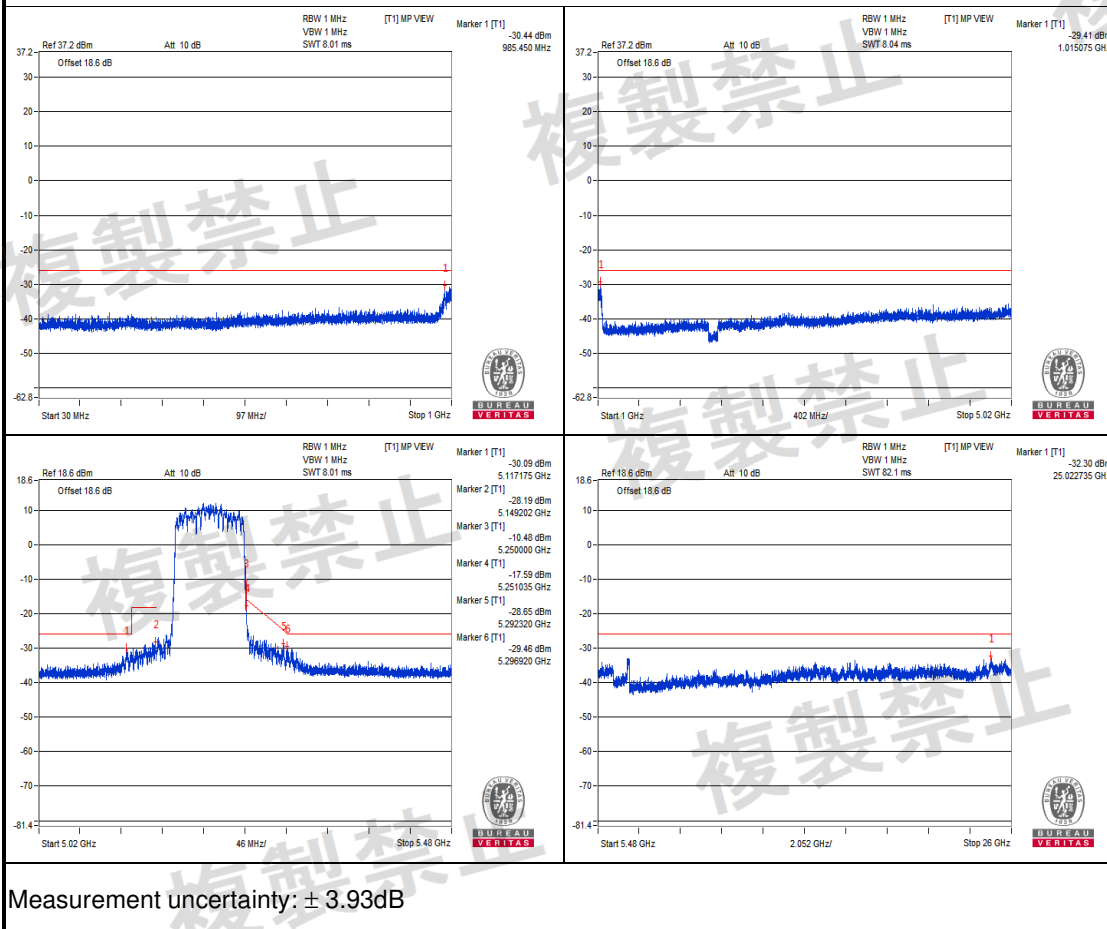


Measurement uncertainty: $\pm 3.93\text{dB}$

V+10%
CH 42



V-10%
CH 42



Measurement uncertainty: $\pm 3.93\text{dB}$

3.4 ADJACENT CHANNEL LEAKAGE POWER

3.4.1 LIMITS OF ADJACENT CHANNEL LEAKAGE POWER

802.11a / 802.11n (HT20):

Frequencies (MHz)	Limit
Mean Power 20MHz Distance of Carrier	$\geq$ 25dBc
Mean Power 40MHz Distance of Carrier	$\geq$ 40dBc

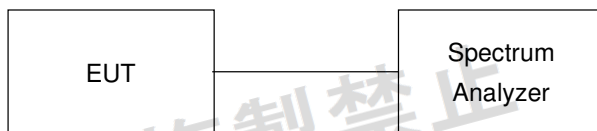
802.11n (HT40):

Frequencies (MHz)	Limit
Mean Power 40MHz Distance of Carrier	$\geq$ 25dBc
Mean Power 80MHz Distance of Carrier	$\geq$ 40dBc

802.11ac (VHT80):

Frequencies (MHz)	Limit
Mean Power 80MHz Distance of Carrier	$\geq$ 25dBc

3.4.2 TEST SETUP



3.4.3 TEST RESULT

W52 Band: 802.11a:

Environmental Conditions		25 deg.C, 60% RH			
Voltage	Channel	CH 36	CH 40	CH 48	Limit (dBc)
V _{nom}	Mean Power of Carrier (dBm)	21.71	21.68	21.83	-
	Mean Power +20MHz Distance of Carrier (dBc)	38.44	37.45	37.44	25
	Mean Power -20MHz Distance of Carrier (dBc)	39.92	38.74	38.66	25
	Mean Power +40MHz Distance of Carrier (dBc)	48.95	49.04	49.23	40
	Mean Power -40MHz Distance of Carrier (dBc)	49.65	50.13	49.40	40
V _{+10%}	Mean Power of Carrier (dBm)	21.73	21.69	21.77	-
	Mean Power +20MHz Distance of Carrier (dBc)	38.47	37.29	37.17	25
	Mean Power -20MHz Distance of Carrier (dBc)	39.80	38.65	38.35	25
	Mean Power +40MHz Distance of Carrier (dBc)	48.92	48.97	49.17	40
	Mean Power -40MHz Distance of Carrier (dBc)	49.58	50.01	49.32	40
V _{-10%}	Mean Power of Carrier (dBm)	21.75	21.67	21.77	-
	Mean Power +20MHz Distance of Carrier (dBc)	38.72	37.31	37.47	25
	Mean Power -20MHz Distance of Carrier (dBc)	40.05	38.49	38.16	25
	Mean Power +40MHz Distance of Carrier (dBc)	48.89	48.88	49.07	40
	Mean Power -40MHz Distance of Carrier (dBc)	49.65	49.89	49.21	40

W52 Band: 802.11n (HT20):

Environmental Conditions		25 deg.C, 60% RH			
Voltage	Channel	CH 36	CH 40	CH 48	Limit (dBc)
V _{nom}	Mean Power of Carrier (dBm)	25.03	25.18	25.23	-
	Mean Power +20MHz Distance of Carrier (dBc)	36.21	34.60	34.66	25
	Mean Power -20MHz Distance of Carrier (dBc)	37.38	37.25	36.49	25
	Mean Power +40MHz Distance of Carrier (dBc)	46.45	46.56	46.68	40
	Mean Power -40MHz Distance of Carrier (dBc)	47.04	47.65	46.86	40
V _{+10%}	Mean Power of Carrier (dBm)	25.10	25.17	25.28	-
	Mean Power +20MHz Distance of Carrier (dBc)	36.03	34.34	34.50	25
	Mean Power -20MHz Distance of Carrier (dBc)	37.50	36.96	36.43	25
	Mean Power +40MHz Distance of Carrier (dBc)	46.37	46.40	46.73	40
	Mean Power -40MHz Distance of Carrier (dBc)	47.10	47.41	46.85	40
V _{-10%}	Mean Power of Carrier (dBm)	25.08	25.13	25.27	-
	Mean Power +20MHz Distance of Carrier (dBc)	35.63	34.38	34.33	25
	Mean Power -20MHz Distance of Carrier (dBc)	37.49	37.08	36.49	25
	Mean Power +40MHz Distance of Carrier (dBc)	46.37	46.37	46.68	40
	Mean Power -40MHz Distance of Carrier (dBc)	47.08	47.44	46.82	40

W52 Band: 802.11n (HT40):

Environmental Conditions		25 deg.C, 60% RH		
Voltage	Channel	CH 38	CH 46	Limit (dBc)
V _{nom}	Mean Power of Carrier (dBm)	25.85	25.94	-
	Mean Power +40MHz Distance of Carrier (dBc)	39.34	37.94	25
	Mean Power -40MHz Distance of Carrier (dBc)	40.40	38.96	25
	Mean Power +80MHz Distance of Carrier (dBc)	44.82	44.96	40
	Mean Power -80MHz Distance of Carrier (dBc)	45.19	45.45	40
V _{+10%}	Mean Power of Carrier (dBm)	25.98	26.18	-
	Mean Power +40MHz Distance of Carrier (dBc)	39.27	37.56	25
	Mean Power -40MHz Distance of Carrier (dBc)	40.33	38.66	25
	Mean Power +80MHz Distance of Carrier (dBc)	44.83	45.23	40
	Mean Power -80MHz Distance of Carrier (dBc)	45.26	45.70	40
V _{-10%}	Mean Power of Carrier (dBm)	25.94	26.14	-
	Mean Power +40MHz Distance of Carrier (dBc)	39.12	37.74	25
	Mean Power -40MHz Distance of Carrier (dBc)	40.41	38.68	25
	Mean Power +80MHz Distance of Carrier (dBc)	44.83	45.22	40
	Mean Power -80MHz Distance of Carrier (dBc)	45.18	45.77	40

W52 Band: 802.11ac (VHT80):

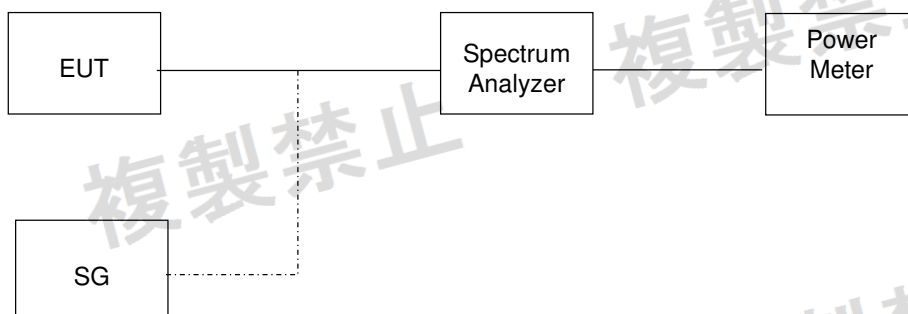
Environmental Conditions		25 deg.C, 60% RH	
Voltage	Channel	CH 42	Limit (dBc)
V _{nom}	Mean Power of carrier (dBm)	28.22	-
	Mean Power +80 MHz distance of carrier (dBc)	33.41	25
	Mean Power -80 MHz distance of carrier (dBc)	34.12	25
V _{+10%}	Mean Power of carrier (dBm)	28.47	-
	Mean Power +80 MHz distance of carrier (dBc)	33.54	25
	Mean Power -80 MHz distance of carrier (dBc)	34.16	25
V _{-10%}	Mean Power of carrier (dBm)	28.55	-
	Mean Power +80 MHz distance of carrier (dBc)	33.69	25
	Mean Power -80 MHz distance of carrier (dBc)	34.17	25

3.5 ANTENNA POWER MEASUREMENT

3.5.1 LIMITS OF ANTENNA POWER

W52 band			
Mode	802.11a / 802.11n(HT20)	802.11n(HT40)	802.11ac(VHT80)
Output power	10mW/MHz	5mW/MHz	2.5mW/MHz
E.I.R.P	10mW/MHz	5mW/MHz	2.5mW/MHz

3.5.2 TEST SETUP





Test Report No.: RJ2504WDG0269-4

3.5.3 TEST RESULTS

W52: 802.11a

Chain 0

Environmental Conditions	25 deg.C, 60% RH			
Test Condition	Conducted Power Density (mW/MHz)			
	CH 36 5180MHz	CH 40 5200MHz	CH 48 5240MHz	Max. Limit (mW/MHz)
V _{normal}	1.927	1.936	1.963	10
V _{+10%}	2.016	2.011	2.045	10
V _{-10%}	1.850	1.850	1.883	10
Rated Power	3			
Tolerance of Antenna Power	0.2 ~ 3.6			

Environmental Conditions	25 deg.C, 60% RH			
Test Condition	EIRP Power Density (mW/MHz)			
	CH 36 5180MHz	CH 40 5200MHz	CH 48 5240MHz	Max. Limit (mW/MHz)
V _{normal}	3.140	3.154	3.198	10
V _{+10%}	3.285	3.277	3.332	10
V _{-10%}	3.014	3.014	3.068	10

Chain 1

Environmental Conditions	25 deg.C, 60% RH			
Test Condition	Conducted Power Density (mW/MHz)			
	CH 36 5180MHz	CH 40 5200MHz	CH 48 5240MHz	Max. Limit (mW/MHz)
V _{normal}	2.223	2.275	2.301	10
V _{+10%}	2.298	2.370	2.391	10
V _{-10%}	2.127	2.130	2.202	10
Rated Power	3			
Tolerance of Antenna Power	0.2 ~ 3.6			

Environmental Conditions	25 deg.C, 60% RH			
Test Condition	EIRP Power Density (mW/MHz)			
	CH 36 5180MHz	CH 40 5200MHz	CH 48 5240MHz	Max. Limit (mW/MHz)
V _{normal}	3.388	3.467	3.507	10
V _{+10%}	3.502	3.612	3.644	10
V _{-10%}	3.242	3.246	3.356	10

W52: 802.11n (HT20)

Environmental Conditions	25 deg.C, 60% RH			
Test Condition	Conducted Power Density (mW/MHz)			
	CH 36 5180MHz	CH 40 5200MHz	CH 48 5240MHz	Max. Limit (mW/MHz)
V _{normal}	4.324	4.476	4.538	10
V _{+10%}	4.491	4.663	4.736	10
V _{-10%}	4.153	4.280	4.310	10
Rated Power	5			
Tolerance of Antenna Power	1 ~ 6			

Environmental Conditions	25 deg.C, 60% RH			
Test Condition	EIRP Power Density (mW/MHz)			
	CH 36 5180MHz	CH 40 5200MHz	CH 48 5240MHz	Max. Limit (mW/MHz)
V _{normal}	7.045	7.293	7.394	10
V _{+10%}	7.317	7.597	7.716	10
V _{-10%}	6.766	6.973	7.022	10

W52: 802.11n (HT40)

Environmental Conditions	25 deg.C, 60% RH		
Test Condition	Conducted Power Density (mW/MHz)		
	CH 38 5190MHz	CH 46 5230MHz	Max. Limit (mW/MHz)
V _{normal}	2.084	2.133	5
V _{+10%}	2.166	2.204	5
V _{-10%}	2.005	2.058	5
Rated Power	3		
Tolerance of Antenna Power	0.6 ~ 3.6		

Environmental Conditions	25 deg.C, 60% RH		
Test Condition	EIRP Power Density (mW/MHz)		
	CH 38 5190MHz	CH 46 5230MHz	Max. Limit (mW/MHz)
V _{normal}	3.395	3.475	5
V _{+10%}	3.529	3.591	5
V _{-10%}	3.267	3.353	5



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W52: 802.11ac (VHT80)

Environmental Conditions	25 deg.C, 60% RH	
Test Condition	Conducted Power Density (mW/MHz)	
	CH 42 5210MHz	Max. Limit (mW/MHz)
V _{normal}	0.933	2.5
V _{+10%}	0.970	2.5
V _{-10%}	0.901	2.5
Rated Power	2	
Tolerance of Antenna Power	0.4 ~ 2.4	

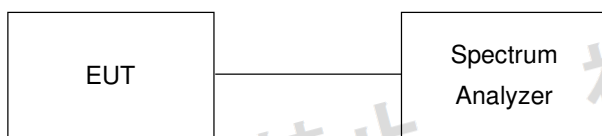
Environmental Conditions	25 deg.C, 60% RH	
Test Condition	EIRP Power Density (mW/MHz)	
	CH 42 5210MHz	Max. Limit (mW/MHz)
V _{normal}	1.520	2.5
V _{+10%}	1.580	2.5
V _{-10%}	1.468	2.5

3.6 SPURIOUS EMISSION FOR RECEIVER

3.6.1 LIMITS OF SPURIOUS EMISSION FOR RECEIVER

Frequencies (MHz)	Limit
Below 1GHz	$\leq 4\text{nW}$ (-54dBm)
Above 1GHz	$\leq 20\text{nW}$ (-47dBm)

3.6.2 TEST SETUP



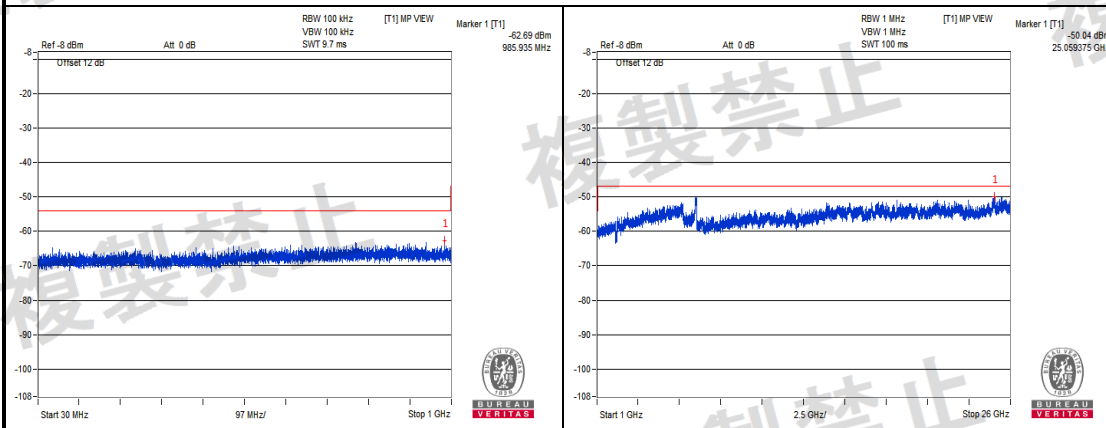
3.6.3 TEST RESULT

W52 band: 802.11a:

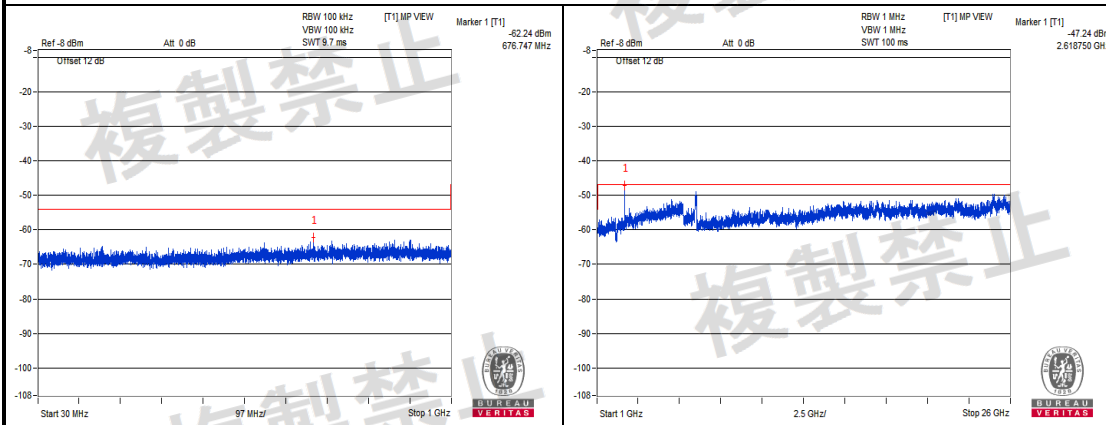
Environmental Conditions		25 deg.C, 60% RH					
Test Channel		CH36 (5180MHz)		CH40 (5200MHz)		Limit	Result
Test Condition	Frequency Range	Frequency (MHz)	Measured Value (nW)	Frequency (MHz)	Measured Value (nW)		
V _{normal}	Below 1GHz	985.935	0.53827nW	676.747	0.597035nW	4nW	PASS
	Above 1GHz	25059.375	9.908319nW	2618.750	18.879913nW	20nW	PASS
V _{+10%}	Below 1GHz	891.845	0.484172nW	872.445	0.534564nW	4nW	PASS
	Above 1GHz	25053.125	10.789467nW	6981.250	10.789467nW	20nW	PASS
V _{-10%}	Below 1GHz	658.317	0.485289nW	945.073	0.517607nW	4nW	PASS
	Above 1GHz	25703.125	11.24605nW	6996.875	11.668096nW	20nW	PASS
Test Channel		CH48 (5240MHz)				Limit	Result
Test Condition	Frequency Range	Frequency (MHz)		Measured Value (nW)			
V _{normal}	Below 1GHz	838.858		0.473151nW		4nW	PASS
	Above 1GHz	6987.500		11.091748nW		20nW	PASS
V _{+10%}	Below 1GHz	846.982		0.52723nW		4nW	PASS
	Above 1GHz	25087.500		12.531412nW		20nW	PASS
V _{-10%}	Below 1GHz	953.197		0.677642nW		4nW	PASS
	Above 1GHz	25443.750		10.81434nW		20nW	PASS

Note: 1. The worst value in each frequency range v.s. each channel has been marked by boldface.
2. The spectrum plots are attached on the following pages.

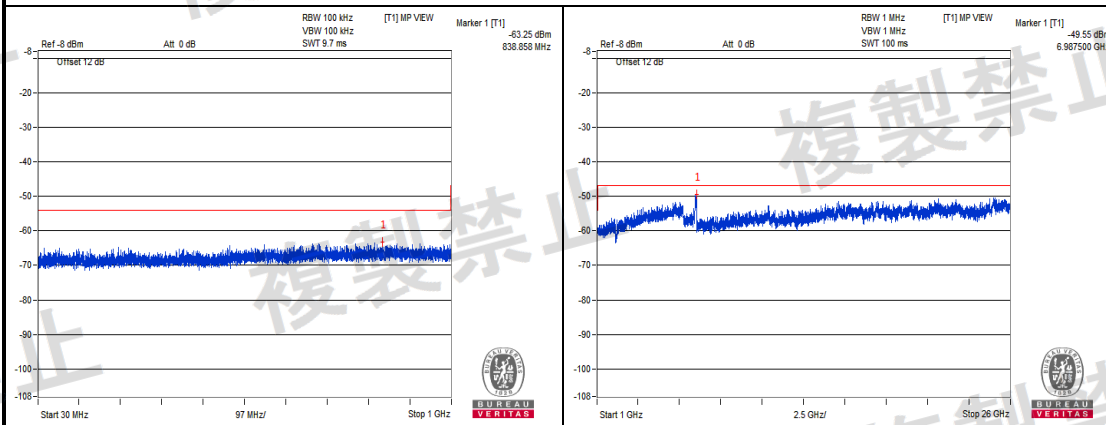
Vnormal



Channel 36

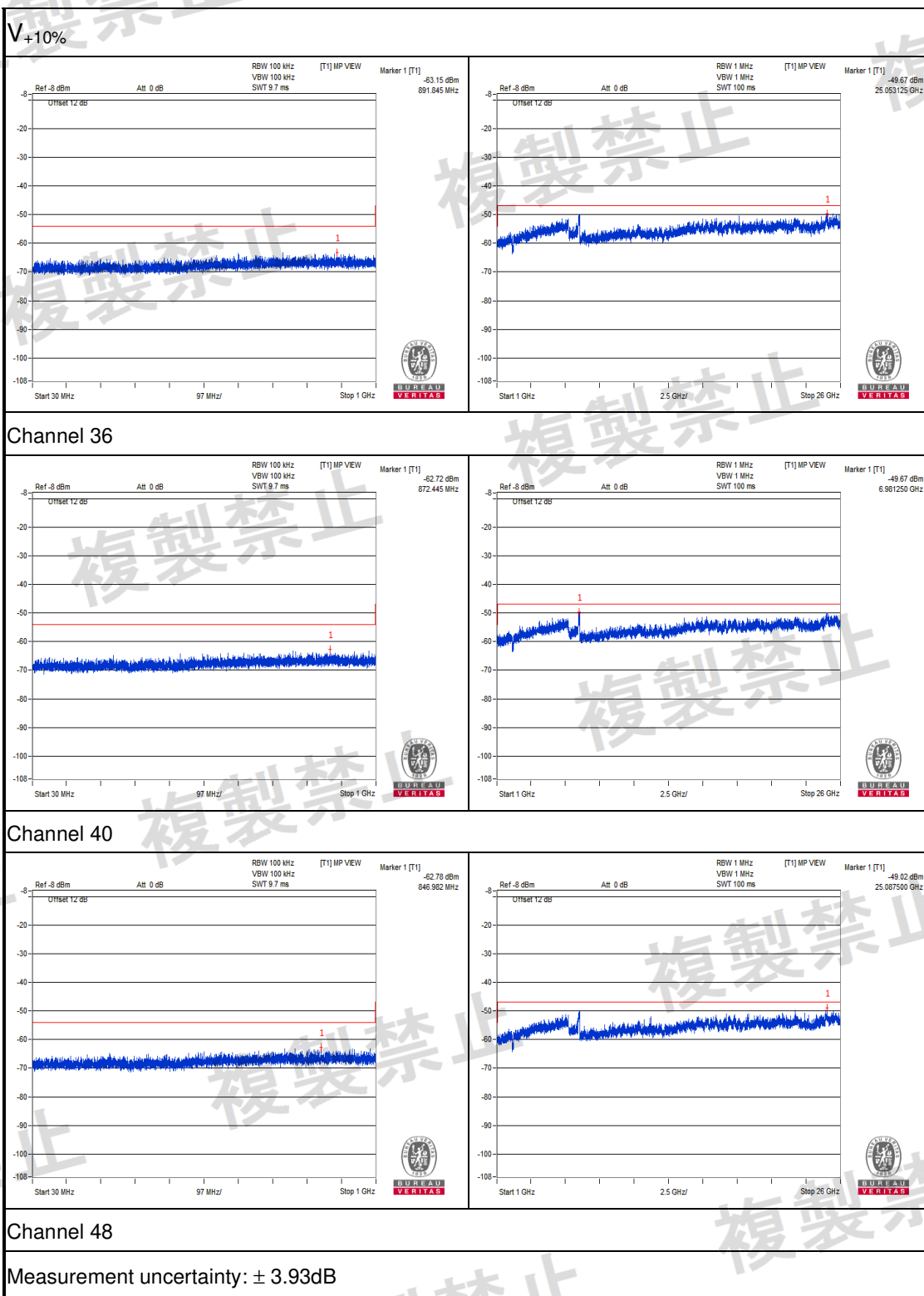


Channel 40

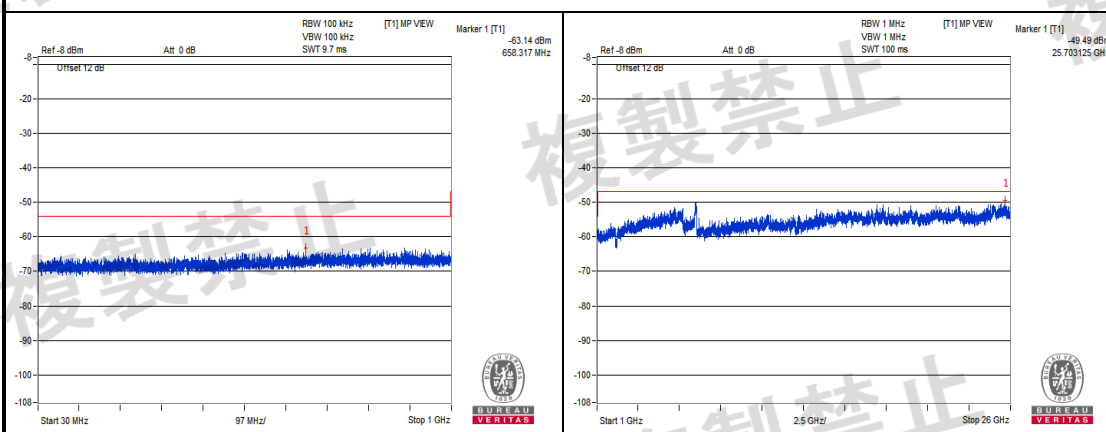


Channel 48

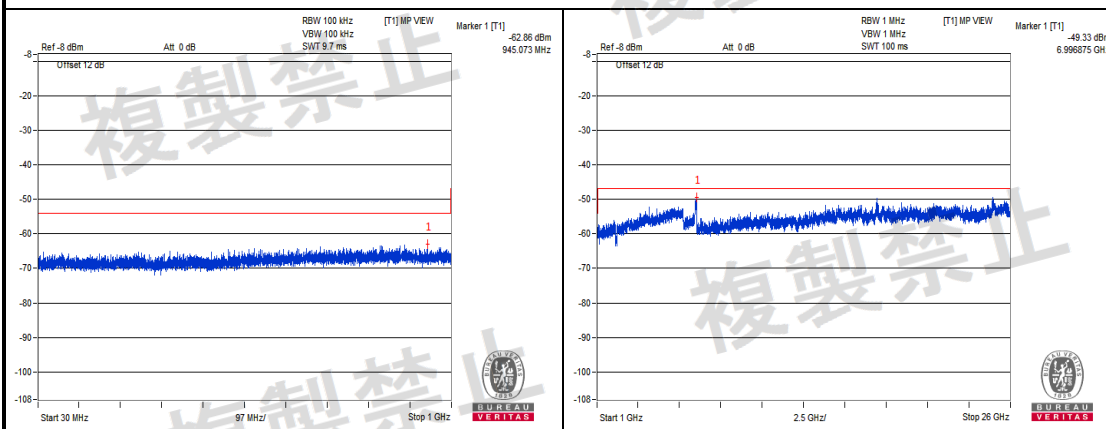
Measurement uncertainty: $\pm 3.93\text{dB}$



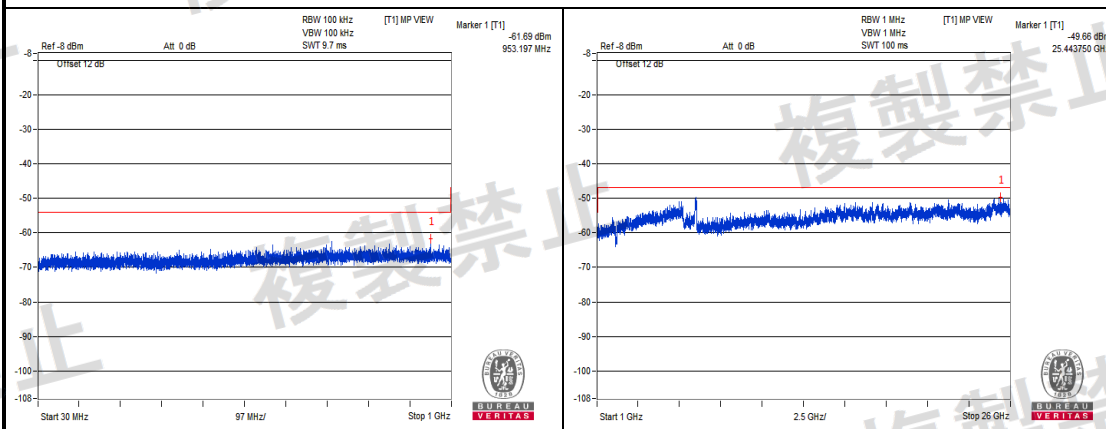
V-10%



Channel 36



Channel 40



Channel 48

Measurement uncertainty: $\pm 3.93\text{dB}$



Test Report No.: RJ2504WDG0269-4

3.7 BURST LENGTH

3.7.1 LIMITS OF BURST LENGTH

Frequencies (MHz)	Limit
Transmitter Operating	$\leq 8\text{ms}$

3.7.2 TEST SETUP



3.7.3 TEST RESULT

W52 band: 802.11a:

Environmental Conditions	25 deg.C, 60% RH			
Test Condition	Burst Length (ms)			
	CH 36 5180MHz	CH 40 5200MHz	CH 48 5240MHz	CH 52 5260MHz
V _{normal}	1.36	1.33	1.36	1.37
V _{+10%}	1.36	1.36	1.34	1.33
V _{-10%}	1.36	1.36	1.36	1.35

W52 band: 802.11n (HT20):

Environmental Conditions	25 deg.C, 60% RH			
Test Condition	Burst Length (ms)			
	CH 36 5180MHz	CH 40 5200MHz	CH 48 5240MHz	CH 52 5260MHz
V _{normal}	1.28	1.28	1.27	1.29
V _{+10%}	1.27	1.28	1.26	1.28
V _{-10%}	1.26	1.28	1.27	1.26

W52 band: 802.11n (HT40):

Environmental Conditions	25 deg.C, 60% RH	
Test Condition	Burst Length (ms)	
	CH 38 5190MHz	CH 46 5230MHz
V _{normal}	0.64	0.64
V _{+10%}	0.64	0.64
V _{-10%}	0.64	0.64

W52 band: 802.11ac (VHT80):

Environmental Conditions	25 deg.C, 60% RH	
Test Condition	Burst Length (ms)	
	CH 42 5210MHz	
V _{normal}	0.32	
V _{+10%}	0.32	
V _{-10%}	0.32	



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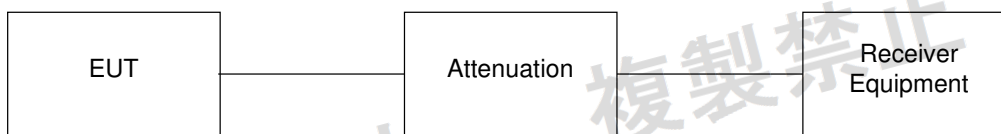
3.8 INTERFERENCE PREVENTION FUNCTION

3.8.1 LIMITS OF INTERFERENCE PREVENTION FUNCTION

Item	Limits
Identification	≥48bits

Note: In ASCII, a character usually takes 8 bits.

3.8.2 TEST SETUP



3.8.3 TEST RESULTS

Environmental Conditions	25 deg.C, 68% RH
Link Mode	Test Result
WiFi	PASS
MAC Address	3E:56:CD:36:39:3A

3.9 CARRIER SENSE CAPABILITY

3.9.1 LIMITS OF CARRIER SENSE CAPABILITY

Stop transmission while carrier detecting.

The conducted detection threshold level shows as below:

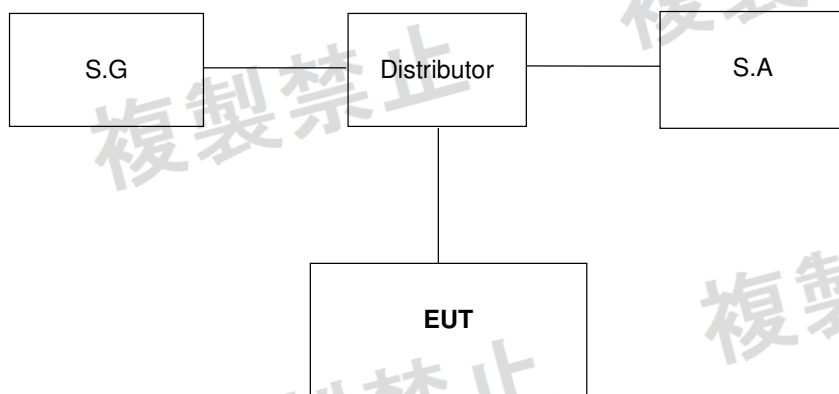
Pcs (dBm) = $22.79 + Gr - 20\log(F)$.

Gr: Antenna gain

F: Transmission frequency (MHz)

CF = Distributor loss + cable loss

3.9.2 MEASURING SYSTEM BLOCK DIAGRAM



3.9.3 MEASURING OPERATION PROCEDURES

- Turn the standard signal generator output OFF. Leave the equipment under test to be ready for transmission and verify the transmission with the spectrum analyzer.
- Set the equipment under test to the receiving state.
- Turn the standard signal generator ON and leave the equipment under test to be ready for transmission and verify with the spectrum analyzer that no transmission is being made.



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VERITAS

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3.9.4 LEVEL OF THE AMBIENT CARRIER

802.11a/802.11n (HT20):

Frequency (MHz)	Pcs (dBm)	C.F (dB)	S.G Level
5180	-49.38	3.4	-45.98
5200	-49.41	3.4	-46.01
5240	-49.48	3.4	-46.08

Note:

Pcs (dBm) = $22.79 + Gr - 20\log(F)$.

Gr: Antenna gain (5GHz W52: 2.12dBi).

F: Transmission frequency (MHz).

C.F = Distributor loss + cable loss.



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802.11n (HT40):

Frequency (MHz)	Pcs (dBm)	C.F (dB)	S.G Level
5190	-49.39	3.4	-45.99
5230	-49.46	3.4	-46.06

Note:

Pcs (dBm) = 22.79 + Gr - 20log(F).

Gr: Antenna gain **(5GHz W52: 2.12dBi)**.

F: Transmission frequency (MHz).

C.F = Distributor loss + cable loss.

802.11ac (VHT80):

Frequency (MHz)	Pcs (dBm)	C.F (dB)	S.G Level
5210	-49.43	3.4	-46.03

Note:

Pcs (dBm) = 22.79 + Gr - 20log(F).

Gr: Antenna gain **(5GHz W52: 2.12dBi)**.

F: Transmission frequency (MHz).

C.F = Distributor loss + cable loss.

3.9.5 TEST RESULT

PASS



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3.10 NUMBER OF CARRIERS WITHIN 1 MHZ BANDWIDTH IN OFDM

3.10.1 LIMIT OF NUMBER OF CARRIERS

For each 1MHz bandwidth in OFDM, there should be at least 1 carrier

3.10.2 TEST SETUP



3.10.3 TEST RESULT

About OFDM Technical, one OFDM Channel will have 52 sub-carriers. At present, we observe this product via the spectrum, and we know that there are 3 carriers in 1 MHz bandwidth in OFDM.

4 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.	Calibration Body	Calibration Method
Signal and Spectrum Analyzer	Rohde& Schwarz	FSV40	101094	Oct. 09, 25	GRGT	C
Power Meter	Anritsu	ML2495A	1139001	Feb. 24,26	CEPREI	C
Power Sensor	Anritsu	MA2411B	1531155	Feb. 24,26	CEPREI	C
Digital Multimeter	FLUKE	15B	A1220010DG	N/A	CEPREI	C
Attenuator	MINI	BW-S10W2+	S130129FGE 2	N/A	internal	C
Contact Demodulator	LONGGUANG	TDGC ₂ J-3	2006	Mar. 20, 26	internal	C

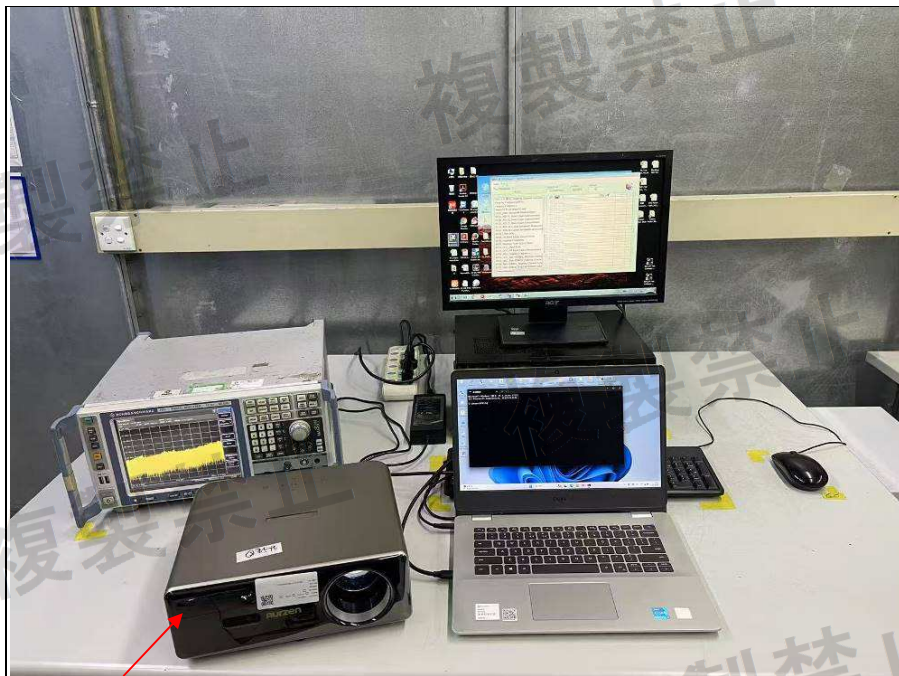
NOTE:

1. The test was performed in RF Oven room.
2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.

Calibration Method:

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

5 PHOTOGRAPHS OF THE TEST CONFIGURATION



EUT



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6 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

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